



0062647

X
ROYAL GARDENS KEW.



ml
Period.

1.2.1921



Digitized by the Internet Archive
in 2018 with funding from
BHL-SIL-FEDLINK

<https://archive.org/details/journalofhorticu3291hogg>

9105D
11

THE

JOURNAL OF HORTICULTURE,

COTTAGE GARDENER,

AND

HOME FARMER.

A CHRONICLE OF COUNTRY PURSUITS AND COUNTRY LIFE, INCLUDING BEE-KEEPING.

CONDUCTED BY

ROBERT HOGG, LL.D., F.L.S.

Established



in 1848.

VOLUME XXIX. THIRD SERIES

JULY—DECEMBER, 1894.

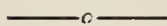
LONDON:

PUBLISHED FOR THE PROPRIETOR, 171, FLEET STREET.

LONDON
PRINTED AT THE JOURNAL OF HORTICULTURE OFFICE,
171, FLEET STREET.



TO OUR READERS.



“‘THERE are nae freens like auld freens’—so says the Scottish proverb, and true it is, for every home mail that comes brings me an old friend in the shape of the *Journal of Horticulture*.”

Such was the greeting of one of Scotland’s enterprising sons, when he, a few weeks ago, sent us a pleasantly descriptive article from far away Central Africa—a land it may be supposed, and is hoped, of future gardens, beautiful and profitable.

If we were to publish a list of places “where the Journal goes,” it would be somewhat formidable. We have been surprised with letters of appreciation from India, Australia, New Zealand, Tasmania, and North and South America since the issue of our last half-yearly index, and of course an enormously greater number from home; but we scarcely expected to receive one from the Dark Continent.

All this is encouraging and satisfactory, and it is our great desire that the *Journal of Horticulture* shall be regarded as a friend by old and young—garden owners and supporters, as well as garden workers—wherever their lot in life may be cast.

As to the former a valued coadjutor wrote not long ago from one of the richest centres in the kingdom, “All the best people appear to take the Journal now, and you must have noticed a marked demand from this district; it is the favourite paper of gardeners too.”

By the “best people” our correspondent obviously alluded to persons of wealth and high social position; the increased demand had been noted. The *Journal of Horticulture* is not only the “favourite paper” of gardeners in the particular district alluded to, but in many. Numbers of letters attest this, but only one can be cited as typical. It is as follows:—

“I desire to thank you for issuing weekly such grand, practical, gardening truths. In the *Journal of Horticulture* there is always something both good and new, enabling me and all young gardeners who read it (and all should read it) to pursue our calling so as to be able to manage the gardens under our charge, not only to the satisfaction of our employers, but in the hope that when we may have a call from one of your staff he may be able to record something worthy of note, as has been the wont of your experts in their wanderings. Excuse my writing, but ‘from the abundance of the heart the mouth speaketh.’”

The compliments embodied in all such letters we desire to transfer entirely to those who are best entitled to them—those experienced gardeners and amateurs who week by week supply information that is useful and so much appreciated; *our* pleasure rests in the privilege of its distribution.

We have no alterations to propose; nothing has occurred to render any material change advisable. We shall continue in the path that has proved safe, with the intention of not only maintaining but increasing the popularity of the “auld freen’.” Our desire is that it shall be helpful alike to old associates who have won, and young aspirants who are seeking, fame in the ancient, yet ever modern, art of gardening.

May we at this season of friendly greetings—of expressions of goodwill and good wishes—ask the acceptance of ours by *all* our readers for a pleasant close of the waning year and a prosperous future?

I N D E X.

- ACHIMENES, 63
 Adiantum rubellum, 523
 Admitt, Mr. H. W., portrait of, 243
 Aeschynanthus Hildebrandi, 129
 Africa, British Central, notes from Blantyre, 511
 Agave americana, record of flowering plants, 10
 Ajuga reptans, 449
 Alberta magna, 563
 Allotment flowers at Richmond, 56
 Allotment gardens in London, 104
 Allotments Association at Richmond, 520
 Aloes, American, flowering, 341, 319, 515
 American opinion of English flower shows, 59
 Anchusa italica, 127, 199, 224
 Androsace coronopifolia, wintering, 141
 Angraecum eburneum, 467
 Annals at Roath Park, Cardiff, 225
 Antirrhinums for gardens, 232
 Ants on fruit trees, 306
 Aphides, jottings on, 560
 Apodolirion Etiae, 470
 Appearances, keeping up, 377
 Apples and Pears, crop of, 105; pruning, 549
 Apples, crops, American, 32; at Chiswick, 57; Hambledon Denx Ans, 103; gathering, 210; Hunt's Early, 237; colouring, 272, 277; storing, 336; Tasmanian, 342; Bismarck, fruiting on maiden tree, 362; crop, the, 356; the original Queen, 354; at Woodhatch, 495; South Lincoln, 448; Mère de Ménage, 446; failures, causes of—a little review, 449, 463; late varieties of, 467; judging American, 493; the poor crop, 511; Small's Admirable, 575; the Costard, 575
 Apple trees, on walls, dropping their fruit, 94; bush, 258
 Apricots in pots at Waltham Cross, 107; on walls, 112
 Aquilegia, 80, 133
 Aralias, propagating, 553
 Ardenholme, Maghull, flowers at, 245
 Arenaria Interi, 359
 Argemone grandiflora, 313
 Aristolochia Goldieana, 104
 A run northwards, 111
 Asparagus, planting, 373; forcing, 527
 Aspidistras, a new, 103, 140; culture of, 168
 Aster Eynsford Yellow, 253
 Auricula and Primula Society (National), annual meeting, 495
 Auriculas, about, 193; seasonable hints on, 420
 Austin, death of Mr. Hugh, 9
 Australian Ferns, 229
 Autumn flowers in Scotland, 216
 Autumn tints, 314
- RAMBOOS, HARDY, 322
 Bananas, importations of, 224; cultivation in Jamaica, 425
 Baptisia exaltata, 64
 Barga, death of Mr. R., 9
- Barkerias, 274
 Barr's Daffodil enp, 255
 Bauera rnboides, 353
 Beans, Runner, at Reading, 273; Veitch's Climbing French, 294
 Beech nut oils, 81
 Bees—Honey gathering and supering, 22; ingathering of honey, 46; disease in, 46; the honey season, 69; quality of honey, 69; the weather, 93; the Heather, 93, 236; cure for bee stings, 94; preparing for the moors, 115; hiving bees, 115; how to prevent swarming, 140; weighing hives, 140, 164, 236; notes on, 163, 211, 253, 433, 574; taking bees to the moors, 163; the season, 164; at the Heather, 183; managing, 188, 236; a profitable swarm, 188; at the moors, 211, 259; killing drones, 212; putting hives in order for 1895, 236; the weather and honey gathering, 243; notes, at the moors, 305; driving bees, 305; results at the moors, 329; chloric dropsical fever, 329, 433; the season's review, 329; feeding, 352, 416; the yield of Heather honey, 352; manipulating bees, 352; foul brood, 352; the weather, 373; hints to beginners, 373; flowers for bees, 373; British versus foreign bees, 374; prepared for the winter, 393; mead, 393; spring flowers for, 394; swarming, 416; honey gathering in October, 416; seasonable notes, 416; feeding, 437; hives during the winter and summer, 460; queen rearing, 461; starting keeping, 483; the Lanarkshire scorifying hive, 507, 523, 551, 574, 588; varieties of bees, 518; straw hives, 552; bees and Colchicum, 561; hives for beginners, 588
 Begonias, at Forest Hill, 63; Rajah, 178; Erfordia, 199; and Caladiums at Shrewsbury, 227; Carrieri bedded out, 271; improving tuberos (fertilising), 542; at Ardenholme, 547
 Belton House Gardens 343
 Belvoir, an autumn day at, 497
 Bertonia Alfred Blen, 270
 Bilberries and Cranberries, 230
 Birch, Mr. Henry, death of, 518
 Birmingham Amateur Gardeners' Association, 127
 Blackberries, American, 128
 Board's wire tension houses, 323
 Book—"Manual of Orchidaceous Plants" (Messrs Veitch), 28; "Natural History of Plants," 31; "The Orchid Growers' Manual," 53
 "Botanical Magazine," the, 178, 243
 Botanic (Royal) Society, 152; Floral Fête, 31; exhibitions and meetings in 1895, 495
 Botanical Society of America, the, 362
 Botany mystery, a, 559
 Bouvardias at Dove Park, 547
 Box edging, 76
 Bramley fruit farm, 143
 Brassicas, 561
 Bristol, wire tension houses, 325
 Broccoli, Chelsea Favourite, 177
 Brocklesby Park, 223
- Brunsvigia Josephinae, 541
 Bulbs, planting in beds, 373
 Bullfinches, 404, 471
 Bullrushes in Osier bed, 188
 Butter, potting, 262
- CABBAGE AND BROCCOLI PLANTS, 164
 Cactus Society, proposed, 9, 31
 Caladiums, Gurupa, 198; at Shrewsbury, 227; argyrites, 351
 Calanthes diseased, 188
 Calceolarias, diseased, 46; amplexicaulis, 315
 Caledonian (Royal) Horticultural Society—exhibitions for 1895, 562
 Calochortus Plummera, 239
 Campanula alpina, 5; spicata, 292; G. F. Wilson, 219; pyramidalis, 250, 270
 Camphor Tree in Japan, 495
 Canua, a pure yellow, 32
 Canning fruit, 541
 Cape Gooseberry, 404
 Carbonate of copper solution, making and using for diseased Tomatoes, 70
 Carnations and Picotees, 193, 421
 Carnation and Picotee Society's (National) Southern Section exhibition, 91; annual meeting, 495
 Carnation Society, Midland Counties, show, 133
 Carnations, disease in, and preventives, 3; too many rose coloured, 9; syringing "Marmalade," 30; disease in, 30; at Rangemore, Malmaisons, 69; border at Chelsea, 61; at Edeuside, 73; at Putney Hill, 106; supports for, 104; at The Warren, Hayes, 124; and Picotees at Evesham, 124; The Hayes, 161; diseased, 189; The Spy, 224; Lizzie McGowan, 246; planting new Marguerite, 263; Buccleuch Clove, 271; diseases, 283, 419, 553; a-h analysis, 559; manures for, 559; border, 573; Miss Mary Godfrey, 586
 Carnivorous plants in Orchid house, 558
 Carpentaria californica, 257
 Catalpas as ornamental trees, 367, 491
 Catapult guns for gardeners, 561
 Cattleyas, resting, 163; Eldorado, 171; hybrida Kienastiana and Hardyana, Sawood variety, 193; gigas Countess of Derby, 253, 274; C. Gaskelliana albens odorata, 253; guttata, 275; venturina, 290; speciosissima, 467
 Ceanothus, a double, 290
 Celery, run, 212
 Cemetery gardening, 119
 C. reus pecteu-aboriginum, 294
 Cheats, a call at, 362
 Cheese making, 303
 Chelone barbata, 177
 Cherries, training, 211
 Cherry house, 413
 Chestnut tree, a giant, 57
 Chilwell Nurseries, a glimpse at, 180
 Chlorophyll, in Vine leaves, loss of, 170; in plants, loss, 215
 Christmas, table decorations for, 555
 Christmas Roses, 556
- Chrysanthemum analysis, Mr. Mawley's, 531
 Chrysanthemums, N.C.S. judging committee, 15; in New Zealand, 15; how to grow Edwin Molyneux, sizes of blooms, 15; Beckett's improved cup and tube, 30; N.C.S. annual outing, 30; meetings at N.C.S. November show, 106; New Zealand seedlings, 106; English, 106; in Australia, 156; in Ireland, 157; West of England Chrysanthemum Society's outing, 157; notes, 172; plants infested with yellow thrips, 183, 212; National Chrysanthemum Society, 196, 345; Committee meeting, 408, 468, 545; annual dinner, 524; stopping, 196; American, 223; in New South Wales, 223; culture of, 245; Lady Fitzwigram, 293, 278; Golden Wedding, 278, 292, 306, 326, 345, 364, 388; stopping plants, 278; a Belgian catalogue, 278; the Springthorpe cup and tube, 279; culture (Mr. Arderie's paper), 279; at Havant, 293; certificated, 326, 383; in Southwark Park, 326, 339; at Victoria Park, 345, 389; at Finsbury Park, 389; at Maidenhead, 345; improved cup and tube for exhibiting, 345; Chrysanthemums round Dublin, 345; at Mount Merion, 345; at St. Helen's, 345; at Willow Park, 345; Madame Charles Molin, 344; Mrs. E. G. Hill, 344; Madame Edouard Rey, 344; Souvenir de Petite Amie, 344; Frank Wells, 344, 344; Chrysanthemum show at the Aquarium, 349; promise of Chrysanthemums, 364; show at Woolwich, 364; semi-early or October Chrysanthemums, 364; big Chrysanthemums, 364; municipal shows, 365; London Chrysanthemums, Battersea Park, 366; around Liverpool, 363, 390; Duchess of York, 383; hints to exhibitors and officials, 383; how to stage blooms, 387; suggestions to secretaries, 383; a green, 388; The Priory, Horsey, 390; at Barford Hill, 390; in Cheshire, 390; fly, 509; Hailey Wonder, 406; hints on judging, 403; sports, 408; Newcastle show, 408; damping, 408; large blooms, 408; prospects round Bolton, 408; specialties in schedules, 409, 427; in the Temple Gardens, 429; at Waterlow Park, 410; Forest Hill, 410; Chelsea, 410; Ryecroft Nursery, 410; Swanley, 411; early flowering, 411; Baron Hirsch, 427; Chrysanthemums and paper collars, 427; disqualified, 427; single early Chrysanthemums, 427; Dulwich show, 427; Louise, 428; certificated Chrysanthemums, 428, 448, 469, 521, 545; N.C.S. catalogue, 428, 450; Oldfield Nurseries, 428; Earlswood Nurseries, 428; Woodhatch Lodge, 429; Royal Gardens, Windsor, 430; Philadelphia, 449, 498; Mrs. C. E. Shea, 449; Miss Rita Schöster, 459; Anemones at the Aquarium, 450; early Chrysanthemums, 450; the Brighton show, 450; disqualified exhibits, 459;
- CHYSANTHEMUMS—contd.
 500, 546; the missing link, 450; Crystal Palace, 452; Miss Maggie Blenkiron, 468; J. Agate, 468, 501; Duke of York, v. Beauty of Teignmouth, 463, 498, 515; Chrysanthemums for exhibition, 468; plant group, 468; at Chilwell, 469; Syon House, 469; Directeur Tisserand, 493; estimate of new varieties, 493, 522, 544; Winchester show for 1895, 493; Chrysanthemums certificated at York, 493; Golden Wedding, 493; outdoors, 493; at Dulwich Park, 498; colours of new Chrysanthemums, 499; grouping Chrysanthemums, 499; new improved varieties, 500; refined v. coarse flowers, 500; in South Westmoreland, 501; Owen's Crimson, 521; a Chrysanthemum Year Book, 521; outdoor Chrysanthemums, 522; Mrs. John Gardiner, 522; alleged partiality in judging, 522; at Glasgow Botanic Gardens, 522; size of exhibition boards, 522; the Teignmouth disqualification, 523; reports of shows, 523; analysis, Mr. Mawley's, 531, 564; shows in 1895, audit best twenty-four Japanese varieties, 544; outdoors at Dalkeith, 545; stopping Chrysanthemums, 545, 564; disqualification of Mr. Wells at Blackheath, 546, 564; notes from Kingston, 547; Pride of Swanley, 564; Japanese varieties, 564; decorative, 564; with blind centres, 575; Mrs. R. C. Kingston and Mrs. J. Gardiner, 554; Madame Rozain, 584; French, 584; The Missing Link, 584
 Chrysanthemum shows.—Hertford, 413; Kent County, 414; Highgate, 430; Battersea, 431; Crystal Palace, 431; Havant, 432; N.C.S. Royal Aquarium, 433, 525; Watford, 435; Brighton, 435; Leeds, 435; Putney, 436; Ascot, 436; Liverpool, 430, 433; Hull, 452, 472; Birmingham, 452, 476; York, 452, 477; Devizes, 453; Torquay, 453; Bournemouth, 454; Bath, 454; Wolverhampton, 454; Cirencester, 455; Hornsey, 455; Woolwich, 456; Hitchin, 453; Exeter, 457; Southampton, 456; Kingston, 457; Reading, 457; Hartlepool, 472; Farnham, 472; Kidderminster, 472; Bristol, 474; Dublin, 474; Barnsley, 476; South Shields, 476; Rugby, 477; Birkenhead, 478; Winchester, 478; Edinburgh, 478; Eccle and Patricroft, 479; Boston, 479; Chesterfield, 480; Sheffield, 480; Bradford, 481; Twickenham, 481; Hereford, 483; Grimsby and District, 501; Parkstone, 501; Ripon, 501; Tamworth, 501; Plymouth, 502; Watford, 502; Wells, 502; Stockport, 502; Newcastle-upon-Tyne, 502; Manchester, 503; Windsor, 503; Beccles, 503; Cragdon, 504; Yeovil, 504; Garrow, 504; Dundee, 505; Louth, 505; Barford, 505; Woking, 505; Southwell, 525; Church decoration, plants and flowers for, 217

Cinerarias, about, 259
Circular tour, a, 300, 324
Clematises, Countess of Onslow, 30; Jackmanni for bedding purposes, 102
Cleveley, Gloxinias at, 246
Cocker, Mr. James, death of, 495
Cockscombs (Glasgow Pride) bedded out at Chiswick, 56
Cologynes, treatment of, 236
Coffee in Central Africa, 82; in India, 581
Coleblenm and bees, 561
Colorado, a fruit day in, 369
Columbines, about, 153
Combinations, floral, 191
Candy's fluid as a fungicide, 416
Conference of fruit growers (Crystal Palace), 309
Conference on hardy trees and shrubs at Chiswick, 223
Congress (Horticultural) in Paris, 404
Conifers for flower beds, 553
Controversy, methods in, 122
Cosmos sulphureus, 417
Cotton in Corea, 200
Cotyledon fascicularis, 443
Court of appeal, proposed, 541
Covent Garden, flowers in, 62
Crab, John Downie, 422
Craneflies and Tipula grubs, 537
Crocus aurea imperialis, 253
Crystal Palace fruit show, 270, 294; (R.H.S.), 311
Cucumbers—in frames, 32; phenyle and carbolic acid for "club" in, 70; shell-insect, destroying, 116; at Farnham, 172; growing, 211, 259; infested with eelworm, 237; attention to, 351; Blendworth Perfection, 361; in winter, 573
Cyanastrum cordifolium, 470
Cycas revoluta—fertile ovules, 230, 484; flowering, 379
Cyclamen persicum, 122
Cypress, a new, 493
Cypripedium Chamberlainianum, 171; C. Pea cei, 171; James Veitch and the Pard, 198; James H. Veitch, 227; Meteor, 253, 553; C. Nandi, 253; Spicerianum, 275; C. Charlesworthi, 399; C. insignae, 399; Mr. R. I. Measures' book on Cypripediums, 535; x William Lloyd, 557
Cyrtanthus O'Brieni, 32

DAFFODIL (CERVANTES) A new primrose-coloured, 133
Daffodil cup, Barr's, 255
Dahlias, Cactus, 200; show at the Crystal Palace, 256; Cannell's Velvet, 250; Mrs. Gordon Shaw, 253; American, 295
Daisies, Ox-eye, 518
Damson country, in the, 283
Dean Hole in America, 518
Dean, Mr. W., testimonial to, 31, 446
December, mild, 518
Dendrobium Hildebrandi, 147; D. Hamatum, 147; chrysanthum, 290; Phalaenopsis Schröderianum, 337
Dendromecon rigidum, 92
Desfontainia spiciosa, 470
Devon and Exeter Horticultural Society: its history and development, 571
Dictamnus Fraxinella, 132
Digging, double, 553
Disa grandiflora, culture of, 123
Diseases, insect pest and, 253
Dracenas Veitchi and anstralis from seed, 101
Drawing for gardeners, 121, 146, 169
Duckweeds, 10
Dulwich Park, 315

EASTON LODGE, DUNMOW, 154
Edinburgh, hardy flowers at, 180; show, 281
Edgings for kitchen garden walks, 534
Eelworms, destroying with phenyle, 117; on Cucumbers, 212, 237
Eleocharis cyaneus, 105
Endive as a paying crop, 25; blanching, 433
Entomological notes, 217
Epidendrum, notes on, 194
Eremurus, himalaicus, 10; robustus, 267
Encharis amazonica, resting, 268, 318
Eucomis punctata, 255
Engenia Ugni, 330

Enonymus europæus, 404; E. elegantissima, 494
Eupatorium serrulatum, 58
Eurybia, 533
Eutoca viscidula, 182
Examinations in horticulture, 153
Exhibiting, difficulties in—proposed Court of Appeal, 541
Exmouth Nurseries, the, 533

FAIRY RINGS, 461
Farm—Wye College, 21; rent abatement, 43; work on the home farm, 48, 96, 118, 166, 190, 214, 238, 262, 307, 332, 354, 376, 394, 418, 441, 462, 485, 510, 530, 554, 576; chemical manures for poor pasture, 48; dairy farming, 71; Co-operative dairy factories, 95, 118; calves for grazing, 93; poor pasture, 142; the flock, 165; autumn tillage, 189; sowing Vetches, 190; mixed farming, 213; harvest time, 214; dairy farming reform, 233, 261; Danish dairy farm, training for, 286; cheese making, 307; rough pasture, 308, 353, 375, 394, 417, 449, 462; milk, 331; breaking up pasture, 332; sheep holding 376; delicate animals, 449; poisonon plant in pasture, 432; wintering dairy cows, 485, 510, 530; dietary for stall beasts, 483; wintering dairy cows, 554, 576; roots for live stock, 554; Spratts' Almanac, 576; the year and its lessons, 590
Farnham, Cucumbers at, 172
Farrington House gardens, 182
Fernery, a fine, 177; hardy plants for, 464
Ferns, (Maidenhair) planted out, 10; and Mosses for winter decoration, 119; Decorative British Ferns, 220; Australian, 229; lime dressing for, 318; a British Tree, 563
Figs, summer management, 21; not ripening, 47; treatment of, 211; in pots, 459
Fitzroya patagonica, 509
Flax growing, 224
Floral combinations, 191
Floral decorations at Leeds, 362
Floral facts and fancies, 51, 146, 316, 515
Floral notes from the coast of Ross-shire, 493
Floral paradise, a, 246
Florists' flowers, seasonable; notes on, 193, 420, 422
Flower beds—shrubs for, 372, 553; planting for winter, 372; digging, 362
Flower garden, 114; work in, 45, 235, 372
Flowers, in Covent Garden (Assbee), 13; naturalising, 26, 56; trade of the Riviera, 129; hardy, notes on, 145; at Edinburgh, hardy, 180; preserving, 247; hardy autumn, 234; for cutting in winter, 285; marketing, 352; and fruit in Central Africa, 405
Forcing plants and shrubs, 487
Forestry, in Germany, 177; a conference on, 237
France, National Horticultural Society of, exhibition in 1895, 295
Fruit farm, a picturesque, 143
Fruits, packing for exhibition, 1; dried Australian, 10; forcing, 44, 63, 93, 114, 189, 162, 186, 211, 234, 258, 304, 327, 350, 393, 415, 457, 459, 483, 526, 550, 573; reports from the Liverpool district, 54; plantations improving, 192; Californian, 209; about Swanley, 209; foreign, the marking of, 201; fruit growing in Virginia, 201; hardy fruit garden, 210, 253; cold storage of, 230; imported, 242; the crops of, 243; bottling, 243; gathering, 258; storing, 258; facts about supply and prices, 253; old and young trees, 267; at Maidstone, 277; topics, current—Dwarf trees, fruit crops, colouring, 290; quality of fruit, 291; Conference at the Crystal Palace, 309; fruit growing in small gardens, 309; fruit at Tooting, 310; packing, grading, and marketing fruit, 310; at Maidstone, progress in, 370; in Colorado, 370; packing at the Crystal Palace show, 394; limited collections of, 403, 420; borders poisoned, 410; cultivation in Australia, 447; growing, 570, 571; American rivalry in fruit growing, 537; "a fatal fad," 538; £30,000 lost in fruit-growing, 586

Fruit trees and galvanised wire, 346; lifting young trees, 350; planting, 340; moths on, 342; forms of, 441; distance for planting, 459; borders preparing, 459; pruning, 506, 549; wasp for, 528; cleansing, 537
Fuchsia, Ballet Girl, 81; in beds, 316
Fuel, petroleum as, 243
Fungicides, a note on, 201

GALVANISED WIRE, INJURIOUS EFFECTS OF, 234; and fruit trees, 346
Gardeners' Orphan Fund, Royal, concert at Altrincham, 562
Gardeners' situations and prospects, 5
Gardeners, the making of, 26, 123, 222; ancient and modern, 52; lady, 251; the Worshipful Company of, in the Lord Mayor's Show, 447; the Gardener's Company, 531
Gardening, modern (Mr. Dunkin's paper), 276; methods—"theory and practice," 370; progress in, 397
Gardens, old west country, 200; walks and edgings, 263
Genista virgata, 154
Ginger cultivation in Jamaica, 363
Gladioli, attention to, 193; seasonable hints on, 442
Gladiolus Colvilli, The Bride, 33; Leonora, 344; G. grandis, 345; G. Casilda, 345
Glazing—wire tension houses, 325
Gloriosa abyssinica, 405
Gloxinias, at Chelsea, 8; at Cleveley, 246; seedling, 306; Gmelina hystrix, 58
Goat moth caterpillar, 529
Gossia latifolia, 434
Gooseberry bushes, thinning, 258
Gower, Mr. W. H., death of, 127
Grammatophyllum Measuresianum, 123
Grapes—Shanked, 94; not colouring, 94; leaves spotted, 94; packing for exhibition, 80; packing to travel long distances, 141; at Coombe Bank, 129; Muscat of Alexandria, 167, 194, 243; sowing Grape seeds, 183; cracking, 212; shrivelling, 291; Gros Colman, a fine berry, 313; at Fordingridge, 357; Muscats at Longleat, 363; culture for market, does it pay? 357; growing in Scotland, 424; Gros Colman on Madresfield Court, 470; growing in Kent—an inquiry, 493, 516, 543, 563, 530; foreign, 519; Mrs. Pearson, 530; Lady Downshire, 530
Grass-destroying caterpillars, 104
Growing, showing, and judging, 569

HAFFRARIAN PLANTS, 199
Keeping up appearances, 377
Kew Gardens, Water Lilies and Palms at, 97
Kirkconnell, N.B., notes on, 254
Kitchen garden, the, 68, 139, 187, 233, 328, 373, 437, 483, 527
Knighton and District Horticultural Society, 249

HABENARIA SUSANNE, 193, 226
Haller's "History of Plants indigenous to Switzerland," 446
Hamantus candidus, 200
Hampton Court, the gardens at, 66
Hardy flower notes, 49, 145, 439
Hardy fruit garden, 24, 304, 350, 392, 459, 549
Hardy plants, notes on, 131; a plea for, 355, 492
Harpalum rigidum, Miss Melish, 293
Harvest festival decorations, 359
Harvest time, 214
Helianthemum vulgare hyssopifolium flore pleno, 33
Heliotropes, housing, 239
Herbaceous border, the, 520
Herbs at Kew, great, 59
Hobbies, gardeners', 239
Hollyhock disease, 57, 433; disease and perianth of, 81
Hop-picking machine, 493
Hornbeam, 496
Horticultural (Royal) Society, Commitees, 34, 77, 150, 193, 232, 303, 343, 332, 443, 492, 543; certificates and awards of merit, 3, 79, 304, 333, 443, 494, 549; lecture on Cactuses, 35; Scientific Committee, 60, 110, 403, 465, 564; Fruit Committee at Chiswick, 69; life compositions, 79; examinations in horticulture, 79, 103, 153; conference on hardy trees and shrubs at Chiswick, 287; Great Fruit show at the Crystal Palace, 311; lecture on the "Origin of Vegetables and their Value on Food," 383; lecture on judging, 493

Horticulture, Mr. Gladstone, on, 178; the importance of, 342
Hoya bella, 9; carnosa, a shade plant, 10, 105
Hydrangea paniculata grandiflora, 316
Hypericum olympicum, 162

IMPATIENS AURICOMA, 385
Insect pests, destroying, 3; fighting on, 76; and plant diseases, 178, 201, 253
Insecticide, a new, 223
Ireland, "Wayside," 526
Irises, good German varieties, 8; tectorum and tomiolophis, 9; atro-purpurea, 385
Irish garden notes, 4

JAM FACTORY, MESSRS. CHIVERS & SONS, CAMBRIDGE, 173
Judging at shows—Mr. Douglas's lecture on, 492; a proposed code of rules for, 495, 512; growing, showing, and judging, 514

KAFFRARIAN PLANTS, 199
Keeping up appearances, 377
Kew Gardens, Water Lilies and Palms at, 97
Kirkconnell, N.B., notes on, 254
Kitchen garden, the, 68, 139, 187, 233, 328, 373, 437, 483, 527
Knighton and District Horticultural Society, 249

LABELS, 82; GARDEN, NEW imperishable, 340, 534
Lady gardeners, 181, 251
Lælia autumnalis, 123; Owenia and elegans nobilis, 193; Dayana delicata, 233; L. Partheuia, 253; L. anceps, 535
Lælio-Cattleya, Canhamiana alba, 12; broomfieldensis, 170
Land for fruit-growing, 438
Langley revisited, 322
Larch trees, original, 540
Laurel leaves browned, 575
Lawn, grubs in, 230; Conifers on, 294; troubles, 538
Lawn mower, a steam, 161, 301
Lawn tennis court, dimension of and making, 374
Leaves, skeletonising, 417
Lectures, Royal Horticultural Society's, 176
Lettuces, about, 164; late sown, 373
Leucophyton Browni, propagating, 271
Lewin, Mr. H. W., death of, 331
Liatris pycnostachya, 293
Lichens, life of, in winter, 33
Lila forcing, 394; buaching French, 439; Souvenir de Louis Spach, 130
Lilies, 13; Eastern, 177, 349
Lilium, notes on eastern, 14; Thunbergianum Horsmanii, 61; Harrisii, 253; unsatisfactory, 269; Harris, 294, 324
Lily disease, the, 295, 318, 404, 446
Lily of the Valley, planting, 375
Lime, and sulphur boiling, 46; superphosphate of, 164; for Ferns, 318; on ground, 586
Linsed oil, 341
Liverpool notes, 246, 547; a generous gift, 547
Lockie, Mr. Thomas, presentation to, 532
London parks, bedding in, 191
Lopping overhanging branches, law of, 520
Loquat and Oranges not fruiting, 416
Lord Bute's vineyards, essay on, 253

MACROSPORIUM POTATO DISEASE, 296
Maidstone Nurseries, 277
Manchester Botanical Gardens—Findlay v. Armitage—action for libel, 58
Mauresa Vine, the, 53; and its crop, the, 143

Manure distributor, a new, 293
Manure heap, the, 541
Manures, animal, 533
Manuring flower borders, 331
Marigold Prince of Orange, 80
Marguerite, propagating, 461
Market Gardeners' Compensation Bill, 33
Market gardening in France, 362
Market, growing produce for, 235
Masdevallia oethodes, 290
Mealy bug, methods of destroying, 4
Medicinal plants, 154
Melons, Beauty of Sion, 57; at Woburn Abbey, 130, 221, 244
Men and methods, 441
Michaelmas Daisies, 327
Middlemen, profits of, 123
Mignonette in pots, 153
Mildew, preventing, 212
Milk, trade in, 331
Millipedes in vineyard, 509; a plague of, 529
Minley Manor, 280
Mistletoe, variegated, 533
Modern gardening, 326
"Molyneux," how to pronounce, 529
Moths on fruit trees, 342
Mount Merlion, a note about, 340
Muir, Mrs., death of, 518
Musa Cavendishi, 247
Muscat Grapes at Longleat, 363
Muscat of Alexandria Grape, 167
Mushrooms, spawn, making, 23; inserting spawn in pastures, 434; freak, a, 113; property in, 254; horse, 261; beds, 328; treatment of, 351; questions on, 374; in peat moss, 532

NAME, WHAT'S IN A, 519
Narcissus exhibition in Birmingham, 447
National Amateur Gardeners' Association, annual dinner, 562
Naturalising flowers, 26
Naughton, Mr. W. W., portrait of, 243
Nectarines, fungus on, 94
Nepenthes, culture of, 240; mixta sanguinea, 253
Nertera depressa, 46
Nutrition of roots, 100, 120, 163, 217, 297, 360, 493

ODONTOGLOSSUM RAMOSISSIMUM, 77; ASPERSUM ROSEUM, 253; crispum Franz Masareel, 467
Olearia stellata, 56; O. Haasti, 470, 494, 519, 538; O. dentata, 561
Olive Oil industry, the, 248, 320
Olympia, the garden at, 59
Oncidium, 77; O. Lanceanum, 12; O. ornithorhynchum album, 399
Onions, the use and odour of, 32; scares and their lessons, 74; disease in the Isle of Wight, 103, 116; maggot and fungus, 131; growth diseased, 140; fungus, the, 151, disqualifying, 237; at Banbury, 339; a new, 342; autumn-sown, 384
Oranges, Californian, 447
Orchard trees, wash for, 528
Orchids—Cultural notes, 12, 99; Odonoglossum crispum zanothe, 28; Messrs. Veitch's "Manual of Orchidaceous Plants," 23; Vanda Kimballiana, 52; Dendrobium Cambrideganum, 52; Lycaste aromatica, 52; Oncidium rubigenum, 53; culture of Lælia purpurata, 53; "The Orchid Grower's Manual," 53; Sobriji Veitchi, 98; Paphi-nias, 98; Grammotophyllum Measuresianum, 123; Lælia autumnalis, 123; Odonoglossum insleyi, 123; Disa grandiflora, 123; Odonoglossum crinitum sapphiratum, 147; O. Rossi majus, 147; Dendrobium Hildebrandi, 147; D. Hamatum, 147; Lælio-Cattleya broomfieldensis, 110; Cattleya Eldorado, 171; Cypripedium Chamberlainianum, 171; C. Pearcei, 171; repotting, 189; Senticaria Keyseriana, 14; notes on Epidendrum, 194; Epidendrum Godseffianum, 381; Habenaria Susanne, 227; Cypripedium James H. Veitch, 227; C. Lawrencei, 227; C. Charlesworthi, 399; Lælia Perrini, 227;

ORCHIDS—continued.

Phaius maculatus, 227; evergreen *Catanthes*, 244; *Miltonia spectabilis*, 244; *Vanda hookeriana*, 244; *Cattleya gigas* Countess of Derby, 253, 274; *C. Gaskelliana* *albena odorata*, 253; *Cypripedium Meteor*, 253; *C. Nandi*, 253; *Lælia Dayana* *delicata*, 253; *L. Parthenia*, 253; *Renanthra coccinea*, 253; *Cattleya velutina*, 290; *Lælia crispa*, 290; *Dendrobium chrysanthum*, 290; *Oncidium Forbesi*, 290; *Masdevallia oethodes*, 290; *Sophr-Cattleya eximia*, 321; cultural notes, 321; white-flowered Orchids, 330; *Dendrobium Phalaenopsis Schröderiana*, 337; *Oncoglossum crispum*, 337; *Cattleya hybrida* Browni, 344; *C. labiata* Foleyana, 344; *C. labiata* Countess Fitzwilliam, 344; *C. Wendlandi*, 344; *Cypripedium Bookeri*, 344; *C. Memoria Moensii*, 344; *Dendrobium palpebre*, 344; *D. Phalaenopsis Schröderiana* *alba*, 344; *D. album*, 491; *Miltonia spectabilis* *Moreliana atro-purpurea*, 345; notes on *Sophranthes*, 360; *Stanhopea Randi*, 421; *S. nigripes*, 421; *Pleiones*, 444; *Angraecum eburneum*, 476; *Cattleya speciosissima*, 476; *Odontoglossum crispum* *Franz Masareel*, 477; *Vanda Amesiana*, 491; at the Bristol show, 491; *Phaio-Calanthe Sedeniana*, 512; leaves spotted, 512; *Cypripedium Meteor* 535; Mr. R. I. Measures' book on *Cypripediums*, 535; *Lælia anceps*, 535; *Cypripedium x William Lloyd*, 557; *Dendrobium Parishii*, 557; at The Firs, Warwick, 557; carnivorous plants in Orchid houses, 558; *Schomburgkia Sanderiana*, 579; *Masdevallia tovarensis*, 579; Orchids in a plant case, 579; Orchids for winter flowering, 589

Orobanchis hirsutus, 47
Osmaston Manor, 300
Ox-eye Daisies, 539

PACKING FRUIT AT THE

Crystal Palace Show, 398
Pæonies, 126; at Long Ditton, 14
Palms and Water Lilies at Kew, 97
Pansies, in Canada, 33; notes on, 193; hints on, 442
Papaw tree, the, 129, 153, 178, 196
Paradise, a floral, 246
Parsley for winter, 373
Pasture, rough, 375
Peaches and Nectarines, cleansing, 41; preparing for forcing, 187, 550; earliest forced houses, 258; outdoors, 350; under glass, 350
Peaches, chlorosis or yellows in, 100; analysis of Peach branches, 100; and wet weather, 157; in houses, 211; colour of, 405; early, 424; a large, 470
Peach shoots, thinning, 289
Peach stones spitting, 22
Peach trees, insects on, 70; chlorosis or yellows in, 72; unsatisfactory, 164; lifting and improving, 265; infested with maggots, 303
Pears, attacked by *Cecidomyia* (*Diplosis*) *pyriformis*, 59; crop of, 105; at Hook, 129; early, gathering, 210; storing, 336; The Achan, 363; the abnormal crop, 1894, 367; irregularly swelled; 416; Seckie, 417; for November and December, 460; growths thorny, Crasane, 484; Catillac, 541; diseased, 539
Pear tree slug, 116
Pea-rot fungus, 116
Peas, dwarf, 82; late, 189; difference between Marrow and other Peas, 140; Tubers' Duke of York, 127; select, 173; notes on, 222, 360; among the Wem, 323; November, 428
Pelargoniums, zonal, 259
Pentstemons in beds and borders, 315
Peppermint in America, 201
Perennials, sowing, 141
Petroleum as fuel, 248
Phaio-Calanthe Sedeniana, 512
Phenyle and carbolic acid for club in Cucumbers, 70; for destroying eelworms in soil, 117
Phormium Hookeri, 105
Physalis Alkekengi, 426; P. Alkekengi Franchetti, 343
Pigeons and catapaults, 540
Pine Apple growing in Florida, 153

Pines, culture of, 211; attention to, 258
Pink (National) Society, Midland Section show, 64
Pinks, at Handsworth, Birmingham, 159; border, 173; at Shirley, 173; Mrs. Lakin, 200; Margaret, 247
Piptanthus nepalensis, 330
Plts. forming brick, for early vegetables, 71
Plantains on lawns, 164
Plant houses, 69, 351, 551, 573

PLANTS, FRUITS, AND VEGETABLES CERTIFICATED BY THE ROYAL HORTICULTURAL SOCIETY—

Acer purpurascens Nizette, 313; *Adiantum Hensleyana*, 151; *A. plumosum*, 151; *Anthurium Scherzerianum* *rotundiflorum sanguinea*, 198; *Aster Eynsford Yellow*, 253. — Bean, Veitch's Climbing French, 303; *Begonia Lord Dunraven*, 35; *B. Laing's Fringed White*, 35; *B. Neatness*, 35; *B. Lady Tyler*, 78; *B. Beauty of Eynsford*, 78; *B. Rajah*, 151; *B. margaritacea*, 333; *B. Sanders' Winter Queen*, 492; *Bertonia Triomphe de l'Exposition*, 79; *B. margaritacea superba*, 79; *Bougainvillea glabra* Coker Court variety, 35. — *Caladium Chelsea Gem*, 79; *C. Duke of York*, 79; *C. Duchess of York*, 79; *C. T. W. Moore*, 79; *C. Papaver*, 79; *C. Triomphe de Comte*, 79; *C. Itapoca*, 79; *C. Gurnea*, 198; *Calanthe Harold*, 492; *Calochortus venustus* Vesta, 35; *C. venustus purpurascens*, 35; *C. Plummera*, 79; *Canna celebica*, 79; *Carnation Winifred*, 35; *C. Eudoxia*, 79; *C. The Burn*, 79; *C. Lady Henry Grosvenor*, 79; *C. Mrs. Eric Hambro*, 79; *C. Miss Ellen Terry*, 151; *C. Waterwitch*, 151; *C. Paradox*, 151; *Catacettum Lindenii*, 448; *C. Bungei* *aurantiacum*, 448; *C. O'Brienianum*, 448; *Cattleya Gaskelliana* *Nellie*, 35; *C. granulosa superba*, 79; *C. Mendeli* *H. O. Tracy*, 79; *C. Hardyana*, 79; *C. Hardyana laversinense*, 79; *C. Ashtoniana*, 151; *C. hybrida* *Kienastiana*, 198; *C. Hardyana*, *Selwood variety*, 198; *C. gigas* Countess of Derby, 253; *C. Gaskelliana* *albena odorata*, 253; *C. albana*, 303; *C. bicolor carulea*, 303; *C. hybrida* *Browni*, 344; *C. labiata* *Foleyana*, 344; *C. labiata* *Countess Fitzwilliam*, 344; *C. Wendlandi*, 344; *C. x Clonia*, 383; *C. Fabia*, 443; *C. labiata autumnalis*, 448; *C. labiata elegans*, 448; *C. labiata*, *Peters' variety*, 492; *C. guttata* *Prinzi*, 549; *Chrysanthemum maximum* *Manrice* *Prichard*, 35; *C. Lady Fitzwilliam*, 253; *C. Miss Dorothy Frankland*, *C. Rose Wells*, 303; *C. Madame Charles Molin*, 344; *C. Mrs. E. G. Hill*, 344; *C. Madame Edouard Rey*, 344; *C. Souvenir de Petite Amie*, 344; *C. Frank Wells*, 344; *C. Mons. Charles Molin*, 353; *C. Louise*, 353; *C. Profet Robert*, 353; *C. M. Ang. de Lacvivier*, 353; *C. Harry Wonder*, 353; *C. Owen's Perfection*, 448; *C. J. Bidecove*, 448; *C. John Lightfoot*, 448; *C. Maggie Benkiron*, 448; *C. Sir E. T. Smith*, 448; *C. Miss Dnie Schröeter*, 448; *C. Mrs. W. J. Godfrey*, 448; *C. Garnet*, 448; *C. Mrs. Dr. Ward*, 448; *C. Purity*, 448; *C. Alice Seward*, 448; *C. Mrs. R. Atkins*, 448; *C. Princess Ena*, 448; *C. Duchess of York*, 492; *C. Madame Carnot*, 492; *C. Owen's Crimson*, 492; *C. Mons. Mez*, 492; *C. Black Prince*, 492; *C. Bellem*, 549; *King of the Plumes*, 549; *Clematis Lady Ashcombe*, 35; *Cosmos bipinnatus* *grandiflorus*, 443; *Crocus aurea* *imperialis*, 253; *Croton M. Fournier*, 198; *Cucumber Buxley's Seedling* (*Blendworth Perfection*), 303; *Cymbidium cyperifolium*, 443; *Cypripedium leucoclitum* *var. aureum*, 151; *C. tessellatum* *porphyrum*, 151; *C. Godefroya* *var. Cambridge Lodge*, 151; *C. superbiens* *Elliotianum*, 151; *C. Excelior*, 151; *C. The Pard*, 198; *C. Meteor*, 253; *C. Nandi*, 253; *C. Arnoldia*, 303; *C. Bookeri*, 344; *C. Memoria Moensii*, 344; *C. Insigne* *Eruesti*, 448; *C. Cyris*, 449; *C. Lucianum superbum*, 492; *C. Insigne* *Sanderiana*, 492; *C. triumphans*, 492; *C. William Lloyd*, 549; *C. Swinburni* *inaginata*, 549. — *Dahlia Crawley Gem*, 151; *D. Cannell's Velvet*, 253;

PLANTS, &c., CERTIFICATED—

Continued.
D. Mrs. Gordon Shaw, 253; *D. Mrs. Francis Feil*, 303; *D. Cissie*, 303; *D. The Bishop*, 303; *D. Earl of Pembroke*, 303; *D. Harmony*, 303; *D. Miss Horniman*, 303; *D. John Welch*, 303; *D. Novelty*, 303; *D. Shotesham Hero*, 303; *D. Mrs. Turner*, 303; *Delphinium Sarali*, 151; *Dendrobium palpebre*, 344; *D. Phalaenopsis Schröderia* *alba*, 344; *D. Phalaenopsis Highburyensis*, 449; *Epilælia Hardyana*, 449; *Eriocnema Sanderæ*, 304. — *Fuchsia Ballet Girl*, 79. — *Galandra lagensis*, 79; *Gladiolus J. H. Krelage*, 79; *G. Kenneth Kelway*, 151; *G. Xenia*, 151; *G. Vigilant*, 151; *G. Utopia*, 151; *G. Dodo*, 151; *G. Little Dorrit*, 304; *G. Muriel*, 304; *G. Cygnet*, 304; *G. Leonora*, 344; *G. grandis*, 345; *G. Casilda*, 345. — *Habenaria carnea* *nivosa*, 79; *H. Susanna*, 193; *Holly Lawsoniana*, 304. — *Lælia elegans* *præstans*, *Ingram's variety*, 151; *L. elegans* *dulcitate*, 151; *L. Owenia*, 193; *L. elegans nobilis*, 193; *L. Dayana* *delicata*, 253; *L. Parthenia*, 253; *L. Euturpe*, 549; *Lælio-Cattleya Timora*, 35; *L.-C. Zephyra*, 79; *L.-C. hybrida* *broomfieldense*, 151; *L.-C. Nysa picta*, 304; *L.-C. Nysa superba*, 304; *L.-C. Nysa purpurea*, 304; *L.-C. Decia*, 492; *Lilium Thunbergianum* *Horsmani*, 35; *Lycaste Schronbrunnensis*, 79. — *Melou*, *Fairawn* *Empress of India*, 198; *Earl's Favourite* (*Ward*), 332; *Miltonia spectabilis* *Moreliana* *atropurpurea*, 345; *Miltoniopsis Bleiana rosea*, 333. — *Nepenthes mixta* *sanguinea*, 253. — *Odontoglossum citrosimum sulphureum*, 79; *O. asperum* *roseum*, 253; *O. Wattianum* *superbum*, 383; *O. asperum* *individuum*, 383; *O. crispum* *Frantz Masareel*, 449; *O. insleyayi* *splendens* *aurea*, 492; *Oncidium ornithorhynchum* *album*, 353; *O. Wheatleyanum*, 449. — *Pea*, *Veitch's Main* *crop*, 78; *Peach Late* *Devonian*, 303; *Pentstemon Jean Mace*, 35; *Phaio-Calanthe Sedeniana*, 492; *Phlox Iris*, 151; *Physalis Alkekengi* *Franchetti*, 345; *Picotee President* *Carnot*, 79; *P. Ladas*, 79; *Platycodon Mariæi* *album*, 151; *Plumieria alba*, 79; *Pium Rivers' Monarch*, 303; *P. Rivers' Late* 382; *Potato*, *Hill's Superb*, 303; *P. Boston Bountiful*, 303; *P. Daniels' Special*, 303; *P. Field King*, 303; *P. Poor Man's Friend*, 303; *Primula capitata*, *Loxwood* *var.*, 493; *Pteris baurata* *argentea*, 151; *P. gracilis* *multiceps*, 151; *P. cretica* *cristata* *Forvandi*, 443. — *Reinwardia tetragyna*, 493; *Renanthera coccinea*, 253; *Retinopora squarrosa* *sulphurea*, 79; *Rose Madame Pierre Cochet*, 79; *R. Queen Mab*, 253; *R. Maman Cochet*, 304; *Rubus japonicus* *tricolor*, 35; *R. phaeocolosus*, 151. *Ruellia macrantha*, 493. — *Saccolabium celeste* *superbum*, 193; *Salutapaulia ionantha*, 353; *Schomburgkia rhinodora* *Kimballiana*, 549; *Selaginella viridivagula*, 79; *S. Lyallii*, 79; *Sobralia Veitchii*, 79; *Sonaria* *Mrs. H. Walter*, 35; *S. Madame Van Langenhool*, 79; *S. Francis Marchand*, 79; *S. Souvenir de Madame Van Houtte*, 79; *Sophr-Cattleya eximia*, 304; *Strawberry Laxton's Latest* *or All*, 78; *Sweet Briar* *Diana Vernon*, 79; *Sweet Pea*, *Countess of Powis*, 35; *Sweet Pea*, *Saopian*, 35. — *Tomato*, *Golden Nugget*, 150; *T. Red Dessert*, 150; *Triglochin lutea*, 79. — *Veronica lycopodioides*, 344; *V. cupressoides*, 304; *V. salicorno* *des*, 304; *Viola lona*, 79. — *Zephyranthes carinata*, 304.

Plants, for bedding, hardy, 121; contractility of, 152; *Kaffir* *Indian*, 199; loss of chlorophyll, 215; new, introducing, 247; how plants grow, 247; lifting from flower gardens, 273; for beds and borders, 315; for growing under glass, 317; on banks and shady places, 333; p.c.s. for hardy, 412; and shrubs, forcing, 487
Pleiones, 444
Pimbugo capensis, 223
Plums, ripening, 210; crop, 223
Point worth considering, a, 351
Poisoned fruit borders, 419
Polypodium schneideri, 79

Pomegranate fruiting, 540

Population and gardening, 199
Portraits—Mr. H. W. Adnitt, 243; Mr. W. W. Nannton, 243; Mr. George Steel and Dr. Stuart, 542
Potatoes, disease in the Isle of Wight, 80; and Onion disease in Isle of Wight, 106; disease (*Phytophthora infestans*), remedies for, 181; fungus, the, 151; in Jersey, 223, 240; a National Potato show, 240; the Warminster Potato experiments, 241; Potatoes at Southampton, 241; proposed National show, new varieties at Chiswick, 274; disease and scab, 295; Potato top collapse, 295; how diseases may be distinguished, 296; fungicides as preventives of the disease, 297; coloured, 294; American crop, 295; disease, 317; improvement of, 422; "new," 426; sewage grown, 540; boxes for seed, 540; well cooked, 561
Primulas, double, 471
Privet hedge, forming a, 330
Progress in gardening, 397, 422
Pruning, spur, 350; root, 350
Prunus pissardi, 471

RADISH SEEDS, 341

Rainfall recorders, 152
Rannoculus Lyallii, 199
Raspberries, Kent, 199
Reading Horticultural Show, 223
Recreation grounds in London, 193
Renanthera coccinea, 253
Rhododendron Schlippenbachii, 246; Fordi, 518
Ripened wood, 50, 160, 179, 195, 223, 291, 324, 336, 358, 381, 401, 421, 422, 444, 463, 465
Riviera, the flower trade of the, 129
Roath Park, Cardiff, 225
Roche Abbey, 112
Root action, its effect on vegetation, 169
Roots, nutrition of and manuring, 2, 51, 74, 109, 120, 168, 219, 275, 297, 360, 391, 403; pruning, 294
Rose-chaffer, 217
Rose (National) Society, annual meeting, 567; the Southern provincial meeting in 1896, 555
Roses Hedges of, at Bath, 6; at Westminster, Windsor show notes, 7; Congress at Antwerp, 27; review of Croydon show, 27; N.R.S. show at Crystal Palace, 28; the N.R.S. trophy classes and multiplicity of exhibits, 54, 82, 108, 125, 143, 197; at Hitchin, 55; at Woodbridge show, 55; at Gateford Hill, 109; at the Halifax meeting, 109; at Bedale, 109; notes on Roses, 125; W. A. Richardson, 126; standard Roses, 149; challenge trophy competition from 1881 to 1892, 149, 412; the amateur trophy question, 174, 269, 299, 320, 338, 392, 423; Niphotos, 175; Tea and China Roses in Scotland, 175; autumn pruning, 191, 412; China Rose Laurette Messimy, 137; the National Rose Society and its members, 250, 269; Queen Mab, 223; cutting, 261; the fashion in Roses—garden varieties, 269, 299, 320, 333, 368; Rose analysis, 1886-1894, 333, 368, 392, 412, 423, 445, 466, 490, 517, 536; exhibition and garden Roses, 333, 339; date of annual meeting of N.R.S. and shows in 1895, 368; retirement of the Rev. F. R. Burnside, 368; Captain Hayward, 412; season, of 1894, 423; late flowering, 491; judging, 517; Mr. Lindsell's motion, 536; Hybrid Briar Roses, 533; planting, 536; "The Book of the Rose," 563; Mr. Grace's letter on *Rekination* 13, 563; the Rose analysis, 566; Rev. F. R. Burnside, 566; random notes—tedious shooting, 566; the humble amateur, 566; teaching grandmother, 566; echoes from the rosiarians meeting, 567; Dean Hole in America, 535; the N.R.S. Southern provincial show in 1896, 535

Rose shows—Eitham, Sutton, 16; Canterbury, Wood Green, Brockham, 17; Bagshot, 18; Lee, Blackheath, and Lewisham, 19; Reigate, 19; Croydon, 20; N.R.S. Crystal Palace, 35; Farnham, 39; Doss, 39; Ipswich, 41; Tunbridge Wells, 40; Norwich, 40; Farnham, 41; Chertsey, Walton, and Weybridge, 41; Dublin, 41; Bedford, 42;

ROSE SHOWS—Continued.

Hereford and West of England, 42; Wolverhampton, 43; Hitchin, 44; Woodbridge, 55; North Lonsdale, 64; Royal Caledonian, Edinburgh, 65; Worksop, 65; Bath, 67; New Brighton, 65; the N.R.S. at Halifax, 83; a review of Halifax show, 86; Manchester, 87
Rubus japonicus *tricolor*, 60; *deliciosus*, 127; *phaeocolosus*, 210
SACCOLABIUM CELESTE SUPERBUM, 193
Sandbeck Park Gardens, 111
Saponaria ocymoides, 246; S. Boissieri, 421
Sap, the ascent of, 539
Sauromatums, about, 247
Sawbridgeworth, fruit at, 220
Scale, destroyers, 434
Scenes of childhood revisited, 130
Schizostylis coccinea, 539
Schomburgkia, 12; S. *Sanderiana*, 579
Scotland, autumn flowers in, 216
Scutellaria Keyseriana, 191
Scypanthus volubilis, 353
Seakale, forcing, 527
Seeds, 552; germination of "mummy," 319
Senecio laxifolius, 335; S. *pulcher*, 589
Shrewsbury, a tour at, 324
Shirley Gardeners' and Amateurs' Mutual Improvement Society, 199
Showing, growing, and judging, 514
Shows—Pershore, 88; Trentham, 88; Newcastle-on-Tyne, 89; National Pink Society (Northern Section), 90; National Carnation and Picotee Society (Southern Section), 91; Caterham, 113; Rainhill, 114; Prescott, 114; Midland Counties Carnation, 134; Liverpool, 134; Southampton, 134; Beddington and Carshalton, 137; Northampton, 137; Wells, 157; Taunton Deane, 157; Welshpool, 158; Sevenoaks, 182; Wilts (Salisbury), 183; Cardiff, 184; Faringdon, 185; National Co-operative (Crystal Palace), 185; National Carnation Society (Northern section), 186; Kingswood, 202; Trowbridge, 202; Shrewsbury, 204; Brighton, 208; Reading, 209; Ventnor and Undercliffe, 230; Bath, 231; Sandy, 232; Royal Oxfordshire, 232; Royal Horticultural Society of Ireland, 233; Royal Aquarium, 233; Glasgow, 254; Wirral and Birkenhead, 256; National Dahlia Show, 256; at the Royal Aquarium, 349
Shropshire Horticultural Society, history of, 242
Shrubs for flower beds, 553
Sobralia Veitchii, 93
Soils, improving, 350
Solonams, potting, 259
Some choice plants, 226
Soot water, 47
Sophr-Cattleya eximia, 321
Sophranthes, notes on, 360
Southport and Birkdale Gardeners' Friendly Society, 341
Souvenir de Louis Spath *Lilac*, 180
Spider, the bite of, 391
Spiræa, *compacta multiflora*, 9; *herbaceous*, 132; S. *ariaefolia*, 123
Spraying machine, 15, 391
Spring Bank, Severn Stoke, 371
Stanhopea Randi, 421; S. *nigripes*, 421
Stephanotis forcing, 434; S. *floribunda*, 351
Sternbergia macrantha, 449
Strawberries—Laxton's varieties, 7; propagating, 20; crop of 1894, 29, 98, 159, 171; in pots, 32, 259, 393; Royal Sovereign, 32; consignments from Hampshire, 32; pickers, life amongst, 128; Sir Joseph Paxton, 129; beds, cleaning, 210; a note on, 223; preparing plants for forcing, 241; Sutton's Alpine, 270; autumn, 340
Streptocarpus culture, 117
Strophanthus Petersianus, 154
Sulphur and lime, boiling, 70
Sunderland Gardeners' Society, 405
Sunnshine at Greenwich 1893-4, 292; in Regent's Park, January to October, 1893 and 1894, 524
Swanley College, the, 158
Sydney Botanical Gardens, 332
Syringa pekinesis, 341

TABLE DECORATIONS FOR
Christmas, 555, 569

Tacca cristata, 57
Talauma Hodgsoni, 225
Tea cultivation in India, 540
Teak wood, 154
Tecoma radicans, 575
The Towers, Rainhill, fruit at, 246
Thunias, treatment of, 330
Tipula oleracea, 319; grubs, 537

Tomatoes — "Drooping" and remedy, 9; eelworms in, failing to set, 22; fruit disease, 23; blooms falling, 34; fruits not setting, 47; drooping disease in, 65; diseased — making and using carbonate of copper solution, 70; chlorosis or yellows in, 79, 101; for winter, 139; leaves injured by ammoniacal carbonate of copper solution, 141; at Coombe Bank, 126; setting *versus* non-setting, 159; Prolific Queen, 154, 201; past and present, 170; setting, 170; large, 176; plants diseased, 212; at the Priory Nursery, Warwick, 250; a good crop of, 246; seeds, preserving, 231; in America, 273; leaves, diseased, 336; Frogmore Selected, 317;

TOMATOES—Continued.

are Tomatoes fruits? 318, 543, 560; Tomato Acquisition, 341; growing near Birmingham, 405; grafting on the Potato, 446, 471; chemical manures for, 539
Torquay District Gardeners' Association, the, 341
Toarneyfortia cordifolia, 531
Towers, The, Rainhill, 294, 342
Trees, for screens, 165; a curious, 199; dwarf fruit, 239; historical, 363; and shrubs for wet situations, 394
Trichocentrum tigrinum, 385
Trinity College Botanic Gardens, 266
Tropaeolum speciosum, 273, 361
Tulips (Florists), drying the bulbs—good varieties, 6; the florists', 378, 400, 443, 464, 483, 513, 556, 565
Turkestan garden, a, 176

UNITED HORTICULTURAL
Benefit Society's annual dinner, 347
Uraria crinita, 385

VANDA AMESIANA, 491
Vanilla in Tahiti, cultivation of, 80
Vegetables, disqualifying, 116; imported, 242; at Banbury, 339; cookery, 547
Vegetable exhibition, the proposed National, 320, 340, 381, 530
Vegetable Marrow, a fasciated, 347
Vellozia elegans, 200
Ventilators sectional, 413
Verbascum olympicum, 132
Verbena Aubletia, 173; cuttings damping, 352
Viburnum cassinoides, 362
Vines, and mealy bug, 4; summer management, 21; management of, 45; the Manresa, 58, 143, 176; red spider on Vines, 70; manure for, 70; mealy bug on, 105; foliage ripening prematurely, 141; leaves, the loss of chlorophyll in, 170; border, making a 212, 438; autumn management, 282, 403; early forced, 372; late 372; Muscat of Alexandria unsatisfactory, 374; seasonable notes, 415; cleaning, 531; planting from tubs, 552; forcing, 573; removing bark from, 584

Violas, at Chiswick, 31; six good, 57; conference proposed, 89; at Chiswick, 75; Violas and Pansies at Wolverhampton show, 93; in Scotland, 81; conference at Birmingham, 123, 542; exhibition in Birmingham, 447; and their friends, 542; form of miniature, 531
Violet, bulbous, 426

WAKEFIELD PAXTON SOCIETY 177, 243
Walnut, Jamaica, 425
Walks, edgings for kitchen garden, 534
Warwick, the King's School gardens, 327
Wash for orchard trees, 523
Washingtonia filifera, 317
Wasps in 1894, 324
Watercress, sanitary qualities of, 33
Water Lilies at Kew, 97
Water Lily pools, 318
Water, temperature of, 391
Watsonia, a white, 219
Weather in June, 33; in Scotland, 493; mild in Dec., 519
Weeds, killing by electricity, 539
Week's work, the, 350

Wem Peas, the, 323
Widdringtonia Whytei, 225, 493
Wilks, affliction of, Rev. W., 270; and the R.H.S. Journal, 520
Wilton Park, fruit at, 249
Wineberry, the Japanese, 210
Winter moth, the, 425, 471, 496
Wire tension houses, 325
Witherspoon, Mr. J., death of, 539
Woburn Abbey, Melons at, 244
Wolverhampton Free Library lectures, 404
Woodhatch, Apples at, 405
Woodlice, trapping, 260
Wood, ripened, 50, 81, 126, 160, 179, 195, 228, 246, 274, 291, 358, 401, 421
Woolton Gardeners' Mutual Improvement Society, 349
Woolton Show, 405

YEAR, THE PASSING, A REVIEW, 577
Yellows in Peach trees and Tomatoes, 72, 100
York flower sermons, 270
York Gala, receipts of, 470
Yuccas flowering 260

ZEPHYRANTHES CARINATA, 339

WOODCUTS.

	PAGE		PAGE		PAGE
Apricots in pots at Waltham Cross	107	Easton Lodge, Dunmow	155	Phaio-Calanthe Sedeniana	513
Arenaria Huteri	369	Eremurus robustus	267	Physalis Alkekengi Franchetti	343
		Eutoca viscida	183	Polypodium Schneideri	85
Baptisia exaltata	64			Portraits—Adnitt, H. W., Mr.	243
Begonia Rajah	179	Fairy rings	461	„ Naunton, W. W., Mr.	243
				„ Steel, George, Mr.	542
Calochortus Plummeræ	289	Glæosporium fructigenum in Pears	582	„ Stuart, Dr.	542
Campanula alpina	5	Goodia latifolia	484	Potato blight (Phytophthora infestans)	296
„ spicata	203	Grammatophyllum Measuresianum	123	„ Macrosporium disease	297
Carnation Miss Mary Godfrey	587	Grape, Gros Colman, a fine berry	313	„ scab	297
Darpenaria californica	251	Grapes at Fordingbridge	357		
Cattleya gigas Countess of Derby	275	Habenaria Susannæ	223	Rubus japonicus tricolor	60
Chrysanthemum cup and tube (Springthorpe)	279	Hive, the Lanarkshire storifying, making —507, 528, 551, 552, 574, 588	588	„ phœnicolasius	210
„ Directeur Tisserand	499	Hypericum olympicum	162	Saponaria Boissieri	421
„ Duchess of York	387			Schomburghkia Sanderiana	579
„ Frank Wells	365	Japanese Wineberry (Rubus phœnicolasius)	210	Scuticaria Keyseriana	195
„ Hairy Wonder	407			Sobralia Veitchi	99
„ Louise	429	Lælio-Cattleya Broomfieldensis	171	Sopbro-Cattleya eximia	321
„ Miss Maggie Blenkiron	475	„ „ Canhamiana alba	13	Spray distributors	391
„ Miss Rita Schroeter	451	Lawn mower, a steam	301	Spraying machine	16
„ Owen's Crimson	521	Lilac, bunching French	439		
„ Pride of Swanley	515	„ Souvenir de Louis Spath	131	Table decorations	569
Cladosporium lycopersici in Tomatoes	23	Lilium Thunbergianum Horsmani	61	Tomatoes, diseases of (Cladosporium lycopersici)	23
Olematis Countess of Onslow	37			Tulip bed covering	556
Cotyledon fascicularis	413	Mushroom freak, a	113		
Oycas revoluta, ovuliferous frond of	231			Vanda Amesiana	491
„ „ flowering	379	Odontoglossum crinitum sapphiratum	147	„ Kimballiana	53
Cypripedium James H. Veitch	227	„ crispum Franz Masereel	467	Vegetable Marrow, a fasciated	347
„ Meteor	535	„ „ zanothes	29	Ventilators, sectional	413
„ William Lloyd	557	„ ramosissimum	77	Viola conference at Birmingham	543
		Oncidium ornithorhynchum album	399		
Daffodil Cervantes	133	Orobis hirsutus	47	Watsonia iridifolia var. O'Brieni	219
„ cup, Barr's	255			Wire tension houses	325
Dendromecon rigidum	92	Pears, disease in (Glæosporium fructigenum)	582	Zephyranthes carinata	339
		Pear tree slug, the	116		





DURING the few busy hours which precede the opening of horticultural exhibitions, those of us who have on so many such occasions contributed our part to the general bustle of the throng, must at times have been struck with the rough and ready methods of packing adopted by some among the eager showmen. The damage resulting from such practices is perhaps more apparent in choice fruits than any other class of exhibits, because they frequently travel long distances, and when fully ripe show the effects of faulty packing or rough handling in an unmistakeable manner. Many a valuable prize has been lost solely through the damage sustained by fruit during transit to the exhibition. True there are instances when this cannot well be avoided—as accidents will sometimes occur when every possible precaution has been taken—but successful showmen must first become expert packers, and the extremely rare occasions on which they encounter mishaps do much to prove how slight are the elements of chance, which some would have us believe contribute towards success in any walk of life. On more than one occasion have I seen exhibitors stage splendid examples of cultural skill, which also bore the unmistakeable evidence of bad packing, and while they were deploring the rough handling their produce had received on the journey, a fellow exhibitor—who had perhaps travelled thrice the distance—has brought out his fruit in an unblemished condition.

In the case of Grapes it is absolutely necessary that the boxes containing them should be handled carefully, and not in any other way be subjected to rough treatment from the time the bunches are placed in them till they are arranged on the exhibition tables for no method of packing has yet been devised by which the bloom can be retained upon the berries, while at the same time they will bear the rough handling without injury to which well packed Peaches may be subjected with impunity. Compact bunches, in which the berries press slightly together so as to form a solid mass, always travel well—provided no accidents occur—but even then will not bear the tossing about which some railway officials are apt to give them, unless they are thoroughly acquainted with the contents of the travelling boxes. For this reason it is an excellent plan to have all Grape boxes labelled with large printed labels, "Grapes with care." Large loose bunches are not at all desirable for show purposes. Still, it sometimes happens that they must perforce be used. In dealing with such I have found it advisable to place under them a piece of cotton wool cut to suit the shape of the bunch, the rough edges being turned underneath, and the whole secured to the stand by means of tacks. In other instances it may only be necessary to place a padding of this description under the shoulders of the bunch, so as to bring them up to the proper level. A little attention of this kind does much to prevent the Grapes becoming rubbed and otherwise injured in travelling, and although the padding indicates a weakness, still it is the best means that I know of to ensure the desired results. Grapes always travel better when the stands on which they are placed have an acute angle than when the opposite is the case; for this reason it is a good plan to have the stands made with adjustable legs so that they may be fastened to the sides of the boxes in an almost upright position for the convenience of travelling. This may seem a trivial matter, but in reality it is one of the most important points to be observed in good

packing, for it is obvious that in travelling, the farther the bunch deviates from the perpendicular the more likely the shoulders are to spread out and spoil the form of the bunch.

Peaches and Nectarines are always telling dishes in collections of fruits, but to carry due weight they must be of good size and in just the right condition in regard to ripeness, not hard on the one hand or very soft or shrivelled on the other. Large fleshy fruits in good condition require extremely careful packing to enable the exhibitor to stage them in an unblemished condition. The first consideration is to have the boxes deep enough for a good layer of soft material to be placed underneath and above them. Squares of cotton wool and tissue paper should be in readiness to wrap each fruit in. Then place a layer of the former material in the bottom of the box, next wrap each fruit in tissue paper, finishing off by folding evenly underneath the fruit. A square of cotton wool should then be placed over the paper, and the fruits with their covering packed closely together in the box, the interstices being filled up with odd pieces of cotton wool or paper shavings, and a layer of the latter material placed over the whole. With firm packing of this description Apricots, Figs, and Green Gage Plums may be conveyed hundreds of miles and placed upon the exhibition table in an excellent condition.

In packing Strawberries I have found no better plan than the time-honoured one of placing them in shallow wooden trays, each fruit being enclosed in a soft leaf, a Cabbage or Cauliflower leaf with the ribs removed being placed beneath and above them. Cherries should be packed in exactly the same way, for when they are large and juicy, as they should be, the skins frequently burst if not carefully packed. Currants travel well if laid in similar trays lined with leaves; they ought to be laid in carefully at full length, not more than two layers being placed in a box. If these trays are all made of the same size several of them may be tied together, the bottom of one forming a lid for that beneath it, finishing off with a stout cover at the top, and fastening the whole securely together by means of cord. Plums if very ripe require each fruit to be packed in a leaf, when not over-ripe they travel very well if packed closely together in leaf-lined boxes. Ordinary Stinging Nettle leaves are the best I know of for the purpose, as they preserve the bloom so well, but are not altogether pleasant to handle.

Melons if wrapped in soft packing paper and surrounded with plenty of hay in a hamper or box, will bear a good deal of rough handling with impunity. In dealing with Pines both crown and fruit should be encased in soft paper, and when quite ripe, if the fruit is a large one, cotton wool ought also to be wrapped around it. If then placed in a box sufficiently wide and deep to allow a layer of paper shavings to be laid underneath the fruit, and pressed in firmly all round it, nothing short of an accident will cause serious injury. For the convenience of travelling I like to tie firmly together several packages of boxes, as they are thus more easily kept under the eye, and are moreover less likely to be shaken by being inadvertently tossed about in the way that small parcels are sometimes treated.—EXHIBITOR.

FIGHTING OUR INSECT PESTS.

It is generally supposed that those insects which are injurious to vegetable life are the most abundant during dry, hot seasons. My experience this year, however, has not borne out that supposition, for both green and black aphides, and caterpillars of several destructive types, have been unusually troublesome, and where prompt measures were not taken with them the havoc wrought has been appalling.

Roses were badly affected with green fly shortly after the severe frosts, just as the plants were commencing to grow freely. Immediately I discovered the enemy was so active as well as numerous the whole of the bushes were thoroughly syringed

with tepid water, in which carbolic soap had been dissolved at the rate of 1 oz. to the gallon. This made short work of all that came in contact with the liquid, but the remedy had to be repeated a few days after, for a fresh colony had appeared. The second syringing left both leaves and young shoots quite clean; and although the enemy seemed to have a slight inclination to continue the battle by showing themselves on a shoot here and there, they have given no further trouble, as I have been able to direct a good force of water upon them through the hose. Where this can be done Rose growing is made a simple and pleasureable matter during the summer months so long as the weather is bright, but syringing with insecticides must be substituted for it during cold wet periods. One pound of quassia chips to which 3 gallons of boiling water have been added, after standing for twenty-four hours, if sprayed upon trees or crops of any kind which are infested with green fly will kill all that the solution touches. I always consider, however, that in the matter of insecticides the one which has the combined merit of being economical, quickly prepared, and easily applied is by far the best. When a tedious or lengthy process of preparation is required remedial measures are often delayed till the enemy has gained a firm footing. The advertised remedies are convenient, cheap, and good.

Black aphides on Cherry trees have not only been extremely prolific, but also unusually tenacious of life. The same remark applies in the case of Peach trees where growing in rather hot positions. The best remedy I have found is to prepare tobacco water by pouring 1 gallon of boiling water on 2 ozs. of strong shag tobacco. Allow this to cool before using, then dip the points of the worst affected shoots in it. Next look carefully over the trees and dust with tobacco powder any insects which remain in parts not easily dipped. There are "distributors" suitable for performing the work. Both green and black flies are playing great havoc upon Currant bushes where nothing has been done to check their progress up to the present time. Perhaps the only practical measure of eradication now is to remove the points of the shoots and burn them, as the fruit is in too advanced a stage to render it desirable to syringe with an insecticide.

Gooseberry trees in some neighbourhoods are being denuded of their foliage by sawfly caterpillars. In those instances in which the fruit is required to hang till ripe a dressing of hellebore powder ought to be given at once; but where it is convenient to gather it now it should certainly be done, so that determined war may be waged against the insect pests. A good method of doing this is to dissolve 1 oz. of size in 1 gallon of hot water; add 1 oz. of freshly ground hellebore powder, mix thoroughly, and apply to the bushes on a dry day with a syringe. All bushes on which caterpillars are now troublesome should in winter be dusted with quicklime and soot in equal parts, the soil at the same time receiving a good coating, which ought to be forked in. When the leaves begin to unfold in the spring the bushes should again be dressed with equal parts soot and slaked lime, performing the work while the leaves are damp. Remedial measures of this kind, by rendering the trees obnoxious to sawflies, insures immunity from severe future attacks.

Red spider has not yet put in an appearance to any great extent, but should the present spell of hot weather continue trouble may be looked for in that respect. In the case of wall trees, however, much may be done to keep it in check by timely attention to watering, mulching, and syringing; indeed, it is to my mind a moot point whether sluggish root action, or an insufficiency of moisture at the roots, is not invariably the first cause of bad attacks of red spider.

Both black and green aphides have given much trouble upon Chrysanthemums, and it has been only by unremitting attention that they have been prevented seriously injuring the plants. Repeated syringings with a solution of carbolic soap, used at the strength previously given, killed the aphides wherever it reached them, but as it is a most difficult matter to force it into the centre

of the shoots, I had them all dusted with tobacco powder, and have seen but few insects on them since. With the occasional employment of this remedy I hope to keep the plants clean and healthy for the remainder of the season.

Gardeners as a body have during recent years commenced to more fully realise how important a part of their duty is concentrated in the task of checking, and if possible exterminating, insects which are injurious to various crops, for they know full well that cultural successes cannot be achieved when insect pests are allowed to continuously abound.—H. DUNKIN.

THE NUTRITION OF ROOTS—MANURING.

YOUR genial correspondent, Mr. Raillem, pays me an undeserved compliment on page 512. I am not a "well known authority" with a "valuable seal." An unknown mediocrity would, I am conscious, be a more appropriate designation, and I am sure I do not possess a "seal" worth twopence. Undoubtedly the "value of rising moisture to plant life should be evident to every cultivator." It may be taken for granted that the value of such moisture is generally recognised by all who can be regarded as even fairly successful gardeners, amateur or professional. "Mulch to prevent the escape of moisture from the soil in dry weather," or "run the hoe through the soil in summer to break the lines of evaporation," are time-honoured teachings of the best advisers in practical gardening.

If all Mr. Raillem really wanted to know was, "Whether it is doubted by a majority of practical and scientific men that the rising moisture does bring up plant food," it may be presumed he has got to know it. As no one appears to have suggested the contrary, we may take the case as settled *nemine contradicente*. If Mr. Raillem has not got to know something more than that through the interesting correspondence he has had the credit of eliciting, others have, and so a little has been added to the common store of knowledge.

But is there not a practical question underlying the scientific arguments which have been advanced on Mr. Raillem's questions? Evidently "A. D." thinks there is, and he also appears to be of opinion that science without practice is dead. May we not also suppose that Mr. Raillem had a practical object in view in "wanting to know" if plant food is not brought up by rising moisture in the soil? It would be no compliment to him to opine that he wanted to know something for nothing. True, he says "all" he wanted was what he has stated, but as used in a colloquial sense the little "all" is commonly credited with elastic possibilities; and besides, when "all" the information precisely asked for is forthcoming a very natural question arises—What was it all wanted for? I happen to know of more than one individual who wants to know if Mr. Raillem thinks that *all* the plant food conveyed in manure buried deep down in the soil is brought up to the roots of plants in "rising moisture?" True, he may retort that he never said or suggested it was, and even may complain of being the victim of misinterpretation; but that cannot be helped. It is not altogether what a person says in these rapidly reading days that has to be taken cognisance of, but what his words are supposed to imply in the minds of a jumping generation—that is of men who *will* jump at conclusions, and without any compunction fasten them on someone else.

Mr. Raillem will, I think, not deny his having suggested that "the roots of plants will not benefit by any liquid till it has reached below them and commenced to rise" (page 388, May 17th). It is this "rising liquid" which according to all logical sequence brings up, in his view, the only manurial elements that can benefit plants as implied in the above sentence. Is it so? Moisture will, no doubt, rise through 4 feet of sand and feed the roots of Hyacinths in Holland, as Mr. Raillem has said on page 389; and if this holds in solution the essential constituents of manure, and if plants cannot benefit by "any" liquid except that which rises, ought not the manure to be buried deep down below the roots of plants, crops, and trees, instead of being incorporated in the soil, as well as placed above the roots as in mulching? I am one of the multitude of cultivators who hold in profound respect the teachings of scientific men, and only wish, as indeed they must desire, to make the best use of what is advanced by them for our edification.

Mr. Raillem could scarcely have anticipated that his communication could have drawn forth such a learned disquisition as that of a scientific authority at Kew, who has said (page 444), it (the communication on page 388) "contains points of deep interest, and to fully understand them involves a knowledge of the physical

relations of gases and fluids, the vesicular structure of plants, and the laws which govern the passage of fluids and the substances and gases held in solution through the cell walls." Fancy that; when all that was wanted was so simple, and the existence of which was so easy of proof, that weeds when hoed up died on a sunny day. I think Mr. Raillem should "go at" this Kew man: but still might perhaps be good enough to say what object he had in view in seeking information bearing, as the matter stands, on what really amounts to a revolution of our system of manuring the soil for the sustenance of crops. True, he did not say so much, or perhaps mean it; but that is what it comes to, or my name is not—NAILLEM.

MR. RAILLEM writes in such a loose way, that I am not surprised that "Naillem" with myself, and probably other readers, cannot understand exactly what he means. On page 512 he says, "What he wants to know was whether it is doubted that the rising moisture does bring up plant food?" On page 445 he says, "What he wants to know is—(1) Is it doubted that moisture is always rising through the ground? (2) Can such moisture carry up with it the soluble elements of manure?" But on page 388, his original communication, he puts forth quite a different question. There his anxiety is to know, "Is it generally understood that plants only imbibe moisture as it is being evaporated?" I think every reader of the *Journal of Horticulture* will see that Mr. Raillem's original question differs considerably from those in his later communications.

I prefer to deal with his original question. There he puts forth a theory, beginning with a statement told to him, he says, by a good scientific authority (probably on the 1st April), that "the roots of plants cannot assimilate water." This, I take it, is the foundation of his whole theory; and if I can prove, as I think I have already done, that nothing but water will hold and convey the food into the plants, and if I can further prove that the roots of plants do and can assimilate water through their roots, I am under the impression I demolish Mr. Raillem's theory altogether, just as I should demolish a house by suddenly removing the foundations.

In my former replies to Mr. Raillem I pointed out it was a scientific fact that vapour either in the air or in the soil could not contain any plant food whatever. This should, I think, convince any reasonable person that plants cannot live or thrive on vapour or anything conveyed to them by vapour.

I will endeavour now to demonstrate to Mr. Raillem and his scientific authority that the roots of plants can assimilate water. A plant in a pot shall be allowed to go unwatered for a few days. Result—the leaves wilt and droop and the whole plant dries up. If this plant be plunged in water, so that the water covers the soil entirely, thereby excluding the air from the roots, what is the result? Every gardener knows. The plant in a few hours will absorb and drink in through the roots enough water to plump up its leaves and stems, and restore it to a state of health. How does Mr. Raillem make his vapour theory fit this?—D. GILMOUR.

I HAVE read with pleasure time after time "A. D.'s" practical expositions on gardening matters, but it is amusing to note the sceptical tone of the intensely practical man who dubs natural phenomena by the high sounding jingle of scientific theories, and declines to believe they have any bearing on his practice except you can prove it to him by ocular demonstration. It would be absurd on my part to poise as a scientific authority, but being imbued with the belief that our scientific thinkers are also intensely practical in their work and conclusions, that their theories are proven by inference supported by facts, and as such carry greater weight with thinking men than do the conclusions of simply practical men based on superficial knowledge, practical as it may be, because without some knowledge of cause and effect how can a sound judgment be formed? Therefore, I see no reason why scientific or more exact truth cannot be reconciled to practical ends without making a bogey of it. "Naillem's" letter on this subject lays the onus of proof upon those who have taken the other view of the question, whilst he gives credit to "A. D." as the only one who has given a practical turn to the discussion; yet "A. D." practical as he may be, made some suggestive statements which, under certain conditions, would convey unsound and consequently impractical ideas to those who place implicit confidence in his practical knowledge and teaching.

Let us now come directly to the point at issue. To state that moisture passes upwards when the surface soil is dryer than the soil below is simply quoting the natural law of capillarity, but to suggest that it does so in the form of vaporous moisture is rather far fetched. Before this can take place the temperature of the lower soil must be higher than that at the surface during the growing season. Speaking broadly, this is not the case, and less likely is it

to be so during the hot dry weather cited by Mr. Raillem (page 388). Mr. Gilmour's illustration *re* vapour was therefore an apt one bearing directly on the query, Does moisture in the form of vapour passing upwards carry with it manurial elements? It has already been shown how the insoluble food is rendered soluble. There need be neither mystery, science, nor running off the rails on the question of soluble food. As a matter of course, moisture in its normal condition passing through soil, whether rising by capillarity or sinking by gravity, must carry with it some proportion of the soluble plant food present. The quantity of moisture and the proportion of soluble food presented to the plant or crop is a question of degree dependant on circumstances.

An indispensable condition to growth is "turgidity of the cells," but during hot sunshine and a dry atmosphere transpiration may be in excess of a limited supply at the roots; the plant then becomes flaccid, growth is checked, and if the loss by transpiration is not checked, as it is usually by moister conditions of the atmosphere during the night, the plant must eventually die. Possibly these remarks will explain why the weeds grew, but yet slowly, over the gravel path under circumstances of great difficulty.—T. G. W.

DISEASE IN CARNATIONS.

I HAVE seen many complaints lately of the prevalence of that most detestable fungus *Uromyces carophyllinus*. As I am a large grower of Carnations and have suffered severely from its presence among my plants, perhaps you will allow me to say a few words on the subject. In the first place let me say that I think we are unnecessarily alarmed about it. I have seen correspondents advised to burn their entire stock.

No doubt the remedy would prove efficacious for the moment, and, until a new stock has been procured, probably the disease, which appears to be ubiquitous, would then break out again, and—well, we need not pursue that subject. No! the disease is with us, and, unless it is made a matter of combined effort, is probably "come to stay." We shall do well to accept it, and study how to minimise its ill effects.

Its presence is detected by the appearance of a small dark "boil" on the leaf, which penetrates its entire thickness, and shows on both back and front. This boil bursts across, discharging an infinite number of chocolate or coffee coloured spores, which under the microscope appear like little transparent jujubes. These are carried about by draughts of air, and spread the disease with terrible rapidity, but the essential condition of its progress is a warm, dry atmosphere. These spores are, like the pollen of flowers, practically bereft of their powers of reproduction when they are damp and "cloggy;" and my experience is that so long as frequent syringing is adopted the disease spreads but slowly if at all, and is not at that time of any serious importance.

In support of what I say I would urge the fact that out of doors the disease is harmless, comparatively at least with "spot" and other cognate afflictions. I come across occasional evidence of it, but it does not spread, even to any extent, upon the plant that may be found affected. I should be glad to hear if any of your readers have been ever seriously troubled with it out of doors. But there comes a time when the flowers expand, the syringe can no longer be freely used, and then we have ample evidence of what the disease can do. Happy is the man who has taken precautions against it throughout the spring.

My system is to syringe frequently during all the spring months, going constantly over the plants and picking off and burning every leaf affected. The main point is to detect it in its incipient stage before the "boil" has burst and the spores have been released. The syringing is, I think, rendered more efficacious if a very weak solution of blue copperas (sulphate of copper) is used in the process. This in no way injures the foliage if employed in sufficient dilution; it is, however, better to use it in the evening, as it is apt to scorch the leaves a little if a hot sun comes upon them when wet. I thus minimised the sources of contagion before being compelled to stop the syringing, and have continued to pick off all affected leaves whenever time has permitted. As soon as the bloom is over—I am speaking now of Malmaisons—the plants will be turned out of the house and layered in the open air, the processes of leaf-picking and syringing being persistently followed up. I shall be greatly disappointed if by the time the layers are taken up—*i.e.*, in September, I do not find the plants entirely free from the disease. Condy's fluid I have found very efficacious in checking the growth of this fungus, though it does not extirpate it; indeed, up to the present time I have found nothing that will. It has no evil effect on the leaves, nor upon the roots of the plants, which were watered experimentally with a strongish solution of it. On the leaves it has been used "neat"

from the bottle without ill effects. Of course the houses when cleared of plants should be thoroughly disinfected before a new batch is introduced. I will, with your permission, report progress later in the year.—MARTIN R. SMITH, *Hayes, Kent.*

[We shall be very pleased to publish the further experience of our correspondent, to whom so much credit is due for his success in raising and growing Carnations.]

NOTES FROM AN IRISH GARDEN.

THE weather so dominant in one's thoughts has by its capricious behaviour given more than ordinary interest to the many notes published of late. In our sufferings we seek for that doubtful form of consolation derived from the knowledge of being not alone. "Tis human nature." Not less, though, does sympathy ensue for those who have experienced the extreme effects of that frigid May night, and of thankfulness also that we of County Dublin do not make the record. Our "tale of woe" is rather confined to a dull cheerless period, during which leaden skies have wept copiously. Morn after morn the barometer was eagerly scanned. An old neighbour says, he "Don't think much o' they weather-glasses," and certainly their behaviour has been erratic of late; yet the approaching hay season, if favourable, will do much to atone for the "wet and windy May," which the proverb says, "fills the barn with corn and hay."

In the grounds Rhododendrons are at the best they will attain this season. A large clump of Weigela is charming, finer than I have yet seen. This old Chinese shrub's long sprays with the deep hued buds set among the open blooms are more pleasing than the developed flowers. Hawthorns and Laburnums did much to brighten the cheerless May. A neglected hedge of the two in the meadows led me out of bounds daily to see and admire. A Golden Ivy on the house which went green in the bright sunshine last year is very effective in the pure chrome tint of its young growth. I gather a spray for the editor, and at the same time a few pieces from the ornamental hedge of Lawson's Cypress, now weighted with its coniferous fruit; very beautiful was the same hedge in its crimson inflorescence. Curious is a fasciated growth on an old white Azalea, this also is enclosed with the hardy sprays mentioned. Common Ivies have borne a heavy crop of blue-black fruit, and afforded much enjoyment to the feathered songsters.

Blackbirds and thrushes are very numerous, attributable, I think, to the snug winter quarters our numerous evergreens provide. How enjoyable is their music, trilled out from dawn till dark! Saucy rascals! How many of you will get hopelessly entangled in those nets over the Strawberries, a fruit that can be ill spared this season! I feel sorry for the poor victims; but it is a dreadfully orthodox view for a gardener. The missel thrush will not venture near the nets.

Previous to May hopes were somewhat high-flown; some of them at least now appear to have flown away. In a general survey of fruit trees and bushes, maggots and mites, and all the paraphernalia of minute insect life which go to form the general designation of blight, are much in evidence. All Currants are deplorably infested, Gooseberries are clean and abundant, Pears fairly clean and a moderate crop, but Apples may without hesitation be classed bad. Some young Victoria Plums on a west wall pay for their good position. Fruit on the same trees last year by extra size, colour, and flavour were hardly recognisable with fruit gathered from standards.

Seeds germinated fairly well, but Turnips and the embryo green crop "get smaller by degrees and beautifully less." It is comforting to look at the lines of Peas, which are unusually luxuriant. A good border of American Wonder will give abundant pickings, and for a first early is preferred to the small, round-seeded varieties. Day's Sunrise, now blooming profusely, will succeed The Wonder; Telephone, sown on same date as Sunrise, follows it close. By the inflated pods it would appear to be neck and neck with its rival; but appearances are deceptive. These, with the grand old Ne Plus Ultra, by their reliableness in this locality, form the staple sowings. Early sowings of Dwarf Kidney Beans are now have-beens; with a cool season results from present sowings will be long looked for. Onions on fresh ground, to which more than usual attention was paid, are thin and gappy; in their infancy something went wrong. I wonder if that spare bag of kainit I treated them to in my zeal is the cause? It was not maggots. Sharpe's Victor Potatoes on a warm, dry border (what a misnomer this season!) have been daily dug since June 4th.

The hardy plants are at their gayest; clumps of the old white-fringed Pink exhale a delicate fragrance in the early morn. Early risers enjoy the subtle charms of the fresh young day. Thousands of the corpulent buds of Mrs. Sinkins are bursting; a good variety is Mrs. Sinkins. The feeling prevails that we cannot

have too much of it, hence a number of pipings go in each autumn. A bed of *Gladiolus Colvilli* and another of its white variety give a cut-and-come-again impression, many corms having five spikes. In planting these and the *Gandavensis* hybrids I follow an old plan shown to me years ago when *Brenchleyensis* was thought something of. The method is to remove about 6 inches of the soil, put on a heavy coat of decayed manure, replace part of the soil, on which the corms are then set in sand, and covered with the remaining soil. I look with regret on some solitary plants of Persian and Turban *Ranunculus*, survivors, as they are, of different attempts in various ways to court success. Cut blooms from the border of German Iris are esteemed in the house, striking and distinct are *Gracchus*, *Albicans*, *Queen of the May*, and *Madame Chereau*. Roses on trellises and arches afford abundant cutting; Hybrid Perpetuals in the beds are commencing to bloom, but I cannot say much more about them, though the excuse made for the parrot, who would not talk but thought much, may serve me.

Last, decidedly not least, a look at the "mums" in conclusion. They are not so forward as at this time last year. Previous to the final potting each plant had its maggot, and each maggot had a squeeze. Now tobacco powder is freely dispensed. So flit these passing thoughts of an indifferent season. Broken weather is the general comment, yet "it's never too late to mend." May it do so, and though "'tis not in mortals to command success"—we'll do more—we'll deserve it.—E. K., *Dublin.*

[The Ivy referred to by our correspondent is the brightest yellow-leaved kind we have seen. The Azalea fasciated shoot is very curious, the hard stem being an inch in diameter, the foliage branching out like a mane at the top.]

MEALY BUG ON VINES.

GARDENERS are for ever waging a continual warfare against this pest, which may be looked upon as being one of the worst with which they have to contend, for when once established it is most difficult to eradicate. It infests and thrives on nearly all sorts and conditions of hothouse plants, and perhaps the most difficult house to clear of it when once it obtains a start is the vinery. Gardeners whose vineries are clear of mealy bug should be most careful not to place any plants therein that are at all liable to be infested with this pest, or it is very probable they will live to regret the day they did so. In many cases this is how mealy bug is first introduced in the vinery, through thoughtlessly placing plants there without examining them to see if they are quite clear of it. What can be more annoying to a gardener when he cuts a fine well finished bunch of Grapes to find the berries covered with that sticky honeydew, which is a sure indication that there is bug not far away, and upon looking further into it to find a mass of that soft woolly substance which is too well known to need any explanation? He may try to clean the bunch, and in doing so is sure to rub all the bloom off the berries, rendering them so far as appearance is concerned unfit for dessert.

There are many ways and means by which gardeners endeavour to cleanse their vineries of this enemy. The period of the year when the Vines are cleaned, previous to starting, is of course the time when we have the best chance to extirpate mealy bug. Some gardeners advocate tarring the Vines. This may or may not be a remedy for keeping down bug, but so far as the health of the Vine is concerned it appears to me as being quite contrary to nature. The inner bark of the Vine is a perfect network of tiny cells, through which the Vine is partly sustained by drawing in the air and moisture; so by completely sealing up all these cells we must do away with one of the means by which the Vine lives. Another method is to daub the Vine with a mixture composed of softsoap, flowers of sulphur, tobacco juice, and other materials all boiled together and made into a thick substance by adding clay. This may prove effectual for a time, but all the ingredients of which it is composed are apt in a short time to lose their strength, and after that, when the mixture becomes hard and dry on the Vines, it serves as a hiding and breeding place for mealy bug.

My experience teaches me that the best thing to do before the Vines are started is to thoroughly clean off all old and superfluous bark, especially round the spurs, but do not bare the young and inner bark. Then remove the rough surface of the border, as this will be covered with bug from the Vine scrapings. The glass, woodwork, and walls of the house should be well scrubbed with softsoap and water. After this well wash the Vines over two or three times with a solution of Gishurst compound boiled with rain water; the mixture should be put on with a stiff brush of bristles, and made strong enough to form a good lather, exercising care to work well into all the crevices, as the insects are sure to secrete themselves there.

After all this, when the house is kept warm and the Vines com-

mence to break, the bug is sure to again show itself, and no remedy then acts so well as careful and continual watching, killing every insect that puts in appearance, endeavouring to prevent the pest obtaining a hold on the young leaves and growths, for once the enemy does this it is much more difficult to keep down. The strict vigilance should not be relaxed all through the growing period of the Vine. After the Grapes are cut until all the leaves have fallen the Vines should be systematically and periodically looked over in order that this pest can be eventually exterminated. If the above hints are carried out with great patience, constant watchfulness, and a strong determination to conquer, I feel sure even the worst infested houses may in time be cleared of this intolerable nuisance.—G. H., *Alton Towers*.

CAMPANULA ALPINA.

THIS dwarf and very floriferous species was introduced into England as far back as 1806 by Mr. Loddiges from Austria. As its specific name indicates it is a true alpine, and is found in several varieties of colour, from steely blue and bright blue to the usual warm purple tint, which is so usual in the genus in the Swiss Alps, and Schneburg in Austria. Furnished but very sparsely with a rosette of simple leaves, a pyramid of bells spring from the crown like a fountain, and maintain the plant in full beauty for several weeks. In its native haunts the roots penetrate far down among the crevices of the rocks to the cooler and more moist depths, and for such a small plant are very stout and long, acting as a storehouse for the accumulated products of the leaf energy. It is surprising that the small and scanty foliage of this and similar alpine species are able to provide such a wealth of flowers in the spring. This is due to the greater energy of light in the purer altitudes in which the plants grow, where the leaf is able to do the work for which surfaces three times their extent would be required in more lowly regions, where the air is laden with particles which intercept the sun's rays. Bright sunshine and a cool run for the roots suits this plant. Our engraving (fig. 1) has been prepared from a sketch made at Kew.

GARDENERS' SITUATIONS.

WHILST we hear from time to time suggestions as to the improvement of the status of the gardener, too little is heard of the gardener's most pressing need, the finding him a situation. My own experience in this locality of the ease with which a good man gets out of work and the difficulty he finds in returning to a situation, leads me to infer that the range of opportunities for gardeners is seriously narrowing. Naturally it seems strange that such should be the case, but I regard it as being due chiefly to the undoubted fact that the incomes of the wealthier classes who employ gardeners have, because of failures in business and trade depression, arising from fatuous speculation and other causes, have been seriously diminished, and they have therefore had to discharge gardeners, or at least materially reduce their establishments, in consequence.

It is all very well to assert that examinations and other forms of competition might eventuate in the reduction of the too numerous body of gardeners, and thus enable all engaged in the vocation to find situations; but there is no proof whatever that the public would prefer the examined to the non-examined article. Still farther, no examination could prevent any number of good or ill-trained gardeners coming into the field as they do now. If parents could see that gardening was a somewhat dwindling vocation, that is in its purely luxurious aspect, that pay must always be small relatively, because gardeners have no cohesion, and also that no precautionary measures can prevent overcrowding, and would divert their boys into other better-paid vocations, the evil would in time right itself. So much, however, seems difficult to expect, and therefore we shall have to see myriads of very good men, very able, practical men, wasting their best days in search of employment, and finding nothing but that which is of the most menial nature.

When that eminent gardener Mr. Malcolm Dunn reads his paper on the interesting subject of "Gardeners and Their Employers," which he purposes doing, at the Drill Hall on the 28th August, I trust he will not forget the case of the too many gardeners who have no employers, and have been eagerly seeking them for a long time. He might, perhaps, also give his views on lady gardeners now in course of manufacture. Very sad indeed is the position of a man who has perhaps for ten or twenty years held a good situation as head gardener, and discharged his duty well, then finds that because of death or some other cause over which he has no control is suddenly thrust

upon the world. He thinks a situation must soon turn up; he is well known, he has many friends about on the look-out for him. He advertises, too, as all do, and yet finds that weeks, months, and years pass, and still nothing turns up. In the meantime his saved and hard-earned cash is gone, and he is thus compelled to accept any common work that may come in his way. Alas! all his practical knowledge, acquired after many years' experience, knowledge worth that found in a hundred examinations, is useless to him as a wage earner. The only capital he has is found in physical strength, and when that fails then comes the workhouse. In the majority of cases vacancies are filled by young men, who take less wages than their predecessors received; the experience of age and reputation of years is disregarded; the practical man, whose life so far has been one long lesson in experience, is thrust aside, and his place taken by young men, who in their turn will be presently thrust aside also when a few years older.

It was the realisation of this sad state of things that induced a



FIG. 1.—CAMPANULA ALPINA.

member of the Committee of our local Gardeners' Association recently to propose that a register of members out of situations be kept, and that it be locally advertised, or always open for inspection at an available place in the town. That register shows a proportion 10 per cent. of really good men out of work on the entire membership, and if that is the exact proportion of the gardeners of the kingdom, there must then be an immense number indeed wanting situations. This too, let it be remembered, not in the middle of winter, but in the summer. Of course the Association is far from including all the gardeners of the district. I could wish it did, but were such the case the register would then I am sure be proportionally large. I cannot say whether any good is likely to result from the experiment, but at least we do in that way so much as is possible for men now practically without spare means. Let the wealthier part of the public know that gardeners may soon be found if they will but examine the register.

Gardeners out of place nearly always advertise themselves for a time, but it is expensive, and they soon have to give it over. The weekly appeal for work becomes productive presently of that hope deferred which maketh the heart sick. I have seen some very generous aspects of the gardener here in helping others who through months of inactivity have got into very low water, but that sort of thing never can be very enduring, as those who help are so poor themselves. The matter referred to is one of a very

pressing and pathetic nature, but it is so very hard to tell how it can be amended. It is a problem that calls for solution, but nothing seems harder to find.—A. D., Kingston.

THE POSITION AND PROSPECTS OF GARDENERS.

THIS subject is of the highest importance not only to persons who follow gardening as a means of earning a livelihood, but also to those who employ them. I hope, therefore, that your notice of it in the *Journal of Horticulture* (page 476) will call general attention to the matter, and as a consequence some means will be devised whereby the able and deserving men may be retained in the business, while the incompetent ones are forced to seek a living that is more in accordance with their abilities.

The chief question that presents itself to my mind is, How is this most desirable end to be accomplished? Mr. Elliott gives union the first place, and suggests that rules should be formulated by a central society to "regulate the preliminary education and examination of all young gardeners, and the quantity of certificates to those who earned them." If this suggestion could be carried out in its entirety it would doubtless tend to the elevation and improvement of our knowledge of horticulture. There are, however, many difficulties to be overcome before this can be effected, and supposing it was, it would not follow that because a man had answered correctly a number of questions he would prove to be the best gardener. Some men may thoroughly understand how certain operations should be done and yet be quite incapable of managing or directing others so as to obtain the best results of the labour expended.

Then, with regard to "improved education," I am fully cognisant of the advantages to be derived therefrom. It is necessary for parents to consider whether the remuneration for a gardener's services is such as to warrant them in expending more upon education, and also whether, having received a higher education, they would be paid a proportionately higher rate of wages. I believe that most of us will be forced to the unsatisfactory conclusion that they would not. My experience is that in the majority of cases men are not valued nor paid according to their capabilities, but, on the contrary, it is often a question of how much work can you do and what is the lowest remuneration you will accept for doing it. The consequence is that the ablest men do not obtain the best or most remunerative situations; and, as Mr. Elliott correctly states, they become disgusted and leave gardening to employ their talents in some other occupation.

With regard to the higher education of gardeners, both practical and theoretical, my belief is that it will have to be undertaken by the County Councils before much progress is made. Something has already been done in this respect, and still more is in contemplation, so that in the near future we may confidently look forward to having a more enlightened class of men. Permit me to express a hope that others may enter into a discussion of this matter, and that as a result there may be some practical outcome that will benefit an intelligent and industrious but underpaid class of men.—W. NEILD, F.R.H.S., Sale, Cheshire.

FLORIST TULIPS.

TULIP fanciers are now busy taking up the bulbs from the beds and storing them away in the boxes until autumn, the season of arranging, cleaning, and planting, arrives. It is important in taking up the bulbs to leave a portion of both roots and blooming stems attached, as the bulbs will be injured if they are forcibly pulled away now, while later on they will come away easily and safely. The drying of the bulbs should be done in a dry, airy room, where the sun cannot shine on them or make the air of the place too hot. Last year, during the abnormally hot weather that we experienced in June, a famous collection was almost totally destroyed through neglect of these precautions. After drying the bulbs should remain at rest until September, when the work of cleaning, arranging preparatory to planting, should be commenced.

As the time is approaching for beginners to form or adding to a collection of these fascinating Tulips, a list of the best varieties in general cultivation is appended, which may be of service.

Flamed Bizarres.—Sir Joseph Paxton, Dr. Hardy, Masterpiece.

Feathered Bizarres.—Sir Joseph Paxton, Masterpiece.

Breeder Bizarres.—Sir Joseph Paxton, Dr. Hardy, Sulphur, Wm. Lea.

Flamed Byblæmens.—Talisman, Chancellor, Adonis, Duchess of Sutherland.

Feathered Byblæmens.—Bessie, Adonis, Violet Aimable.

Breeder Byblæmens.—Adonis, Talisman, George Hardwick.

Flamed Roses.—Annie McGregor, Mabel, Aglaia, Triomphe Royale, or Heroine.

Feathered Roses.—Modesty, Alice, Heroine.

Breeder Roses.—Annie McGregor, Mabel.

These are all good exhibition sorts, and quite easily obtainable. There are, of course, many varieties of great merit that are not named, because they are very scarce and practically unattainable.—J. W. B.



ROSE SHOW FIXTURES IN 1894.

July 5th (Thursday).—Bedford, Dublin, Hereford, and Norwich.
 " 7th (Saturday).—Crystal Palace (N.R.S.).
 " 10th (Tuesday).—Gloucester, King's Lynn, and Wolverhampton.*
 " 11th (Wednesday).—Hitchin and Ulverston.
 " 12th (Thursday).—Bath, Harleston, Woodbridge, and Worksop.
 " 14th (Saturday).—New Brighton.
 " 17th (Tuesday).—Helensburgh.
 " 18th (Wednesday).—Newcastle-on-Tyne.*
 " 19th (Thursday).—Halifax (N.R.S.), Halesworth, and Trentham.
 " 21st (Saturday).—Manchester.
 " 24th (Tuesday).—Tibshelf.
 " 26th (Thursday).—Southwell.
 " 28th (Saturday).—Bedale.
 Aug. 1st (Wednesday).—Chesterfield.

* Shows lasting three days.

HEDGE ROSES.

THE white Scotch Briar, as I saw it recently at Highclere Castle, is the beau ideal of a hedge Rose if allowed ample room; growth 4 to 5 feet in height, very dense, and at the time perfectly smothered with bloom. As much might be said of others of that old-fashioned section. Of coarse growers, two especially are first-rate for hedges, John Hopper and Reine Marie Henriette. Both strike as readily as Laurels from cuttings, and soon grow into strong plants. Their special faculty lies in sending up such stout growths from the roots every year, so that old growths may be from time to time cut out and replaced.

John Hopper I have seen forming garden fences here in Kingston at some 6 feet in height, and in the season blooming with astonishing profuseness. Reine Marie Henriette will do the same. In fairly good holding ground it sends up every summer very stout tall growths, and these it is but needful to shorten back somewhat to secure average height. I am not at all sure that this recuperative power would be found so fully on worked or budded plants. The latter Rose blooms very early against a south wall, but under hot sunshine the colour fades. For that reason I prefer it on an east or even north wall, but is perhaps most satisfactory as bushes or in hedge form out in the open.—A. D.

AMONG THE BATH ROSES.—MAY 28TH AND JUNE 1ST.

THESE dates comprehend and cover the greatest trials encountered by rosarians in this most promising Rose season of modern times. Up to the middle of May the chief trouble of rosarians was that their Roses were making too much haste for safe speed. Many persons were doing their best by late pruning and other means, and cut their headlong Rose plants back abreast with the calendar. The cold wave, so long, strong, deep, and wide, has swept away this cause of anxiety. It is now succeeded by another of opposite character.

With the long spell of semi-wintery weather still pursuing us on the evening of the 13th June, the question is one of fostering rather than retarding for the Windsor and other early shows. That there will be a fair if not a full supply of fine Roses can hardly be doubted by those who have seen the private and commercial Roses of the south and west after the frost. Substantially, there are few injured, none dead, while hardly a trace of the scourging, showery weather can be found on the Roses. At the worst, many of them have stood almost still for nearly a month. A gentleman remarked that some of them seemed to have grown backwards, and become shorter for some weeks. But is this arrestment of growth chiefly or wholly evil? Surely not. Some severe check seemed needful to bring the precocious Roses into line with those who yet hardly have the frosts, bitter winds, and storms of hail till not a few rosarians have raised loud and bitter cries of wreck and ruin. Much as some have suffered from the severe cold, on the whole the bark of May has been louder and worse than its bite. This is especially true of the south and west of England.

In the first considerable rosery visited in Bath I found hardly a sign of injury. The nurseries of the Messrs. Cooling at Batheaston and Swanswick, near Bath, had been equally fortunate. Many large general collections of Roses are grown in those fine nurseries, including Teas, Perpetuals, Noisettes, Bourbons, China, and old-fashioned Roses. Large numbers of Tea, climbing, and other Roses are also grown in pots and wintered in the open air. This, as rosarians are well aware, is one of the most severe tests that their plants can be exposed to. The Roses here stood this test without loss or injury in May.

There is one more little fact that deserves special mention in this connection. In these nurseries there are Roses of all sorts for all purposes. Cabbage, Moss, old-fashioned garden climbing Briars, decorative, and single Roses.

But among them all, hardly the least remarkable is the complete collection of Fairy or Polyantha Roses. I have lately seen some very fine bush plants of these in pots, but standard Polyantha Roses were

new to me. The following were the varieties already worked on this form:—Anna Maria de Montravel, Gloire de Polyantha, Little Dot, Mignonette, and Ma Pacquerette. There also were dwarf plants of the Red and Double White Pets, the White and the Golden Fairy, Lucida, and Perle d'Or. These are admirable in window gardens, cool conservatories, or for neat edgings to beds of China, Tea, or Hybrid Perpetual Roses.—D. T. F.

R.H.S. ROSE SHOW.

THE Show of Roses at the Drill Hall on the 26th of June may be concisely said to have been a comparative failure, as with the exception of a few exhibits such as those of the two great Colchester rosarians Messrs. Benj. and Frank Cant, Mr. George Paul, Mr. Prince of Oxford, Mr. Berners, and Mr. Knight, there were few boxes staged which were worthy either of notice or of being exhibited; nor could the flowers be compared with those staged at the Tea Rose Show held a year ago in the same place by the N.R.S., when we had splendid exhibits from so many rosarians. The place of honour must be awarded to Mr. Benjamin Cant for his fine box of mixed trebles, and to Mr. Prince for his very good box of Tea trebles—they were decidedly superior to anything else at the meeting, and well merited their positions of first in their respective classes, which were the most important in the Show.

The Canterbury Roses, which we were so recently told by one of our N.R.S. secretaries would shortly carry everything before them, were shown to be quite outclassed when in competition on fair terms with the two Cants and Mr. George Paul, and, as I have mentioned, that forecast of supremacy for Canterbury is not in the least likely to be correct, either in the present or even in the immediate future.

Mr. Foster-Melliar and Mr. Pemberton showed two moderate lots of twelve Teas—but what a contrast to the three “twelves” shown by Mr. Melliar, Mr. Lindsell, and Mr. Orpen in 1893! Only one box of six mixed Teas was shown, which might be really said to have been a box of five, as the sixth Rose was in small pieces by two o'clock. Mr. Berners showed six very good Nadaillacs in the amateur class for Teas of one variety, and Mr. Prince twelve of the same Rose in the open class. I congratulate Mr. Prince most heartily on his escaping the frosts and on his return to his usual good form, in which we all delight to see this great grower of Tea Roses, more especially as the seasons have not in the last two years been favourable to him. By Mr. Benjamin Cant's victory in the twenty-four trebles he definitely wins the Mantell cup, which has been competed for on five occasions. It had previously been won twice by him, and once each by Mr. Frank Cant and Messrs. Harkness.

The Hybrid Sweet Briars of Messrs. Keynes, Williams & Co. were much admired, their refined colour and scent being most desirable acquisitions. The exhibits on the 26th showed manifest and many signs of the bad season, and although others may take an opposite view, I maintain that the frosts of the 20th and 21st of May, and the weather for about a month before and after that date, has practically done damage of a permanent character to the Rose season of 1894.

N.R.S. WINDSOR SHOW.

THE Southern Show of the National Rose Society, which has been inaugurated or revived this year, took place on June 27th at Windsor. The Show was arranged to be held in conjunction with that of the local Rose Society, and as in 1893 was held in the field close to the Long Walk entrance of Windsor Castle, an admirably convenient and pleasant place.

From the exhibits staged at the R.H.S. meeting on the previous day any critical judge could fairly tell which of the professional exhibitors present at the Drill Hall were likely to show to advantage at Windsor, and the results on the 26th were practically repeated on the 27th, the exceptions to these positions being in the success of some rosarians who reserved themselves for Windsor, and were placed there, notably Mr. Prior, Mr. Burch, and Mr. Mattock. As on the 26th, so on the 27th, Mr. Prince of Oxford was very much in evidence, and exhibiting his Teas even better than at the Drill Hall, to use a racing phrase, simply “romped in.” A good judge said to me, “Prince has never been in better form than he now is.” The same may be said of Mr. Benjamin Cant's Hybrid Perpetual flowers. In the forty-eight, distinct, and the triplets he won “hands down.” Although it is pleasant to see new comers advance to the front, it must be satisfactory to all who esteem these great growers and value the remembrance of their past great performances to see them continuing to hold their own in good company. Mr. Frank Cant and Messrs. Prior & Sons, as also Messrs. Burch of Peterborough and Mr. Mattock of Oxford, showed very good flowers in several classes; but their success was only secondary to those of the two above named growers, who this year seem likely to carry all before them, certainly in the earlier contests. Mr. Mount and Messrs. Paul and Son were less successful than on the previous day, as even in garden Roses (Messrs. Paul & Son's speciality) Messrs. Cooling & Son of Bath took the first prize with a fine stand.

The amateurs, as at all other shows this year, were decidedly weak, their exhibits being much inferior to those of even the much maligned hot year of 1893, and not to be compared with flowers shown in 1892. At present it suits the purpose of some to “pooh-pooh” the effects of the May frost, of evil memory to me, and to assign the cause of the inferior Roses at the moment being shown by amateurs to anything but its true origin, saying that the season is a late one, the fact being that the

season up to the 15th May was most abnormally early, and even now is not a late one, but good plants have in many localities, notably Hitchin, Windsor, and Croydon, been quite crippled. I am satisfied to accept the jocular title given me by Mr. D'Ombrian as “the Cassandra of the N.R.S.,” it is better than being ridiculously optimistic, and I assert that many of the amateurs in 1894 will continue to show inferior flowers till later in the season, when their plants may possibly have recovered recent disaster.

The Queen's prize competition, which we were told would produce a huge competition (at least fifty exhibits), shrunk to the moderate number of a dozen competitors, three being local growers, who need not be taken into account, as the only strong amateur rosarians near Windsor, Mr. Romaine and Mr. Girdlestone, were conspicuously absent. The contest for the cup was practically confined to Mr. Berners, Mr. Orpen, Mr. Burnside, Mr. Slaughter, Mr. Knight, and Mr. Tate, and the result was that the first four named were so placed. The contest between Mr. Berners and Mr. Orpen was close, and opinions were divided on the actual judgment, the flowers having, I believe, been pointed exactly equal, to which conclusion I also came, as I pointed the Roses with others immediately after the decision. The first box had Roses more even in size, and also, in some cases, larger, and those in the second were decidedly fresher, and the colour arrangement was more pleasing. Mr. Burnside was a good third, and his flowers (all Teas) would on the previous day have easily carried off the first prize. There was a glorious bloom of Cleopatra in his box, which by general consent carried off the amateurs' Tea medal.

From Mr. Prince's box of twelve Comtesse de Nadaillac was selected the best professionals' Tea. Mr. B. Cant won the medal for the best H.P., an A. K. Williams, in his box of trebles, and Mr. Pemberton won a similar honour with La France in a box of one variety. There were many other good flowers of La France shown, one especially, remarkably good, being in the box staged by Mr. Burnaby Atkins of Sevenoaks for the Queen's prize. I was delighted to see a box of twelve beautiful Margaret Dickson, shown by Mr. Benjamin Cant, which gained the first prize for twelve of one variety; it was worthy even to have been staged by the raiser, Mr. Dickson of Newtownards. After the judging the Windsor executive, I believe, entertained the Committee of the N.R.S. and others to luncheon. Several of the judges were quietly ignored, and even the N.R.S. president was for some time “left out in the cold!” It is the invariable rule at all provincial shows I have attended to proffer hospitality to all the Judges, certainly to members of the N.R.S., who travel long distances, and it was a stupid and parsimonious policy of the Windsor executive to have withheld it from anyone.

Mr. Thomas, the Queen's head gardener, deserves a word of thanks for his marked courtesy to everyone at Windsor who came in contact with him. He may be truly said to have added greatly to the pleasure of many who had never seen the gardens of Frogmore. It was through his experienced advice that the necessary permission was obtained to see everything connected with his department. The visitors who availed themselves of that permission were much pleased with what they saw.

I think the description of the meeting would be incomplete without mentioning the various special prizes. The Queen's prize was an unique cup of quaint design in hammered silver, and had been made specially for the occasion by the Countess Gleichen, this fact materially enhancing its value as a memento of the occasion. Mr. Romaine gave for competition an old piece of silver filagree work, which a connoisseur would have valued. The Turner Memorial prize won by Mr. R. E. West was a handsome cup of a modern pattern. Amongst other prizes, the Harkness cup, to be competed for at the Crystal Palace on the 7th July, was shown and greatly admired. It has been described in your columns.

The weather was absolutely perfect, but the attendance hardly commensurate with what should have been an important occasion in the Royal borough, more especially as the meeting was attended by the Princesses Beatrice and Alix, the Princess Leiningen, and the Czarevitch. Everyone seemed gratified with the great courtesy shown and trouble taken by Mr. Hoddinott, the Treasurer of the Windsor Rose Society, who seemed indefatigable in his efforts to smooth difficulties and please those present, and who took great trouble in obtaining the various requisites which exhibitors look for on these occasions.

The management of the Show principally devolved on Mr. Romaine, who carried it out in a way which I believe was satisfactory to exhibitors.—CHARLES J. GRAHAME.

[For later Rose shows see page 16.—ED.]

LAXTON'S STRAWBERRIES.

THE late Mr. Thomas Laxton worked very hard in the direction of raising new varieties and improving the older forms of fruit, flowers, and vegetables, meeting with varying success. All the novelties he raised and distributed were not of a character to long retain their hold in the estimation of practical gardeners, but some there are of sterling worth, and which are likely to remain popular for many years to come. Mr. Laxton was an enthusiast, too much so probably for his own profit, and as such is, and will be, much missed for some time to come. He not only welcomed a visit from anyone possessing the same love for flowers and fruit, but his correspondence must have occupied a considerable amount of his time. To all appearances Mr. Laxton's principal successes in hybridising were among Strawberries. In Noble we have

a variety that has caused quite a revolution in Strawberry culture, there being hitherto nothing approaching this for earliness, heavy cropping, and fine fruit. It has two faults, and these are softness of flesh and want of richness in flavour, two defects that are in a fair way to be remedied shortly. Mr. Laxton not only left many good seedling Strawberries to be distributed, but he also left two sons who are both competent and desirous of carrying on the good work so well begun by their father. That this is no light undertaking a visit to their Bedford and Girtford grounds and nurseries would amply demonstrate.

It is not a few scores or hundreds of seedlings that are under trial, but they are numbered by thousands. Some were raised by Mr. Laxton senior, and many more are the result of careful crosses made by his sons. Unfortunately, the very severe frosts experienced just when the Strawberries were in flower, has thrown the trials back fully a year, and has been a great pecuniary loss otherwise. As it was I had quite enough of Strawberry testing to satisfy all my wants in that direction for one season. Judging from what I saw and tasted there are some really valuable varieties in store for us, though the majority will yet be subjected to another severe test and weeding out process. Of this I am quite confident, not another variety of even slightly inferior colour or quality will ever be sent out by the Messrs. Laxton Brothers, and if what are eventually offered do not quickly take the place of some of the older favourites then I am no judge of what constitutes a good Strawberry.

No good purpose would be served in describing many of the unnamed seedlings, especially seeing that they may never be distributed; and instead of this, I will give an honest description of some that are already named, and in some cases in the market. Royal Sovereign has met with a reception that would have done the late Mr. Laxton good, and there is no mistaking the value of this sterling novelty. It succeeds remarkably well forced in pots, that good judge Mr. Norman, gardener at Hatfield House, having formed a very high opinion of its merits as a forcer. In pots it produces fruit equal in size to Auguste Nicaise, and is greatly superior to that sensational variety, either in point of colour or flavour. It is of the easiest possible culture, and the fruits are firm, bright red in colour, with seeds well on the surface, consequently travelling well. In the open it proves of robust habit, and small plants put out as late as October last season have given some fine fruit this June. Royal Sovereign does not ripen so early as Noble, but rather forms a good succession. I tasted fruit from several beds, and in different localities, and they were firm, richly flavoured, and attractive in appearance.

Those who want a briskly flavoured early variety should plant Scarlet Queen. This novelty is of distinct compact growth and a great cropper. The fruit are of medium size, very bright red in colour, firm, and with quite as much or more acidity in it than is to be found in King of the Earlies. Want of size may militate against Scarlet Queen, but is a drawback that surely will never be urged against Monarch. The latter was the very last to be selected and named by Mr. Laxton, sen., and in my opinion is good enough to have been subsequently named after the raiser. It is one of the best of several distinct forms obtained by crossing Latest of All with Captain. The parentage is unmistakable. There is the fine, bold, yet compact stout foliage of Captain with the great productiveness of Latest of All, while the fruits are extra fine, of a bright scarlet colour, with seeds well on the surface. The flesh is firm and richly flavoured, and all things considered I should say that Monarch will eventually become a favourite main crop variety with gardeners and market growers. It also promises to succeed well in pots. Another equally distinct and promising variety as yet unnamed was obtained in the same bed of seedlings. In this instance the foliage more nearly resembles Latest of All, and, like the latter, is also a great cropper. The fruit, however, show some of the Noble blood, being even large, full in form and of good colour and quality. Growers for exhibition will do well to give this variety a trial.

Several of the Royal Sovereign crosses are most promising, and I have no doubt we shall soon have a much improved Noble to grow as a first early. Strawberry runners are late, but are fairly strong. At Bedford the young plants to produce these are not allowed to bear any fruit, so that their whole energies are expended on the production of good runners, and no trampling between the rows injures them after they are formed.—W. IGGULDEN.

[Our correspondent appears to have gone into ecstasies over Monarch. We have had fruits of Leader sent to us by Messrs. Laxton—the result of a cross between Noble and Latest of All—a noble-looking fruit of better flavour than its prototype. We hope to see which of the two last named proves the greater favourite another year.]

GERMAN IRISES.

FOR flowering during the month of May and early in June the numerous varieties of Iris that belong to this section make an interesting as well as a bold display in the herbaceous border if they are planted in large masses. Germanica, commonly called the Blue Flag Iris, is perhaps the most common of all the type. It is really a plant for town gardens. Around London this type is very extensively grown, and a grand effect the deep purple blue flowers make. Directly the flowering season is past the plants may be increased by dividing the roots, choosing showery weather. The smallest piece with a root attached will grow.

For the guidance of those readers with but a limited knowledge of these Irises I give the names of a few really good kinds. Pallida,

pale azure blue, tinged with rose; Queen of May, rosy lilac, veined with yellow; Florentina, white, faintly shaded with pale lavender, sweet scented; Madame Chereau, white, heavily edged with deep lavender blue; Princess of Wales, pure white, large flower; Gracchus, primrose yellow, purple reticulated white, and edged with primrose; Lady Seymour, bronzy lavender, blue netted purple and white; Galatea, bronzy lavender, clear blue, blotched with purple; Duchesse de Nemours, pale blue standards, drooping petals, violet veined white; Flavescens, light primrose; Gazelle, white, heavily frilled with clear blue, drooping petals white, edged blue; Homer, lavender blue, slightly reticulated with white; Jenny Lind, yellow, violet, and blue; Walner, a combination of deep lavender and clear bright blue; and Rubens, lavender, shaded bronze, bright purplish blue.—S. P. H.

GLOXINIAS AT CHELSEA.

WHEN it is remembered the extent to which Gloxinias have improved of late years, it cannot be other than a surprise to see that every year the position is not only maintained, but advances are still being made. Yet so it is. There are this season such colours as were not previously seen. It might be thought that, with the continued increase of colouration, the substance of the flowers would be impaired; but such is not the case. For this we should remember what is owing to the care and forethought of the hybridisers, who, by their incessant watchfulness, have earned the admiration of all lovers of flowers, whether their labours have been expended on Gloxinias or any other plants.

Probably no man has done more in the advancement of Gloxinias than Mr. West, of Messrs. Jas. Veitch & Sons, Chelsea. Let us therefore accord all honour where it is due, and give our thanks both to Mr. West and his employers for affording us such a rich treat as has been on view in the Gloxinia house at the Royal Exotic Nursery during the past three or four weeks. For the benefit of those readers of the *Journal* whom fate has placed too far away to permit of inspection a few varieties may be named as being the best—at least, they were so in the writer's opinion; but others may differ, in fact it is to be hoped they will do so, as it obviously would not do for all of us to like the same.

Notwithstanding the assumption that tastes differ as regards the beauty and excellence of any particular flower, it is surmised that everyone will agree that not one more suitable could be found with which to commence than Mars. The name is certainly warlike, and so is the flower, for it stands out boldly from the leafage, and is a rich, clear, orange scarlet colour. But this is not the only good point possessed by this sterling variety. It has at least two others that will appeal to numbers of growers—its floriferousness and the length of time that the blooms remain in beauty after expansion. While we are amongst the planets let us take a look at Uranus. It needs more than one glance to thoroughly appreciate its good qualities. Margined with white each lobe has a clear band of blue, shading with exquisite delicacy to the soft creamy white throat, the beauty of the whole being accentuated by the blue with which the latter is sparsely spotted. The flowers are of unusual substance, and the lobes overlap in such style as to form an ideal Gloxinia.

Crowning a short flower stem with fine flowers is one called Herald, of which the throat is very light, extending upwards to a charming rosy-lilac feathered with bright crimson, and having clearly defined white margins. An enormous rich scarlet variety is named Columbus, a great flower named after a great man. Bellona, too, is very beautiful, but in a different way to all the foregoing, for its ground colour is rosy-purple flushed with crimson, and having blue margins, which much enhance its effect. The individual blooms are large and stout, and borne with a most pleasing freedom. If spotted ones find favour, Clio must arrest attention. It is a white with crimson spots, the whole of the somewhat Petunia-shaped flowers being margined with pure white. Cicely is edged with pale blue, and has a body hue of rich crimson-purple, very densely spotted with red. The flowers are almost perfect in shape, and mostly composed of six or seven lobes.

Chastely beautiful is Claribel. The flower is white delicately suffused and spotted blush pink, and is one which is bound to find many supporters. Elvina is deep purple shading to blue and surmounted with a broad band of white. The throat is rather light, and is veined with purplish crimson, which aids in producing a very striking variety. A free-blooming kind is found in Evatina, which on a rosy scarlet foundation is flaked and spotted with white. Good as the old Avalanche, it is eclipsed in Avalanche Improved. The flowers, with the exception of a rosy purple spot at the division of each of the lobes, is of the purest white, very large in size, and carried boldly above the foliage. One of the most attractive is Ecclatant, the blooms of which are large in size, rosy carmine in colour, and possessing a white throat very faintly flushed with purple. Monarch, with its rich velvety crimson, still well upholds its name, and must not be omitted from any selection, in which the purplish crimson Claudia may well be accorded a place.

These are only a few out of many, but they must suffice. For verification of what has been said a pilgrimage may be made to Chelsea at once, for if it is postponed much longer one of the richest floral feasts of Gloxinias one could see will be missed for another year, though doubtless by then others will have sprung into existence. Let us hope that the grower may long be spared to carry on the work he has been so successfully engaged in for so many years, when he will assuredly render a good account of himself and produce flowers of which both he and the firm may well be proud.—SCRUTATOR.



EVENTS OF THE WEEK.—Horticulturists will be busy during the ensuing week. In addition to numerous provincial Rose shows, a list of which is given in another column, the exhibition of the National Rose Society will be held at the Crystal Palace on Saturday, July 7th. The Committees of the Royal Horticultural Society meet at the Drill Hall, James Street, S.W., on Tuesday, July 10th. Wolverhampton Floral Fête opens on the same day, and the exhibition of the Royal Caledonian Horticultural Society at Edinburgh on Wednesday the 11th inst.

WEATHER IN LONDON.—During the past week bright weather has been experienced in the metropolis. A shade maximum of 82° was registered on Saturday and Sunday, this being about 10° above the average for the time of year. On Monday there were indications of a change taking place, and some rain fell during the night, but Tuesday proved fine, with a clear blue sky, as did Wednesday.

ROYAL HORTICULTURAL SOCIETY.—At the next meeting of the above Society, which will take place in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday next, July 10th, there will be a show of hardy perennials and Cactaceous plants, for which special prizes are offered. At 3 P.M. a lecture on "Cactaceæ" will be given by Mr. John W. Singer.

PHENOLOGICAL OBSERVATIONS FOR 1893.—A report of Mr. Edward Mawley's observations on the weather and its influence on flowers, fruits, birds, and insects, has been sent to us in pamphlet form from the Quarterly Journal of the Royal Meteorological Society. We can only say that it displays in an unmistakeable manner the extreme diligence and scrupulous care on the part of Mr. Mawley and his many closely observant coadjutors in various parts of the country.

GARDENING APPOINTMENT.—Mr. H. J. Sensicall, late of Mentmore and Hatfield Gardens, has been appointed to succeed the late Mr. Thos. Wattam as head gardener to A. Longman, Esq., Shendish, Hemel Hempsted, Herts.

DEATH OF A WELL-KNOWN HORTICULTURIST.—The death occurred recently at Cathcart of Mr. Hugh Austin, of the firm of Messrs. Austin & M'Aslan, a gentleman whose name, and that of his father, has been long and well known over the west of Scotland. The firm of which he was a member began business in 1717, and have continued a successful career to the present day. Since 1873 Mr. Austin has had control of the nursery department. Mr. Austin, who was forty-five years of age, was unmarried, and leaves two sisters and a large number of friends to mourn his early death.

THE CARNATION AND PICOTEE UNION.—We are requested to state that the annual exhibition of the Carnation and Picotee Union will be held in Stanley Road, Oxford, on Tuesday, July 31st, and that particulars as to membership, entries, and schedule of prizes can be obtained free on application to Mr. Arthur Medhurst, The Cottage, Stanley Road, Oxford.

A PROPOSED CACTUS SOCIETY.—Mr. Henry Cannell appears to have set his mind on forming a Cactus Society, and when the famous florist sets his mind on anything, we know what it means—not giving up in a hurry. He issues the following invitation:—"Our Cactus gala day will take place on July 10th, at the Drill Hall, James Street, Westminster, not far from the Army and Navy Stores, when we hope to be favoured with your and your friends' presence. If you will kindly bring a collection, please intimate to Mr. A. F. Barron, Royal Horticultural Gardens, Chiswick, the space required, and it will then be in readiness. Please let all exhibits be finished by twelve o'clock. I hope to be there myself, and will gladly render any assistance I can. Mr. Singer's lecture will take place at three o'clock. Immediately after it please assemble at the Windsor Hotel (nearly opposite the above-mentioned show) for luncheon. Afterwards we hope to discuss the question of forming a society and all matters appertaining thereto. I need hardly say your presence and valuable co-operation will be looked for." Let all attend who can, say we.

— WE understand that a Grace of the Senate of the University of Dublin has passed conferring the degree of Doctor of Science upon Mr. Daniel Morris, M.A., C.M.G., Assistant-Director of the Royal Gardens at Kew.

— **DEATH OF MR. ROBERT BARGUS.**—Those of our readers who are acquainted with the nurseries of Mr. C. Turner, Slough, will regret to hear of the death of Mr. Robert Bargus, which occurred on the 23rd ult. Mr. Bargus entered the Slough Nursery as a boy, and had been ground foreman there for over forty years.

— **SWEET PEA EMILY HENDERSON.**—I have four named varieties of white Sweet Peas, but none equals Emily Henderson. The blooms of this Pea are large, pure, with much substance of petal and fragrance. I would recommend those who grow Sweet Peas to make a note of this variety for next year's trial.—E. M.

— **SPIRÆA COMPACTA MULTIFLORA.**—This variety will prove most useful for decorative purposes. The foliage, although somewhat dwarfer, is almost identical with that of *S. japonica*, whilst the flowers produced, as they are in greatest profusion, are more dense, and of a pleasing creamy shade. For forcing it is serviceable, and the plants we have had this season were admired.—R. P. R.

— **HOYA BELLA.**—This is charming little plant, the flowers of which have been likened to "an amethyst set in frosted silver." This is not an inapt description, for their texture is exquisitely beautiful. Those on the look out for a plant for hanging baskets for a moist stove or Orchid house would do well to give this little Hoya a trial. The blossoms are produced in umbels along the young growth, and are delicately perfumed. We grow it in a mixture of turfy loam, chopped sphagnum and crock dust in the warm Orchid house, and under these conditions it grows and flowers freely.—H. R.

— **IRISES TECTORUM AND TOMIOLOPHA.**—Having observed my remarks on these Irises in the Journal of 28th June (page 511), Dr. Wallace of Colchester has most kindly written me regarding them. From what he says the Iris I spoke of is the true *I. tectorum* of the "Botanical Magazine," but that the plant sent out as *I. tomiolopha* is an early kind belonging to the dwarf section of *pumila* and *albiensis*, and having narrower foliage and reddish purple flowers. Dr. Wallace has never considered the latter rightly named. This supports the view of our botanists, but makes one inquire the true name of the so-called *tomiolopha*. I need hardly say that I am greatly indebted to Dr. Wallace for his courteous letter.—S. ARNOTT.

— **ROSE-COLOURED CARNATIONS.**—That we cannot well have too much of a good thing may be true, but there is a chance of getting too much of the same thing even in such charming flowers as Carnations. The most pleasing colour of this flower to my mind is rose, but it is all the same a hue that does not admit of much variation. I do not like to mention the particular ones that may seem to me to be the best varieties, because not only are they numerous, but there may be some in other parts of the kingdom little known to fame that are as good or be even better. But certificates are being frequently granted to these rose-tinted forms, that seem to be so much alike as to render distinctness difficult to discover. We seem to need a perpetual trial of these plants both indoors and outside, and then have them tested for distinctness before admitted to be new. Probably the same may be said of many other things, over which we are rapidly getting in a maze.—K.

— **DROOPING DISEASE IN TOMATOES.**—Your readers may, some of them, be glad to know that a prompt earthing-up round the stem of a drooping plant will usually save it. I use light soil and a few loose bricks or boards. Plants treated thus promptly will often equal in crop the best in a house. For black spot in the fruit I find the best thing is to sprinkle sulphur on very hot lime whilst slaking in a bucket, then walk up and down the house, shaking the bucket violently, and the sulphur and fresh lime will fly all over the house. This makes the fruit a little dusty, but that is better than losing it. *Cladosporium* also does not seem to make headway where the lime and sulphur bucket is used. I attribute a comparative freedom from both clubbing and drooping in my Tomatoes to the use of chemical instead of animal manures, also to the use of burnt ashes and mortar rubble, with gritty stuff of all sorts in the soil, to a large extent. My soil is greensand, but goes very closely together when rammed, which I find is necessary for Tomatoes. The ashes keep the soil sweet.—F. WILLIAMS.

— **TOMATO FLOWERS FALLING.**—I shall be obliged if some of your correspondents can give me information as to the probable cause of flowers falling from Tomato plants. I have some plants in boxes, under glass and well ventilated, the flowers of which are constantly falling off.—J.

— **THE POTATO CROP IN SCOTLAND.**—A correspondent informs us that although the May frosts did much damage to Potatoes the crops are likely to prove satisfactory. In Forfarshire and other districts all signs of injury have disappeared. From Perthshire, Fifeshire, Stirling shire, and in Aberdeenshire the reports are encouraging. In East Lothian, however, the early varieties will give but a poor return to the growers, but later kinds are in excellent condition.

— **EREMURI.**—I am much obliged to your correspondent, "H. A., Greenock," for his note on *Eremurus himalaicus* on page 517. He is to be congratulated on possessing a flowering specimen of one of the best of the genus. I shall have a note on the *Eremuri* shortly, but am at present exceedingly busy, and have not an opportunity of referring to what I said about these plants before. So far as I can recollect my remarks referred to the need of protection from spring frosts, and that I did not say the *Eremuri* would not bloom further north than Dumfries. If I did say so I shall be pleased to confess my error.—S. ARNOTT.

— **AUSTRALIAN DRIED FRUITS.**—According to the "South Australian Register" settlers in the River Murray Irrigation Colonies are reaping some reward for their enterprise. For the season 1893-4 the exports from Mildura are: Raisins and Currants, 600 tons; canned fruit, about 250 tons; and dried Apricots and Peaches, about 25 tons. It is expected that Mildura will produce this season 35,000 gallons of wine and 4,000 gallons of brandy, and about 20,000 cases of Oranges and Lemons during the ensuing winter. The gross value of the whole product from Mildura this season is put down at about £50,000. The Renmark Colony is not so far advanced as the Victorian settlement. Still, it is encouraging to learn that the yield at Renmark is to be in round numbers 50 tons of Raisins and 15 tons of dried Apricots. Dried Apricots from Mildura are selling in the Melbourne market at over £100 per ton.

— **DUCKWEEDS.**—At a recent meeting of the Linnean Society a paper was read on the habits of three species of *Lemna*, by Dr. H. B. Guppy. The author gave the results of experiments made by him during a period of twenty months, and showed that *Lemna gibba* can pass the winter either in the gibbous form or with fronds, which appear to resemble those of *L. minor*. The flowering of *L. gibba* was observed in July, when it was found that the gibbous plants were producing thin flat fronds, which were also in flower, and floating detached. In both cases, says "Science Gossip," the flowers were hermaphrodite, but they had the appearance of being unisexual, on account of the flowers of the gibbous plant protruding the pistil only, while those of the flat fronds evolve only the stamens. The paper concluded with a table of temperatures relating to the germinating, budding, and flowering of these plants.

— **AGAVE AMERICANA FLOWERING.**—In the *Journal of Horticulture* for June 7th it was stated that two plants of *Agave americana* were showing flower spikes in the Royal Botanic Society's conservatory at Regent's Park. The fact of these plants commencing to flower set a writer in a daily paper searching for other recorded instances. He says, "A plant bloomed at Paris in 1663, and thirty-five years later a Mr. Versprit of Lambeth flowered one from 12 to 15 feet in height. At that time it was regarded as a great rarity. But in 1714 two blossomed at Hampton Court. In 1729 Mr. Cowell succeeded in flowering one in his garden at Hoxton, and declared it to be the first seen in England, alleging that the others which had bloomed in Lambeth and the Royal gardens were not the true American Aloe at all. How far this assertion was well founded cannot now be ascertained. But, at all events, the existence of a mezzotint engraving of the Hoxton plant, by Kirkall, dated September 12th, 1729, removes all doubt as to its being the genuine *Agave*. In 1737, an engraving by Toms, from a drawing by Badeslade, shows that another flowered at Eaton Hall. From some memoranda made at the time it appears that the plant began flowering on June 5th, and produced 1050 blossoms. Again, in 1743, two plants, about fifty years of age, flowered at Hampton Court, their respective heights being 27 and 24 feet. A flower spike at Karlsbad grew to the height of 26 feet, and produced on its twenty-eight branches more than 3000 flowers, while one at Frederiksborg, in Denmark, bore 4000.

But, of all naturalised American Aloes of which we have heard, the 40-foot one in the King of Prussia's garden at Potsdam is the tallest." In 1859 an *Agave* eighty years old bloomed in the Royal Botanic Society's gardens, and the flower spike is reported to have been 30 feet high.

— **WOKING [AND DISTRICT] HORTICULTURAL AND COTTAGE GARDENERS' ASSOCIATION.**—For the purpose of further promoting horticulture in the neighbourhood of Woking, already famed for gardening, the above Association has been inaugurated under very favourable auspices, and the first summer show will be held on July 11th and 12th. This will take place in the grounds of the Horsell and Woking Cricket Club, near Woking Station. The prizes offered are sufficient to ensure a good display of exhibits which is anticipated. Mr. H. W. Robertson, Somerset Villa, Woking, is the Honorary Secretary, and from whom schedules may be obtained.

— **MAIDENHAIR FERN PLANTED OUT.**—Maidenhair Ferns are well grown in Messrs. Drovers' Fareham Nurseries. Several span-roofed houses are occupied with this Fern, so large is the demand for the fronds to be used in their business of bouquet and wreath making. On what were the beds formerly occupied with Cucumbers on each side of the house, a shallow border has been made with cement. On this is laid about 3 inches thick of suitable compost, in which the Ferns are growing. I have never seen Ferns luxuriate so much as these, considering how little soil they have to grow in. Certainly the plan is a good one, judging from the results obtained.—E. M.

— **HOYA CARNOSA.**—This species of the honey plant is excellent for covering the back wall of a lean-to vinery, where it is so difficult to have anything to grow really well when the roof is completely furnished with Vines. We have a plant growing at the foot of such a wall in a narrow border in a mixture of peat, leaves, and loam, and which flowers freely every year. I counted three dozen fully expanded flower trusses the other day, the perfume emitted from each being quite pleasing, the heat and moisture required during the spring for the Vines just suiting this *Hoya*. During the winter it can withstand a low temperature providing the roots are not kept too moist.—E. M.

— **SEEDSMEN'S VARIETIES.**—One result, and it is by no means a desirable one when a number of seedsmen's prizes are competed for at the same exhibition, is to find of a dozen the same kinds of vegetables, for instance, that nearly all have diverse names, according to which firm the prizes may have been offered by. No wonder the public are confused when they find the same Tomato in one case as Perfection and the next as Matchless, or Cauliflower as Mammoth and Exhibition, or Long Pod Bean as Leviathan or Wonder, and Carrot as Gem or Marvel and so on. Of course, it is as patent as daylight that these diversely named varieties are identical. Gardeners cannot be deceived because they know better, and whilst we all most warmly admit the liberality of seedsmen in thus giving these prizes at shows and producing competition, it is indeed to be deplored that this loose method of nomenclature should prevail.—X.

— **RHODODENDRON PONTICUM AT ALTON TOWERS.**—In these days of general advancement we have so many beautiful hybrid Rhododendrons to talk about and admire that the old-fashioned *ponticum* seems almost to be discarded altogether. Still it keeps on growing and flowering as luxuriantly as ever, as if quite regardless of the fact that it no longer comes under the notice of mankind as once it did. At Alton Towers this showy Rhododendron may be said to be perfectly at home. Huge clumps abound on every side, and these are now one mass of bloom, which give the place a most pleasing appearance. The pleasure ground is formed in a beautiful valley well studded with Cedars, Hemlock Spruce, and Copper-leaved Beech, and on the slopes rising up on each side are huge plantations of this Rhododendron. These were formerly planted as small seedlings, but have grown and spread to such an extent that at the present time it might be termed a "forest of bloom." To stand and look on this beautiful valley is almost enchanting. On every side are large masses of bloom, the slightly varying shades of flower contrasting perfectly with the dark foliage of the Copper Beech and the bright green of the new growth of the Cedar, while the gentle ripple of running water on almost every side adds life to the scene. The soil is of a light leaf-mouldy nature, in which Rhododendrons thrive famously. Every year hundreds of sturdy seedlings spring up, and these keep on accumulating until they become immense thickets, and the surrounding woodlands are stocked with large bushes of

Rhododendrons. Many of the choice varieties are also grown. These appear to grow and flower exceedingly well; but come in a few weeks earlier, and of course are on a much smaller scale than the ponticum, which in itself is quite an interesting feature at Alton Towers.—G. H.

— PERPETUAL GREEN BEET.—Mr. Herbert May, Markree Castle Gardens, Collooney, Sligo, writes:—"This is a most excellent substitute for Spinach during the winter. I sowed seeds about the first week in June last year, giving the same treatment as for ordinary Beet. During last winter I was enabled to have Spinach as often as it was required, and I have a good crop of young leaves at the present time. There can be no excuse for not having a dish of Spinach all the year round by the help of the above mentioned variety. In this damp climate and a very strong stiff clay I have to deal with, I lost my ordinary crop of Spinach every year; but I do not mind now I have a substitute, and recommend it to others likewise situated."

— MAY WEATHER IN HERTFORDSHIRE.—Mr. E. Wallis, The Gardens, Hamels Park, Buntingford, writes:—"The weather during May has been for the most part of a very cold, dull, and damp nature. On two mornings frost was registered on the grass, but towards the end of the month summer weather set in. Rain has fallen on thirteen days during past month; maximum in any twenty-four hours was 0.25 on the 20th; minimum in any twenty-four hours 0.03 on the 13th; total during the whole month was 1.81, against 0.88 of 1893. By the end of June, 1893, I had registered 7.12; end of June, 1894, 9.73."

— WREATHS AT THE LATE PRESIDENT CARNOT'S FUNERAL.—A correspondent, who has witnessed many State funerals, declares that on no occasion has he seen the floral tributes so rich and numerous as at the funeral of the late President Carnot, in Paris, on Sunday last. It is estimated that £100,000 were spent in the purchase of wreaths and crowns. The first place was given to that of the President of the Republic, an immense wreath 7 feet in diameter, and made of red Roses and Palm leaves. Twelve two-horse cars, conical in shape, were loaded with hundreds of floral emblems. The tributes sent by the crowned heads of Europe, which came behind these cars, were carried on the shoulders of firemen in uniform. That of Her Majesty Queen Victoria, in Violets, and of the Prince and Princess of Wales, in Roses and Orchids, were much admired, as were also the more pretentious wreath of the Emperor of Germany, and the gorgeous affair in yellow and red flowers sent by the Queen of Spain.

— FLIES PREYING UPON GNATS.—Mr. Sidney J. Tindall, Woodford, writes to "Science Gossip"—"Standing over a small pond in Epping Forest on Sunday the 3rd June, I noticed a number of very black-looking flies swiftly flying close to the surface of the water. Every now and again these flies would dart suddenly down upon some object, and then began a terrific struggle; the fly whirled round and round, and jerked to right and left some inches on the surface, and occasionally another would come to its assistance and join in the conflict. When the flies resumed their flight after a battle of about a minute's duration, I observed what appeared to be the lifeless body of a gnat floating away. Am I right in assuming that these flies are the natural enemies of the gnats, and destroy them when they appear on the surface to undergo the change from pupa to imago? I witnessed several encounters in the space of a few minutes."

— PLANT GROUPS AT EXHIBITIONS.—There are few things which more fully test the decorative capacities of a plantsman than is found in the arrangement of a purely artistic group of plants at a flower show. Of course, the style of arrangement seen at shows should also be found employed at home, but circumstances will not always permit. Probably no position offers such a favourable opportunity for the employment of artistic skill as at a show where there is a large tent, smooth short grass for floor, and ample room. The recent show at Richmond enabled groups of this nature to be displayed to the best advantage, because the conditions named were fully provided. Very fine groups are nearly always found there, although we miss the late Mr. W. Brown, whose groups were always so beautiful, Messrs. Fromow, who also are first-class decorators, and Mr. Hudson, who was always uncommonly hard to beat. Only three groups were in competition at the late show, but of these it was much to be deplored that the judges placed the best, really a most beautiful group quite worthy of the best earlier competitions, second; whilst one rather heavy and formal was put first. This one was arranged somewhat on the sloping or graduated system, a

style that good decorators have long since discarded. The second group, that of Mr. Fordham, had a most delightful base of Gloxinias, with Maidenhair Fern and Lilium Harrisii, Tuberoses, Palms, and Crotons as top plants. I fear it is not at all possible to lay down any guiding rules for judges in connection with decorative groups. It is all a matter of taste, but such a mistake as was then made seems unpardonable. It is so unfortunate when men's best efforts are so indifferently considered.—A. D.

— IRIS FLORENTINA.—Writing to the "Garden and Forest," Mr. J. N. Gerard says:—"With its large nearly white flowers, Iris florentina is one of the most charming plants of the season, and should be in every garden. It is a reliable garden variety, and its exquisitely coloured flowers have a patrician air, notwithstanding this is one of the commonest of plants. It is also commercially valuable, and many tons of its roots are each year gathered, dried, and prepared to make theorris-root of trade. The finer grades of this root are used by perfumers, usually to simulate violet. It is also largely used in tooth powders and for sachets. Of late years oils, both liquid and concrete, have been extracted from the roots, and these have proved useful to the soap maker as well as to the perfumer. This Iris is also the only official species, being sometimes used in medical practice as a cathartic, and in large doses as an emetic. It is one of the older remedies, however, and is seldom used now."

— THE STRAWBERRY CROP.—There is little hope that the enhanced prices now obtainable for Strawberries will at all compensate growers for loss incidental to injury from frost. In some of the Kentish districts the harm done has been so great, and the fruits that have matured have been so small and so imperfectly formed, that extensive breadths have been ploughed-in to make room for other produce, that may give some return for the rent of the land. Strawberry growers have been specially hard hit, because their crops last year, owing to the drought, were so poor. It is, however, so unusual to meet with disasters of this kind in one season, much less in two successive ones, that many years may elapse ere such trouble will again occur. That a temporary check has been given to Strawberry culture there can be no doubt; still it must soon be recovered from. There can be no doubt but that the drought of last year is to some extent responsible for the harm done to the bloom this year, as it promoted undue early blooming. Still further, the crowns did generally lack that robustness essential to the production of fine healthy bloom. In myriads of cases the plants have failed to flower at all. Because of this, many who have blind plants are fearful lest this defect should be perpetuated. That it is an accident of the season seems so probable, there can be little doubt but that the floriferous habit of the plants will return next year. It is to be hoped so in any case. Happily for us there is a good prospect of an abundance of most other fruits, that have perhaps greater value than Strawberries, and the present sunshine should help to perfect them thoroughly.—A.

— IMPORTED TOMATOES.—The small and wretchedly coloured Tomatoes we see just now in shops and on costers' barrows can hardly attract purchasers, and yet they do find consumers without doubt, or they would not be sold. I was only a few days since asked what sort these were, a query I was unable to reply to, because it was certainly the case that none were naturally coloured. The variety may have been the Old Red or any other of the somewhat sutured forms, yet so plentifully grown. A flood of light was, however, let in upon the peculiar colour of these cheap Tomatoes the other day when I got a note from Newcastle asking for information how to ripen green Tomatoes. The writer had purchased several boxes of green Tomatoes, and wanted to get them coloured ere offering them for sale. It is not possible to have sympathy with a dealer who purchases fruit under such conditions, although this man was a novice in the dealing art, but the consumers who purchase these fruits when they are artificially coloured by exposure to light and warmth are greatly deceived. As Tomatoes when in a green state are absolutely unfit for food, it is difficult to understand why they are not seized by the food inspectors as unfit, and thus prevented from such artificial colouration as enables dealers to impose them on consumers as ripe. It is indeed a pity that people should purchase such unwholesome rubbish, but the fact that they do shows how very much attached to Tomatoes the British public have become. I have no sympathy with the very stupid proposals made to have all imported fruit branded with the name of the country where grown, but I do think all unripe and unwholesome fruit, even Tomatoes, should not be allowed to be vended.—D.



LÆLIO-CATTLEYA CANHAMIANA ALBA.

THE illustration (fig. 2) represents a bloom of *Lælio-Cattleya Canhamiana alba*, a beautiful bigeneric hybrid exhibited by Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, at the Drill Hall, Westminster, on the 26th ult. This handsome Orchid is the result of a cross between *Lælia purpurata* and *Cattleya Mossiæ*, and merited the first-class certificate awarded for it by the Royal Horticultural Society. As will be seen by referring to the engraving the flower is large, and whilst the sepals and petals are white the lip is rich crimson purple with yellow lines at the base of the inner portion.

SCHOMBURGKIAS.

THE few species which constitute this genus can hardly be classed as superior Orchids, but there are at least three kinds which should be included in representative collections. In habit and appearance they closely resemble *Cattleyas*, but the culture should be similar to that of the evergreen *Dendrobiums*. The winter temperature ought not, however, to fall much below 50°.

Schomburgkias should be grown in well drained pots with the usual mixture of peat and sphagnum. *S. tibicinis* produces an upright raceme from 3 to 6 feet in height bearing many flowers. These are each 3 inches across, the sepals and petals narrow, wavy, reddish purple. The labellum is three lobed, the centre white, the side lobes rosy red streaked with purple. The pseudo-bulbs of this species are hollow, and in their natural habitat are said to be often occupied by swarms of ferocious ants.

S. Lyonsi is smaller than the last named. The flowers are produced on shorter racemes, and are 2 inches across, white, with brown and purple markings. The pseudo-bulbs are about 10 inches high, thickened in the middle, and each bears a couple of leaves on the top. This species is a native of Jamaica. *S. Thomsoni* is rarer than either of the species named. The flowers are pale yellow, with a dark purple blotch on the lip. There are certain other kinds in cultivation, such as *S. marginata*, *S. crispa*, and *S. rosea*; but the three mentioned above are probably the best and most generally grown.

ONCIDIUM LANCEANUM.

WE have few more beautiful *Oncidiums* than this in cultivation. When in good condition the fine spotted foliage alone is very ornamental, but the flowers have a charm about them that is difficult to describe. The grotesque shape, the pleasing contrast of the rich chocolate and yellow petals with the violet purple lip, and the fragrance all combine to make this a truly beautiful flower. *O. Lanceanum*, unfortunately, is not easy of cultivation, and it is sad to see so many fine plants imported yearly, only to drag out a miserable existence for a few seasons and then be consigned to the rubbish heap.

A frequent cause of failure is leaving it too long in the same compost, especially if this is largely composed of peat. Although this *Oncidium* dislikes frequent disturbance at the root, it must have new material by surfacing or otherwise at least every second year. The growth is always finer from peat fibre than from sphagnum, but I invariably use more of the latter than the former when potting this Orchid. This seems rather paradoxical, but the future of the plant has to be considered, and it is better to be content with medium results for an indefinite period than to have more vigorous growth for a few seasons and to run the risk of ultimate collapse. Peat, even of the best description, when decaying, leaves a sour humus behind very injurious to the roots of epiphytal Orchids. This cannot be removed without taking the plants out of the pots. Decaying sphagnum, on the other hand, if not in too great bulk, is a useful fertiliser, and the young growing points form practically a new rooting medium yearly.

This Orchid will grow freely in the East Indian house, but enjoys a high and somewhat dry temperature at midday. Though requiring to be screened from bright sunshine a dense shade is not advisable, especially at the end of the summer. The foliage must be well consolidated to enable the plants to withstand a few weeks' dry rest in the house where grown. This species, however, will not always be compelled to rest, and when seen to be starting into growth must be encouraged, as it is important to maintain as far as possible the initial vigour of the species. *O. Lanceanum*

when newly imported frequently bears leaves from 18 inches to 2 feet in length, but I have never seen these matched under cultivation.

CULTURAL NOTES ON ORCHIDS.

So far the present season has not been by any means a good one for warm house Orchids. Owing to the absence of sun and the low temperature last month more fire heat than usual has been necessary, and however carefully this is applied, the brisk buoyant atmosphere so congenial to growing Orchids cannot easily be maintained. A gentle heat should be kept in the pipes night and day. This will allow of early ventilation on dull mornings, and when bright it will not cause any appreciable rise in the temperature before the blinds are let down. This should always be done early on bright mornings following a spell of dull weather, as a sudden change is very detrimental to the foliage.

Aphides have also been more than usually troublesome, and all plants advancing for flower must be closely watched. While the spikes of *Oncidium incurvum* and similar kinds are in the first or simple stage, it is an easy matter to keep them clean, passing a damp sponge up the spike being all that is required. If allowed to remain until the spikes branch, the insects creep under the flower buds, where it is almost impossible to reach them, and the filth they produce ruins the appearance of the flowers as soon as they open. The growing shoots of *Dendrobiums* and other Orchids are also soon crippled by these insects if not rigorously kept in check.

Anguloas, immediately the flowers are faded, should be repotted if necessary, the present being probably a better time for this operation than the early spring. These Orchids will thrive best in a more substantial compost than is usually accorded them, a good proportion of fibry loam and a little dried cow manure being of great assistance to the plants. Thorough drainage is also essential, copious supplies of water being required during the growing season. Many *Cattleyas* and *Lælias* when growing have a good deal of glutinous matter in the outer sheaths, which will occasionally prevent the free development of the young pseudo-bulbs. This can usually be removed by sponging with warm soapy water. Sometimes, however, it may be found necessary to slightly slit the sheath with a sharp knife, care being taken that the growing bulb is not injured by the operation.

Calanthes will require more room as the leaves develop. Each plant should stand clear of its neighbour, and the foliage must be kept free from scab. If the pots are filled with roots an occasional dose of weak liquid manure may now be given. They will also need a gradual exposure to more sunlight, but as the foliage is still tender shading cannot be entirely dispensed with. Finish all arrears of potting, such as late plants of *Dendrobiums*, *Cattleyas*, *Mossiæ*, *Lawrenceana*, and others, as the roots are now active and should be taking to the new compost.

Where there are houses set apart for flowering Orchids, these are usually associated with foliage plants, such as Ferns, Crotons, and small Palms, and if tastefully arranged very charming effects are thereby produced. After the flowers are past, the Orchids must, however, be carefully examined, and if necessary cleaned, before being returned to the growing quarters, the comparatively dry atmosphere of the flowering house being very favourable to insect propagation. The strain of flowering, too, combined with the lack of atmospheric moisture has a very debilitating effect on the plants, and a kind of nursing régime is advisable until they regain their lost vigour. Frequent light syringings with tepid water and a slightly higher temperature than usual are very beneficial while the plants are in this convalescent stage.

So much atmospheric moisture is now required by the cool section of Orchids in houses or frames that it is impossible to keep the green slimy moss from growing on the pots. Frequent scrubbing are, however, imperative, as this greatly improves the appearance, and is beneficial to the plants. The ashes, gravel, or whatever is placed on the stages should also be raked over, and a little fresh soot and lime sprinkled about before replacing the plants. Abundance of air is also required, and if the foliage is actually blown about so much the better. Nothing tends so much to give the leaves that russety appearance that experienced growers delight in as this superabundance of fresh air. Continue to keep the plants free of insects, see that the growths have room to swell, and there need be no fear of disappointment when flowering time again comes round.—H. R. R.

FLOWERS IN COVENT GARDEN.

(Continued from page 513.)

So much for the history of the rise and progress of the market. Now for a look at it as it is. I suppose most of us have visited Covent Garden Market during business hours. If any have not, I trust they will take an early opportunity of doing so. No language of mine can adequately convey the various impressions different minds may receive on such a visit. The practical gardener can here critically examine the various plants and flowers, and compare them with those of his own growing. The lover of plants and flowers will flit from stand to stand with a wondrous uncertainty regarding which is the most beautiful and deserving of the lot. The curious and inquisitive will ask all sorts of

being most objected to by business people. Here let me say that, though the market may be written of and spoken of, and is often visited as a flower show of the free-and-gratis order, it is primarily and essentially a place for the sale of goods, and not for exhibition. To those who visit it daily for business purposes its beauties cease to have the charm of novelty. In the business of a busy market there is little time for leisure or sentiment. Each trader goes for the particular plants and flowers he requires, bestowing scarcely a thought or glance on others, and it is to this business portion of the market I must now come. We will, if you please, consider ourselves strictly market people. Each and every morning all the year round we are there at the opening of the doors. Our wants vary with the seasons, and for these the



FIG. 2.—LÆLIO-CATTLEYA CANHAMIANA ALBA.

questions respecting how things are so grown, and the quantities brought, and where they come from, and where they go to; and if he is inclined to mathematics he will probably set himself sundry curious problems based upon data he receives.

The sentimental will probably doat on some wild flowers, and in the search for Forget-me-nots probably venture into the outer area, where rough-looking gipsy chaps dispose of Moss, Ferns, and Water Lilies. On her return (I suppose her to be a lady) she will possibly express a wonder that such rough, unwashed, and altogether disreputable-looking individuals should be associated with her pet flowers, and why flower girls should be such a coarse, dirty, draggled-tailed lot, and why the duke or somebody else does not provide them with clean tall Normandy caps and picturesque gowns and aprons.

Of all visitors to Covent Garden a market-stroller is perhaps the

grower must provide. Now, there are two classes of growers: one class regularly attends, and has always something to bring; the other class only attends at certain seasons, either because he is a specialist, and grows only a certain class of stuff, or because he is a fruit as well as a flower grower, and consequently only grows such flowers as suit his convenience. The former class is your true market flower grower; he has to provide a succession of goods for every day of the year. Then, again, this growing business naturally divides itself into different sections:—1, There is the pot-plant trade, with its two great parts—(a) flowering plants, and (b) foliage and decorative plants; and 2, the cut-flower trade.

The former requires great experience, great labour, and great judgment, with often but little profit. The rage for pots of flowers has somewhat gone out of late years. But only look at the market when

full of them in their season—the size, so suitable to their purpose; the training, so admirable; the blooms, so near perfection. Take a few examples. Mignonette, six to eight giant trusses in one small pot; the Pelargoniums, a mass of bloom; the Fuchsias the same. Only try to grow them yourself, and then you will see to what extent the market-grower is a master of his art. Then take single stalks with heads of bloom, say, Hydrangeas, or Lilliums, or Arums; or take the perfection to which Ericas are grown for market, to say nothing of the commoner flowers, such as Marguerites, Pelargoniums (especially Ivies), Calceolarias and others, huge banks of which are daily to be seen. Then, again, in winter time and early spring, the pots of Lilies, Hyacinths, Tulips. These, with others, form a never-ending succession. The second division of foliage plants are also marvels of fitness for their purpose. Palms of any size, Ferns, Ficus, Crotons, and Dracenas are ever present, in quantities equal to any call upon the trade. Solanums form a special market feature in their season.

There has lately sprung up quite a new business field in foliage plants. I allude to small thumb pots of assorted goods, about a dozen or fifteen, each in small wooden boxes. These find great favour with purchasers who have cool greenhouses where they can grow them to fair-sized plants. Nearly 1000 boxes a day, of fifteen pots in a box, have been sold by one grower. It is curious to know how many boxes are obtained—Tomato boxes, Pine boxes, Orange boxes, old ones utilised for this purpose after the fruit is sold.

Before leaving the box trade I must speak of the early spring bedding plants. Many thousand boxes of blue Lobelia, struck cuttings of Calceolarias, Fuchsias, seedling Asters, Stocks, Pansies, Mimulus, Musk, Nasturtiums, plants for edgings, plants for bedding, and taller-growing varieties for backing, both annuals and perennials, are daily sold. These are often grown by small jobbing gardeners under very primitive frames, and are brought in small loads and sold in the Area in Tavistock Row. This is really the cottagers' market.

Now for the cut flowers. Difficult as it is to convey any adequate notion of the pot trade, the cut flower trade is more difficult still. People do not replenish boxes of window plants very often, or plant out their gardens every day. Many have no garden to plant, and do not keep window boxes. But with cut flowers it is quite another thing; with great care and attention they can rarely be kept fresh many days and require constant renewal. Then they are used for so many purposes where pots could not serve. Everybody can find a place for cut blooms—the table, the sideboard, the mantelpiece, the buttonhole, wreaths, baskets, and bouquets. When you think what the daily consumption of cut flowers in London amounts to, and look at the number of florists' shops, and the barrowloads of the street hawker, and baskets of the flower girls, you must think what Covent Garden cut flower trade is. When we consider again that market growers not only supply London, but send many hundreds of boxes of cut bloom daily into the large provincial towns, you will get some notion of the importance of this branch of the business.

Now, this cut-flower trade is divided into two sections like the pot trade, viz., the regular daily flower grower, and the occasional or season grower. In addition to these, we have the amateur or gentleman's gardener, who uses the market for surplus. There are also distant senders who supply the market with goods, for cut flowers can be sent almost any distance. These distant and occasional senders have necessitated the commission salesman as a stand-holder in the market. Another personage also finds employment in the cut flower trade, viz., the "higgler" or middle dealer. The London market in flowers, as in fruit, is practically open to receive any produce which can reach it in a saleable condition; and many thousand packages arrive from France, Italy, Holland, Belgium, Germany, the Channel Isles, Scilly Isles, and every nook and corner of the British Isles. These often arrive at a time when the flower market is closed, and if in bulk are sold by auction, generally on the bye-day, to the higgles, who retail to buyers on market mornings.—J. ASSBEE, *Covent Garden*.

(To be concluded.)

EASTERN LILIES.

THERE can be no question that the Lillium is rapidly becoming a very popular flower, and that its cultivation in Great Britain, especially in sheltered gardens, is constantly increasing. In all ages it has been accounted, and that most justly, the rival of the Rose. It has not indeed the exquisite fragrance of the queen of flowers; nor has it the same marvellous variety of complexion: but in splendour and majesty the Oriental Lily is imperial; in dignity of aspect it reigns supreme.

In my own garden which has two inestimable advantages—great variety of soil, and absolute immunity from cold and withering winds,

Lilium auratum, the most beautiful of the noble Archelirion family, grows stronger and more prolific every year. I am free, however, to confess that I am very generous to this Lily, giving it every spring when it is beginning to appear soil which some months previously had been highly manured. I know from observation that many Lilliums do not appreciate manure; but I also feel assured that Lilium auratum and L. giganteum are notable exceptions to this general rule.

The Persian Lilium Szovitzianum, often called "colchicum," refuses to grow vigorously unless it is grown in clay. That element, at least, must be incorporated in the soil in which it has been planted, if it has not existed originally there. Until I had made this important discovery I could do nothing with Szovitzianum. This Lily is a native of Western Asia; it is a notable member of the great Martagon family, possessing the same graceful pendulous habit, and is assuredly one of the most beautiful of them all. It is extremely fragrant, and its fragrance is attractive.

Of the davuricum or umbellatum race, commonly known as Isolirion, to which croceum, the brilliant "Orange Lily" of Scottish gardens also belongs, my supreme favourite is the dark apricot-coloured "Incomparable," which is here at present in magnificent flower. It forms a striking contrast to L. davuricum erectum, which is of brightest orange hue.

The most valuable of the speciosums, all of which are exceedingly artistic in appearance, is L. s. Kraetzeri, a richly perfumed Lily of snowy feathery whiteness, with most exquisite green axils radiating from the centre with splendid effect. Among pure white Lilies it has no rival save Lilium longiflorum Harrisii, the latter of which was originally a native of Japan, but has been made absolutely faultless in its beauty by tropical cultivation. I am nevertheless perfectly willing to concede to enthusiastic admirers of the fair Madonna Lily, which luxuriates in every portion of my garden, that Lilium candidum, called thus by the poet Virgil, and argenteum, or the Silver-hued Lily, by Propertius, is hardly in queenliness inferior to the speciosum and longiflorum beauties to which I have referred.

L. nepalense and sulphureum or Wallichianum superbum cannot be cultivated, at least in Scotland, in the open air. These Lilies, which are of Burmese extraction and tropical constitution, and which are at present growing rapidly in a warm window with a western aspect, I had in the first place to force in a conservatory. Both of these are much more distinguished by Eastern splendour than productiveness. They are very expensive luxuries, and not too effusive of their handsome blooms. For this special reason I cannot recommend their universal cultivation. Excelsum, a stately hybrid between candidum and chalcedonicum (the Scarlet Martagon) is almost equally impressive in its beauty, possessing the fairest characteristics of its parents, is not beyond the reach of the humblest cultivator, and can be grown in any garden. He who has excelsum, Martagon album, or longiflorum Harrisii need not envy the possessor of nepalense.

It has been asserted by Sir Edwin Arnold in his "Light of the World," also by a graceful writer in a recent number of the *Journal of Horticulture*, that the Scarlet Martagon was the Lily that was immortalised by Christ. As Sir Edwin, who has travelled much in the East, possesses an intensely reverential nature, and is manifestly an ardent lover of flowers, he may be reckoned an authority upon such a subject. This at least is absolutely certain, that the Scarlet Martagon grows and flowers profusely in the valleys of Syria, and especially in Palestine.—DAVID R. WILLIAMSON.

AMONG THE PÆONIES.

NUMEROUS as are the many lardy flowers which demand attention a place should be reserved for a few Pæonies. During the early summer months no plants are more beautiful or produce a more striking effect; and yet it cannot be said that they are very largely grown. As a matter of fact they are not seen so often as they should be, and as their undoubted merits deserve. It is difficult to suggest the cause of this. It cannot be the culture, for no plants are easier to manage; nor can it be expense, for they may be bought very cheaply at the present time, a dozen excellent varieties being procurable for an outlay of a few shillings. They require little or no attention after being planted save for a mulching of manure in the autumn if flowers of large size are desired. It is necessary, however, to afford them a deep rooting medium or they will never give the fullest satisfaction.

New varieties are constantly being introduced into this country by the various trade growers, and amongst these Messrs. Barr & Sons, King Street, Covent Garden and Long Ditton, must be given a high place, for it is to them, with others, to whom the credit of increasing the popularity of the Chinese Pæonies is due. Almost all the varieties are tried at their nurseries, and the plants in flower of both new and old varieties now number several hundreds. As may be imagined, they cover a very large area of ground, and very bright and cheerful they look as one passes on the railway on which the nurseries abut. Thousands of flowers may be seen from the train, all shades of colours, from pure white to the richest crimson being readily discernible. Let travellers take notice the next time they are journeying down the London and South-Western Railway from Waterloo on the left side a moment or two after passing Surbiton, and they may see for themselves. Or, better still, they might detrain there, and walk fifteen minutes for a closer inspection. They may be assured of a courteous welcome from Mr. William Barr, and will be amply repaid by the many beautiful flowers they will see; not alone Pæonies, but also Spanish and other Irises, Violas, Alliums, and many others.

Among the Pæonies noted on the occasion of a recent visit as being particularly good were those named below, which of course are only a few out of many. One of the very finest, and thoroughly deserving of first mention, is Agnes Barr. The flowers of this variety are very double, large, perfect in shape, and have the centre petals of a soft yellow, then others of pale blush, while the outer ones are of a peculiar purplish pink shade. Forming a pleasing contrast to this is Louis Van Houtte, with exceedingly brilliant crimson purple blooms of good size and substance. For a floriferous kind none excels Adelaide Delache, which is bright rosy carmine in shade and almost perfect in contour. Chaste and beautiful is the soft cream blossoms of Delicatissima, and for a pure white Snowball is one of the very best that can be grown. Bonaparte, with bright carmine-coloured flowers of good form, is well worthy of notice, as also is Sir Walter Scott, deep silvery rose. Many of the Pæonies grow rather too tall for the small border, but Madame Vilmorin may be mentioned as an exception, as it is very dwarf in habit, and added to this the beautiful creamy white perfectly double blooms make a variety well worthy of cultivation, and suitable for the smallest gardens.

Saucy Lass may sound a peculiar name for a Pæony, but a look at the flower will demonstrate its appropriateness. The centre petals are creamy white and the outer ones pink, but it is evidently to the poise of the flower heads that it owes its name. A larger flower with an even larger name is Souvenir de l'Exposition Universelle, silvery rose, and for an almost pure white Lady Dartmouth is hard to surpass. The centre petals of Dr. Bois Duval render it very conspicuous. The colour is rosy white and the flowers of good size, though not one of the very largest. Madame Furtado is a beautiful kind with rose suffused purple, crimped edged petals, and is extremely free even in a small state. Prominent among the many others in flower are Prince Prosper, rich rosy carmine suffused purple; Delache, deep crimson; Madame Bernard, silvery rose; Princess May, cream and rose; Leonie, pale blush; Princess Clothilde, cream and blush pink; and Festiva maxima, white.

The single varieties are now past their best, but a few remain which are very good, and may be named. Rose Dawn and The Bride, both pure white, but of which the former is decidedly the better; Princess Teck, deep rosy carmine, very handsome; and Venus, which is rose coloured edged with silver, and very beautiful.—H. J.



NATIONAL CHRYSANTHEMUM SOCIETY.

A MEETING of the General Committee was held on Monday evening last at Anderton's Hotel, Fleet Street, Mr. R. Ballantine occupying the chair. After the minutes and correspondence had been read, the resignation of Mr. R. J. Hamill, who has recently gone to America, was tendered and accepted. It was announced that Mr. Briscoe-Ironside, after a lengthened visit to Italy, had now returned to England, and he was unanimously elected to fill the place rendered vacant on the General Committee by Mr. Hamill's retirement.

At the September show held by the Royal Aquarium Company the classes for early Chrysanthemums will be judged by Messrs. Geo. Stevens, Bevan, and H. J. Jones.

The resolution agreed to at the special general meeting called to discuss Mr. C. E. Shea's paper on judging was then laid before the Committee. It will be remembered that it was to the effect that practical effect be given to the suggestions contained in that paper, and a small sub-committee, consisting of Messrs. Herbert Fowler, E. Beckett, N. Davis, Chas. Gibson, George Gordon, H. J. Jones, and Edwin Molyneux, together with the officers *ex-officio*, was appointed to deal with the matter.

Eight new members were elected, and the Crewe Chrysanthemum Society admitted in affiliation.

Some suggestions as to alterations in the rules to be recommended at the general meeting were considered, the principal of which was the creation of a rank of honorary membership for persons who have rendered conspicuous service in connection with the Chrysanthemum, and there was also some discussion concerning an increase of privileges to members subscribing more than 5s. per annum.

Full particulars as to the annual outing were given by the Secretary, and form the subject of a special circular, which will be in the hands of the members in a few days.

CHRYSANTHEMUMS IN NEW ZEALAND.

By the time this reaches you the interest taken in discussing the numerous points in Chrysanthemum culture will have somewhat slackened, but I hope you will find space in your columns in answer to my one or two questions. My Pater is a subscriber to your valuable Journal, and on his behalf, as well as my own, I thank you for the regularity in which each number is forwarded to him. We would not miss a number for any money, and each one is eagerly looked for as an English mail arrives. Our annual "Mum" Show (May 14th) is just over, and we are now discussing the recent election of the best twenty-

four and twelve Japs, as published in your columns. The election was just the thing that was wanted by growers on this side of the world, and Mr. Molyneux and his able coadjutors undoubtedly deserve the thanks of all lovers of the Autumn Queen for the trouble taken in bringing the election to a head. Most of the leading varieties, as given by the election, are already in New Zealand, but of course the latest productions have not reached us yet.

Being a beginner in Chrysanthemum culture I should like to ask you a few questions on points which puzzled me during the last season. Take that brilliant variety Edwin Molyneux, for instance. Is it always exhibited at your shows with the same formation as shown in the figure in your Journal? I have never seen a bloom like that yet; in fact, nearly all the blooms this year have come with a large open eye. As far as myself is concerned I have taken two or three different buds, and when developed all have shown the open centre. How do you account for it? I have never taken a first crown bud, as it always shows much too early. Would propagating very late enable me to take that bud in time?

Would it be too much trouble to give me what is considered a good average exhibition size for the following varieties?—Vivian Morel, Edwin Molyneux, Avalanche, Sunflower, J. S. Dibben, Colonel W. B. Smith, Lord Brooke, Miss Anna Hartshorn, W. H. Lincoln, Florence Davis, Etoile de Lyon, Puritan, R. C. Kingston, Coronet, Madame Baco, Condor, Alberic Lunden, and Mr. A. H. Neve; also with the incurved: Jeanne d'Arc, Golden Empress, Princess of Wales, Miss M. A. Haggas, Miss Violet Tomlin, Mrs. Coleman, Ami Hoste, Alfred Lyne, Prince Alfred, Robert Cannell, and Princess of Teck. To induce the incurved to develop into their proper form, do they want a warm atmosphere or a cool one?

Apart from Chrysanthemums will you kindly give me the correct method of making Mushroom spawn bricks? I sent home through my bookseller for "Mushrooms for the Million," hoping that the way to make the spawn would be described therein, but to my disappointment the book has not arrived yet.—NEW ZEALAND.

We are glad to find the *Journal of Horticulture* is appreciated by our correspondent, and we have endeavoured to procure him the best advice on the points on which information is desired. Mr. E. Molyneux writes:—

"With pleasure I reply [to the inquiries from a young 'mummer' in his far-off country, and I am glad to see that such a deep interest is being taken there in the cultivation of this flower. I need hardly say also how gratified I am to find that the efforts of my coadjutors and myself in the Chrysanthemum election lately held here are appreciated even in New Zealand; it should be a stimulus for us to act similarly in the future.

HOW TO GROW EDWIN MOLYNEUX.

"Regarding the Japanese Chrysanthemum Edwin Molyneux I cannot say that the engraving in the *Journal of Horticulture* is a faithful representation of the variety as exhibited nowadays in its best form; the florets are much longer now and less curled than there shown. The blooms are also much larger. It may be that the variety is more fully developed from stronger plants than was the case when the engraving was made in 1887. To grow this variety well stout cuttings should be inserted prior to Christmas, the plant grown strongly with one stem until the first natural break is made—generally in the early part of May—selecting then three of the most promising shoots, these forming flower buds from the 8th to the 25th of August. Flower buds forming later than this date invariably show the objectionable 'eye' complained of by 'New Zealand.' The above is a concise method adopted to obtain fully developed blooms of, say, 8 inches in diameter and 6 inches in depth.

"Such blooms as these do not exhibit the points of the florets curled, but they expose the inner surface of deep rich maroon red which renders the variety so conspicuous. The golden tint of the underneath side of the florets is only discernible when the blooms are developing. I advise your correspondent to 'take' early formed buds on strong plants.

"Sometimes this variety shows a tendency to a loss of chlorophyll, or a paleness in the colour of the leaves. This defect is remedied by allowing the soil to remain somewhat dry directly the change is apparent. The cause is owing to a check being administered to the roots, possibly by too much water.

SIZES OF JAPANESE BLOOMS.

"Under orthodox treatment the following sizes would, if attained in the blooms, be considered a good average on an English exhibition table. Vivian Morel, 7 inches by 6 inches; Edwin Molyneux, see above; Avalanche, 7 inches by 5 inches; Sunflower, 7½ inches by 5½ inches; Mrs. F. A. Spalding, (syn. J. S. Dibbins), 7½ inches by 5½ inches; Colonel W. B. Smith, 8 inches by 6 inches; Lord Brooke, 6 inches by 4½ inches; Miss Anna Hartshorn, 6½ inches by 4½ inches; W. H. Lincoln, 7½ inches by 5½ inches; Florence Davis, 8 inches by 6 inches; Etoile de Lyon, 8 inches by 6 inches; Puritan, 7 inches by 5 inches; R. C. Kingston, 7 inches by 4½ inches; Coronet, 6½ inches by 4½ inches, not now much grown; Madame Baco, 6 inches by 4½ inches; Condor, 7½ inches by 4½ inches; Alberic Lunden, 6½ by 4½ inches; and Mr. A. H. Neve, 6½ inches by 4½ inches. The last-named variety is seldom now seen upon the exhibition table.

SIZES OF INCURVED BLOOMS.

"Jeanne d'Arc, 5 inches by 4½ inches; Golden Empress, 5½ inches by 3½ inches; Princess of Wales, 6 inches by 3 inches; Miss M. A. Haggas,

Miss Violet Tomlin, and Mrs. Coleman, each $5\frac{1}{2}$ inches by 3 inches; Ami Hoste, $4\frac{1}{2}$ inches by 3 inches; Alfred Lyne, 5 inches by 4 inches; Prince Alfred, $5\frac{1}{2}$ inches by 4 inches; Robert Cannell, $4\frac{1}{2}$ inches by 3 inches; and Princess Teck, $4\frac{1}{2}$ inches by 3 inches.

DEVELOPMENT OF BLOOMS.

"To develop the incurved blooms 'kindly' the plants must be healthy in the first place, the surface roots not killed or injured by excessive use of stimulating food. A buoyant atmosphere must be maintained by the judicious employment of fire heat during damp weather so as to make the temperature feel pleasant when entering the house—neither a warm nor a cool atmosphere, but a happy medium between the two. Where so many persons commit an error is by allowing the surface of the flowers to cool to such an extent by a low temperature during the night, that when the sun shines the following day the petals have not sufficient solidity to withstand exposure to the sun. Shade is necessary during bright weather to retain the colour, also to prevent the blooms being injured."

[In no Chrysanthemum, so far as we know, has such progress been made in bloom development as in Edwin Molyneux. When first seen the florets were few and small in comparison with what they are now, and the "eye" conspicuous; but this has to be searched for now, as it lurks indistinctly deep down under a mass of brilliant florets. When well represented we regard Edwin Molyneux as the grandest of all Japanese Chrysanthemums. Reference to the making of Mushroom spawn will be found in our answers to correspondents.]

PRIZE SPRAYING MACHINE.

MESSRS. BOULTON & PAUL inform us that they were awarded the only prize at the Royal Agricultural Show at Cambridge for a spraying

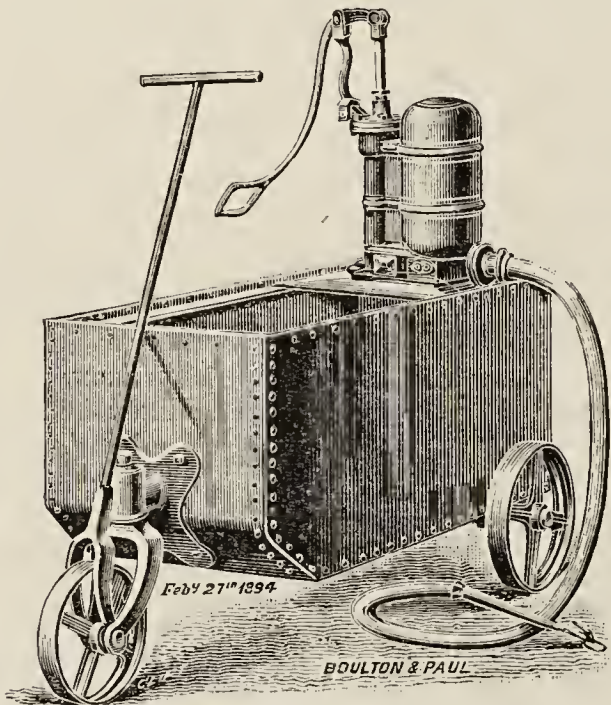


FIG. 3.—A SPRAYING MACHINE.

machine for the application of insecticides to fruit trees, Hops, and bushes of various kinds, and request us to insert an illustration. The machine shown in the engraving (fig. 3) is similar to the one exhibited, which, however, has two deliveries, both having stop taps affixed so that two or four rows can be sprayed at one time. It is said that water can be drawn from a well 25 feet deep by this machine, and forced in a continuous stream a distance of 55 feet from the spreader.

ROSE AND HORTICULTURAL SHOWS.

ELTHAM.—JUNE 28TH.

THE show of the Eltham Rose and Horticultural Association was held on June 28th in the beautiful grounds of Eltham Court, by permission of Mr. Bloxam. There was a strong contingent of professional growers, and as in all the contests held so far this year, the Colchester rosarians were able to stall off any attempts to wrest victory from them; on this occasion all the best prizes were divided between Mr. Benjamin Cant, Mr. Frank Cant, and Messrs. Prior & Son.

In the class for forty-eight, distinct, single trusses, there were six competitors, the result being in the order as above stated. Those not placed were Messrs. Paul & Son, Messrs. Bunyard, and Mr. R. E. West. All the boxes were above the average in quality, and there were many beautiful flowers in each exhibit. Mr. Frank Cant won the medal for the best Rose in this competition with a very beautiful specimen of Comtesse de Ludre, a Rose he shows with great success, and exceptionally well.

In the class for twelve, distinct, the results were the same. The exhibits in this class were of such surpassing merit that it made me more

certain than ever that the Queen's prize competition would have been superb if it had been open to all England without distinction, and that the N.R.S. Executive made a big blunder in limiting it to the amateurs who showed very indifferently at Windsor. The boxes of both the Messrs. Cant were perfect pictures, their form being perfection. For Teas Messrs. Prior & Son came in first with a very neat and fresh box, and Mr. Frank Cant was placed second. In the eighteen class reserved for amateurs, Mr. R. E. West of Reigate was the only competitor; but his exhibit not being of particularly high merit was only awarded a second prize.

I was glad to have the opportunity of seeing this far-famed and most beautiful garden, which has so little of formality, and is now a perfect Rose Eden. Mr. Bloxam takes great interest in garden Roses, which are grown here with great success in the form of pillars; he also has one very large bed filled with my favourite Rose, Viscountess Folkestone. It seems to flourish at Eltham Court, and although the day was a sweltering one nothing seemed to flag in the blazing sun. I came away much pleased with the kindness, hospitality, and courtesy shown to me.—CHARLES J. GRAHAME.

SUTTON.—JUNE 28TH.

THE thirteenth annual exhibition of the Sutton Amateurs' Rose Society was held in the Public Hall, Sutton (Surrey), on the above date. Bright weather prevailed, and under such circumstances the display of flowers appeared somewhat out of character in a room; but nevertheless the attendance was good, a choice selection of music by a famous military band perhaps accounting for the number of visitors. The flowers staged were fresh and excellent in quality, and apart from the miscellaneous exhibits the show was above the average.

In the class open to nurserymen, Mr. B. R. Cant, Colchester, secured the first prize for a dozen Teas or Noisettes, distinct. These were Comtesse de Nadaillac, Cleopatra, Maréchal Niel, Madame de Watteville, Niphetos, Souvenir d'Elise Vardon, Madame Cusin, Devoniensis, Miss Ethel Brownlow, The Bride, Catherine Mermet, and La Boule d'Or. Mr. Frank Cant was a close second with a stand of fine blooms, amongst which Madame Hoste and Cleopatra were splendidly represented.

There were three competitors in the open class for thirty-six, distinct, single trusses, and here again Mr. B. R. Cant proved victorious. The blooms shown in this stand were unusually good, and they were staged as follows:—Back row: Marguerite de St. Amand, Thomas Mills, Violette Bouyer, Dupuy Jamain, Duchesse de Vallombrosa, Marie Baumann (very fine), La France, Dr. Andry, Mons. Noman, Etienne Levet, Captain Christy, Her Majesty. Middle row: Earl of Dufferin, Marie Finger (grand), Crown Prince, Mrs. J. Laing, Gustave Piganeau, Lady Mary Fitzwilliam, Ulrich Brunner, Madame Lacharme, Duke of Edinburgh, Margaret Dickson, A. K. Williams, Boieldieu. Front row: Baroness Rothschild, Prince Arthur, Madame Cusin, Fisher Holmes (fine), Marguerite Boudet, Suzanne Marie Rodocanachi, Madame Gabriel Luizet, Duke of Teck, Madame de Watteville, Jean Soupert, Marie Verdier, and Mrs. Paul. Mr. Frank Cant was second with an excellent stand, Messrs. Paul & Son, Cheshunt, and Mr. T. Durrant Young, Eastbourne, being third and fourth respectively.

The principal class in the amateurs' section was for twenty-four distinct blooms, and in this there were three competitors. These staged excellent blooms, and the fight for the premier position was very keen. Mr. J. Gurney Fowler, however, proved the winner, this exhibitor staging a box of neat, brightly coloured and well furnished flowers. The varieties were:—Back row: Madame Eugène Verdier, Comte de Raimbaud, Margaret Dickson, Prince Arthur, Magna Charta, Violette Bouyer, Mrs. J. Laing, Rosieriste Jacobs. Middle row: Duke of Wellington, Viscountess Folkestone, Maurice Bernardin, Souvenir d'Elise Vardon, Crown Prince, Duchess of Albany, Alphonse Soupert, Grace Darling. Front row: La France, Francisque Levet, Madame Cusin, Dr. Sewell, Princess Beatrice, A. K. Williams, Mons. Noman and Horace Vernet. Mr. Alfred Slaughter was a very close second, this exhibitor staging larger blooms, and Mr. Richard G. West, Reigate, was third.

Mr. J. Gurney Fowler repeated his success in the class for eight distinct varieties, three trusses of each, with a stand of well finished blooms. There were Madame Gabriel Luizet, Viscountess Folkestone, Horace Vernet, Margaret Dickson, Duchesse de Vallombrosa, Dr. Sewell, Violette Bouyer and Alphonse Soupert. Mr. Slaughter was again second with creditable blooms, Madame G. Luizet, La France, Général Jacqueminot, and A. K. Williams being particularly good. Mr. R. E. West was third.

Mr. Slaughter secured the first prize for twelve Teas or Noisettes, showing a box of fair blooms, the best of which were Rubens, The Bride, Madame Falcot, Caroline Kuster, and Comtesse de Nadaillac. There was no other exhibitor in this class. Mr. Slaughter was also awarded the first prize for twelve blooms of Margaret Dickson.

Mr. C. C. Nichols secured the first prize for six Teas, distinct, with Comtesse de Nadaillac, Madame Hoste, Hon. Edith Gifford, Maid of the Mist, Anna Ollivier, and Madame Cusin in excellent condition. Mr. J. Bateman, Highgate, was second with smaller flowers. Mr. Keppell H. Gifford had the best half a dozen blooms of any kind, these being Mrs. J. Laing, Dr. Andry, Ulrich Brunner, Madame Gabriel Luizet, Captain Christy, and Duke of Wellington. Mr. J. Bateman was second, and Mr. Nichols third. Mr. Bateman reversed his position in the class for nine distinct blooms, showing neat and well coloured specimens. The second prize was awarded to Mr. K. H. Gifford.

Mr. W. Hooper won the first prize for six blooms of any Rose, staging Niphetos. Mr. Hooper was also first for six distinct, single trusses, Mr. Miller being second, and Mr. Lionel Hart third. Mr. Miller was first, however, in the class for nine distinct, single trusses, followed by Mr. W. Hooper. Mr. Lionel Hart and Mr. W. Hooper gained the first and second prizes for twelve distinct blooms in the amateurs' class. Mr. J. B. Fisher had the best three Hybrid Perpetuals, Mr. G. H. Chadburn being second, and Mr. G. A. Schofield third. Mr. Atkins was first with three Teas, followed by Mr. Chadburn.

Baskets and bouquets of Roses were well shown. Miss M. Fisher was first with a charmingly arranged basket of Roses and Grasses, Miss N. Miller being second, and Miss G. Chadburn third. Miss Fisher also had the best hand bouquet, while Miss Atkins, Mrs. Detmar, and Miss W. Fisher divided the prizes for ladies' sprays. Miss W. Fisher had the best table decoration, Miss Atkins being second, and Mrs. Lionel Hart third.

CANTERBURY.—JUNE 28TH.

ALTHOUGH several other important fixtures clashed with this exhibition, it was somewhat a surprise to find the nurserymen's classes confined to one exhibitor only—Mr. Mount. Amateurs were fairly represented, and staged some excellent flowers. In the chief class of eighteen singles, one of each variety, the competition was exceptionally close, and occupied a great portion of the judges' time. The first prize was a cup given by the Vice-President, and was won by Cooper Wachter, Esq., Hoath, whose best flowers were Violette Bouyer, Fisher Holmes, Maurice Bernardin, A. K. Williams, Dupuy Jamain, Duke of Wellington, Marie Baumann, and Comtesse de Nadaillac. Colonel Pitt was a remarkably close second, followed by J. Stonley, Esq. The Rev. J. Buchanan and R. L. Knight, Esq., also competed, and staged excellent blooms.

For twelve singles Colonel Pitt was first, beating the Rev. H. B. Biron and Captain Christy, who followed in the order named. For nine Teas or Noisettes, R. L. Knight, Esq., Cooper Wachter, Esq., and Colonel Pitt were the successful exhibitors, the first having good blooms of Caroline Kuster, Anna Ollivier, Souvenir d'un Ami, and Madame Cusin. Here, also, the first and second were very close. Colonel Pitt was first for six trebles, the Rev. J. Buchanan second (with all Teas), and the Rev. H. B. Biron third. In the last stand were good flowers of Marie Verdier.

In Section B, a cup was presented by the Mayor for twelve singles, and won by S. H. Dean, Esq.; Mr. Honeyball and Mr. R. Smith following. Mr. Dean was also first for six Teas or Noisettes; and again for four trebles in the same section. There is an excellent point in the framing of this schedule, the winners of the first prize in the top class of each section below A not being allowed to compete again in the same section. Mr. Dean was therefore fortunate in sweeping the board, as future opportunities cannot occur, he now having to go a step higher.

For nine singles in Section C, Canon Holland was first and F. Knight, Esq., a close second. These positions were reversed in the succeeding class for six singles, when a close contest again ensued. For six Teas or Noisettes, three varieties, Canon Holland was the only exhibitor.

Section D, for members who have never taken a first prize at this Society's shows, brought out good competition, the first for six singles going to Lieut.-Colonel E. Poole, Herne; second to Mrs. H. G. Deedes, Saltwood; and third to W. Saunders, Esq., Seabrooke. In that for three singles J. McMasters, Esq., was first, W. Saunders second, and Mrs. Deedes third. Mr. McMasters and Mr. Saunders also took first and second for three Teas or Noisettes. J. Stonley, Esq., was first for six of any Hybrid Perpetual with Merveille de Lyon, and Cooper Wachter, Esq., won premier honours for a similar number of any Tea or Noisette with good blooms of Innocente Pirola.

As already mentioned, Mr. Mount had matters entirely his own way in the nurserymen's division. His collections of thirty-six singles and twelve trebles were very good, and contained good blooms of Lord Macaulay, Ulrich Brunner, A. Guinoisseau, Souvenir d'Elise, Suzanne Marie Rodocanachi, Mrs. J. Laing, and others. Mr. Mount also won in the open class for twelve Teas or Noisettes, but found a close rival in Colonel Pitt. A decorative arrangement of Roses and foliage to be set up in a soup plate and tumblers was exceedingly pretty, and a grand effect secured, Mrs. H. B. Biron being first, and Mrs. Cooper Wachter a close second.

WOOD GREEN.—JUNE 30TH.

THE ninth annual exhibition of the Wood Green Horticultural Society was held in the grounds of the Town Hall, Earlsam Grove, on the above date. Beautiful weather prevailed, and there being some athletic sports held in connection with this meeting, a good attendance of visitors was forthcoming. The exhibits for the most part were of excellent quality, particularly the groups of miscellaneous plants, cut flowers and vegetables.

Messrs. B. S. Williams & Son, Holloway, sent a group of flowering and ornamental foliage plants, amongst which Cattleyas, Cypripediums, and Odontoglossums were prominent. Messrs. W. L. Lewis & Co., Southgate, staged a group of Orchids. These included well flowered plants of *Miltonia vexillaria*, *Masdevallias*, *Odontoglossums* and *Cattleyas*, the whole being effectively arranged with Ferns and foliage plants. Messrs. Keynes, Williams & Co., Salisbury, had two boxes of their hybrid Sweet Briars, raised by Lord Penzance. The flowers were fresh and beautiful, and attracted the notice of visitors. Lady Penzance and Flora MacIvor may be mentioned as being particularly charming. The former is a

soft reddish copper tint, the centre being yellow, whilst Flora MacIvor is a white blushed with rose.

Hardy flowers were well shown by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham. This contribution included *Liliums* of variety, *Spiræas*, *Papaver nudicale* in variety, *Cypripedium spectabilis*, and *Her Majesty Pink*, which were highly commended. Messrs. W. Cutbush and Sons, Highgate, staged a large group of "Malmaison," Carnations, and plants of the well known Uriah Pike. The same firm sent an extensive collection of hardy flowers, amongst which *Irises*, *Campanulas*, *Liliums*, *Evening Primroses*, *Gaillardias*, and *Heuchera sanguinea* were conspicuous. Roses were shown in splendid condition by Mr. W. Rumsey, Joyning's Nursery, Waltham Cross, who sent eight boxes of blooms. These comprised Hybrid Perpetuals, Teas, and Moss Roses in variety. Messrs. F. & G. Cuthbert, Southgate, sent a group of *Dracænas*, *Liliums*, *Palms*, *Begonias*, and other plants.

The competitive exhibits were well represented, although the exhibitors were chiefly local growers. For a group of Ferns, Mr. F. Page, Homewood, was first, and also for four pots of *Mignonette*. Mr. John Armstrong had the best group of plants, and Mr. Hollingworth was second. Mr. Armstrong also secured the leading prize for six *Coleuses*, and Mr. Hollingworth was first for six *Gloxinias*, Mr. J. B. Ward being second. Roses were well shown in the amateurs' section, Mr. G. W. Cook and Mr. E. R. Smith being amongst the prizewinners.

Fruit and vegetables were also staged in good condition, whilst table decorations made a good effect.

BROCKHAM.—JUNE 30TH.

THE annual exhibition of the Brockham Amateur Rose Association was held this year on Saturday, June 30th, in the grounds of Sandhills, Betchworth, by invitation of Mr. (and Mrs.) Davidson. For twenty-nine years the Association has held its show—purely a Rose show—now in one charming spot and now in another. In seventeen of the gardens of this most beautiful neighbourhood the show has taken place. If those living round about are not acquainted with the varied charm of the estates planted near them, it is not the fault of those who own them. Amongst the benefits afforded by Rose shows, held after the hospitable and kindly fashion of the Brockham Association, one certainly is that it brings together the classes and the masses. The show this year was held in splendid weather, and with the beautiful surroundings of fine trees, well kept gardens, a most genial host, and, not least of all, a magnificent band—that of the Royal Artillery.

Sandhills is a modern house built by the late Sir Dyce Duckworth, Bart., very compact and exceedingly well built and equipped, having picturesque stables, and a thoroughly well kept garden that is a credit to the enthusiastic gardener (Mr. Lucas), who has been with Mr. Davidson some seven years. Without an atom of ostentation, the owner might speak of it as the "garden that I love," and there is evidence enough that all that grows there is fondly and enthusiastically cared for. Whether it be the Black Hamburgh Grapes (faultlessly healthy and fruitful) or the masses of Ferns and *Lycopodiums* grown beneath them, or the group of well-grown *Begonias* and *Gesneras*, or the great bed of most promising Carnations, or the well-arranged herbaceous border, ending in one of the prettiest ferneries that a gardener could wish for, all speak of devotion and unceasing care. Such a lover of the picturesque is the owner of Sandhills, and so desirous was he of pleasing his visitors, that he had arranged with his neighbour (J. R. Corbett, Esq., of More Place) that his magnificent and noted herd of Jersey cows should be in the park close by, and there they were, indeed, a sight worth going to look upon, and Mr. Davidson was most careful to tell admirers that the cattle were not his.

The show was held, as usual, in a large tent, in a field close to the house. It was tastefully decorated too, as usual, with *Caladiums*, *Palms*, *Liliums*, Ferns, *Hydrangeas*, and *Gloxinias* from the gardens of Messrs. H. Appleby & Co., of the Box Hill Nurseries. There was not this year the same necessity for making up the show with a dozen boxes of Roses from another county, and so Messrs. Paul & Son, of the Old Nurseries, Cheshunt, contented themselves with bringing one box of more or less new Roses, which were of much interest. In this box there were the following flowers:—Duke of Fife, Caroline Testout (very fine), N. Gustave Regis, Janet's Pride, Bourbon T. Kaiserin Augusta Victoria, Paul's Early Blush, Margaret Dickson (seedling), Miss François Bloxham, H.T. Madame Pernet Ducher, Beauté Inconstante, Mrs. Harkness, H.P. Spenser, H.P. Marchioness of Londonderry, Triomphe de Pernet Père, B. Mrs. Paul, Lady H. Grosvenor, T. Bridesmaid, T. Kaiserin Frederick, H.P. Charles Gater, T. Corinna, T. Christine de None (best Tea of the year), T. Media, and H.P. Marchioness of Dufferin.

The exhibition of members was a good but not a representative one. There was only one competitor in two of the classes, and only one class in which seven competed, and yet there are sixty-three members in the Association. There appears to be a little want of life in the schedule. A new departure somewhere seems needed. For close upon thirty years this excellent Association has gone upon the same old line. Could not the Committee offer an open class to the trade? Could they not make it easier for ladies to exhibit decorations? In this department there is a great falling off from the really good old days, when the writer remembers seeing a large display of good taste and artistic skill. Are buttonholes worth exhibiting when there is only one competitor? "*Meliora spero!*" There ought to be no difficulty in such a neighbourhood, with such good gardens, and so many lovers of the Rose. The failing off last year was remedied this time, and the prizes were more evenly distributed.

The list of winners runs thus:—Twenty-four blooms, any kind.—A. Tate, Esq., first prize, N.R.S. gold medal. Second prize, C. E. Cuthell, Esq., silver medal. Third prize, Mr. Mortimer. Twelve Teas, one competitor.—First prize, N.R.S. silver medal, C. E. Cuthell, Esq. Six triplets, one competitor.—First prize, Hon. H. D. Ryder. Twelve, any kind, three competitors.—First prize, E. Horne, Esq., N.R.S. gold medal. Second prize, Mr. Perkins. Third prize, Hon. H. D. Ryder. Nine Teas, two competitors.—First prize, E. Horne, Esq. Second prize, Mr. Perkins. Four triplets, two competitors.—First prize, E. Horne, Esq. Second prize, Mr. Perkins. Six, any kind.—First prize, Mr. Hatch. Second prize, Mr. Poland. Four, Teas or Noisettes.—First prize, Mr. Hatch. Second prize, Mr. Poland. Six same kind, Teas or Noisettes (members' open classes), seven competitors.—First prize, E. Horne, Esq., for Madame Bravy. Second prize, Mr. Poland, for Innocente Pirola. Third prize, Mr. Perkins, for Anna Ollivier. Six of any one kind, six competitors.—First prize, Mr. Perkins, for La France. Second prize, A. Tate, Esq., for Violette Bouyer. Third prize, C. E. Cuthell, Esq., for Madame Gabriel Luizet.

Garden Roses, twenty-four.—First prize, C. E. Cuthell, Esq. Second, A. Tate, Esq. Twelve.—First, Mrs. Perkins. Second, Hon. H. D. Ryder. Additional prize, Sir Benjamin Brodie, Bart. Six, two competitors.—First prize, C. Maturin, Esq. Second, Mrs. Hatch.

Dinner Table Decorations, any flower, only one competitor.—First prize, Sir Benjamin Brodie, Bart. Basket of Roses, unmarried ladies, only one competitor.—First prize, Miss C. Wise, white China basket with Roses, and not an atom of foliage. Buttonholes, only competitor.—First prize, Miss A. Bryant. Best Rose in the Show, "La France," Mrs. Perkins.

The twenty-four Roses that won the gold medal for Mr. Tate were Violette Bouyer, Ethel Brownlow, The Bride, F. Michelin, Mdme. Hoste, H. Schultheis, Mrs. John Laing, Prince Arthur, Abel Carrière, M. de Castellane, Général Jacqueminot, S. de S. A. Prince, Marie Verdier, La France, Ulrich Brunner, Eugène Verdier, Hon. E. Gifford, D. of Albany, C. Mermet, C. de Nadaillac, Mdme. G. Luizet, Jean Ducher, B. Rothschild, Innocente Pirola.

For the silver medal Mr. Cuthell showed Mdme. G. Luizet, Ulrich Brunner, M. Noman, A. K. Williams, La France, Etienne Levot, V. Bouyer, M. de Castellane, Merveille de Lyon, Miss Hassard, Alphonse Soupert, Marie Finger, M. Niel, Captain Christy, Xavier Olibo, Gloire Lyonnaise, D. de Vallombrosa, Dr. Andry, Viscountess Folkestone, Marie Baumann, Her Majesty, D. of Edinburgh, Baroness Rothschild, Mrs. J. Laing.

Mr. Cuthell's twelve Teas were Souvenir de S. A. Prince, Hon. Edith Gifford, Jean Ducher, Anna Ollivier, Marie Van Houtte, Jules Finger, Madame Margottin, Madame Lambard, Bouquet d'Or, Alba Rosea, Innocente Pirola, Perle du Jardin. Mr. Cuthell's box of twenty-four garden Roses was beautiful, but too crowded. He showed amongst others Rosa Multiflora, Lucida Plena, Lucida, Rosa Mundi, Austrian Yellow, and Janet's Pride. Mr. Tate's box of twenty-four was not at all equal to those he exhibited last year. He showed Bardon Job, Safrano, Crested Moss, La Ville de Bruxelles, W. A. Richardson, Camoens, Hebe's Lip, Surpasse Tout, Myranthes Renoncule, and George Pernet.

The Judges, Mr. T. W. Girdlestone, Mr. George Paul, and the writer of this notice, had no trouble in arriving at their decisions; but there was a fair fight for the twenty-fours and twelves and the sixes. They were hospitably entertained at luncheon, with the members of the Committee by Mr. and Mrs. Davidson, who had a large garden party for their friends and neighbours in the afternoon.—A. B. ALEXANDER, *Shedfield Vicarage*.

BAGSHOT.—JULY 3RD AND 4TH.

THE twenty-fifth annual show of the Bagshot, Windlesham, and District Horticultural Society was held on the above dates in Bagshot Park, by kind permission of H.R.H. the Duke of Connaught. The display was on the whole a very satisfactory one, and the exhibits if not very numerous were of good quality. The Rose classes did not bring the number of competitors that could have been wished, but what was lacking in numbers was pretty nearly made up in quality. The groups—four in number—were of really exceptional merit, and the very best taste had been displayed in the arrangement. Space not permitting of a detailed list of the prizewinners being given, those in the principal Rose and plant classes are appended.

The first prize for forty-eight cut Roses, distinct, Mr. B. R. Cant, Colchester, was a good first, staging some very handsome blooms, amongst which Mrs. John Laing, Madame C. Joigneux, Marchioness of Dufferin, Victor Hugo, Fisher Holmes, A. K. Williams, Jeannie Dickson, Madame Gabriel Luizet, Earl of Pembroke, Duke of Wellington, Gustave Piganeau, Le Havre, and Ulrich Brunner were the best. Messrs. Paul and Son, Cheshunt, and Frank Cant, Braiswick Nursery, were adjudged equal seconds, both exhibitors showing some superb flowers.

The amateurs' class for twenty-four Roses, distinct, brought only one competitor, Mr. Barker, gardener to H. P. Laschallas, Esq., who was placed first, his stand containing some good blooms. Mr. Barker was also first for twelve Teas or Noisettes with a somewhat bare stand; and Mr. Popple, gardener to Lady Stepney, Ascot, the only other exhibitor in the class, was given the second prize.

For six Roses, any variety, Mr. Lane, gardener to Miss A. S. Ridge, Bagshot, was first with charming examples of Souvenir de S. A. Prince. One of the blooms in this exhibit was awarded the National Rose Society's silver medal for the best bloom in the amateurs' classes. Mr.

Barker was second with La France; and W. C. Romaine, Esq., The Priory, Old Windsor, third with Suzanne Marie Rodocanachi.

The classes for residents within a radius of fifteen miles of Bagshot Park brought good competition and some fine flowers. In that for twenty-four Roses, distinct, single trusses, and in which H.R.H. the Duke of Connaught offers a silver challenge cup, to be held by the winner for one year, there were three competitors, Mr. Barker being accorded the first prize and cup. The stand comprised Ulrich Brunner, Madame Noman, Charles Lefebvre, La France, Marquise de Castellane, Lady Mary Fitzwilliam, Marie Baumann, Her Majesty, Sir A. Hill, Madame Isaac Periere, Fisher Holmes, Gloire Lyonnaise, Prince Arthur, Catherine Mermet, Suzanne Marie Rodocanachi, Mrs. John Laing, Rosieriste Jacob (silver medal for best bloom), Madame Gabriel Luizet, François Michelin, The Bride, Jean Ducher, Madame Lambard, Duke of Wellington, and Francisca Küiger. W. C. Romaine, Esq., was a fair second, and Mr. Kleight a weak third.

In the other classes devoted to amateurs' Roses the exhibits were highly creditable to the growers, especially when it is remembered how unfavourable the weather was for Roses during the month of May.

In the class for six stove and greenhouse plants, not less than three to be in flower, there were three competitors, Mr. Barker, gardener to H. P. Laschallas, Esq., Bagshot, being accorded the premier position with specimens of *Alocasia metallica*, *Aphelexis purpurata*, *Pancratium speciosum*, *Kentia Fosteriana*, *Gloriosa superba*, and *Dracena Youngi*, all in creditable condition. The second and third positions were taken by Mr. Mossman, gardener to G. Pollock, Esq., Bagshot, and Mr. Woodgate, gardener to Colonel Harvey, Sandhurst, in the order of their names.

For six foliage plants, exclusive of *Coleus*, Mr. Barker was again first, and thoroughly deserved the position. *Kentia Fosteriana*, *Adiantum cuneatum*, *Caladium Houletii*, *Stevensonia grandifolia*, *Neopteris australis*, and *Pandanus utilis* were each well represented. Mr. Wilson, gardener to R. C. Christie, Esq., Windlesham, was a fair second, and Mr. Kleight, gardener to E. H. Drake, Esq., Woking, third. In the classes for single specimen foliage and flowering plants the competition was not very keen, neither were the plants staged of a very high order of merit.

There were five competitors in the class for six stove or greenhouse Ferns, distinct, and some very handsome examples were shown. This was especially the case in the first prize exhibit, arranged by Mr. Webber, gardener to S. Soames, Esq., Bagshot, which included *Adiantum formosum*, *A. gracillimum*, *A. cuneatum*, *Pteris cretica albo-lineata*, *P. cretica major*, and *Nephrolepis exaltata*. Mr. Barker was a very good second, and Mr. Woodgate a highly creditable third.

Four circular groups were shown in the class for a group of miscellaneous plants, in or out of flower, arranged in a space of 8 by 8 feet. The arrangement in each case was superb, and difficulty in awarding the prizes was experienced. Mr. Barker was first. This exhibit included *Gladioli*, *Hydrangea*, *Streptocarpus*, *Cattleyas*, *Carnations*, *Ferns*, *Cannas*, and many others, all in splendid condition. Mr. Wilson was second with a somewhat heavier arrangement, in which *Gloxinias*, *Coleuses*, *Ferns*, *Crotons*, and *Zonal Pelargoniums* were the best. Equal third prizes were accorded to Mr. Woodgate and Mr. Mossman, both of which were thoroughly deserved.

For six *Fuchsias*, distinct, Mr. Mossman was an easy first with handsome plants, Mr. Arnold, gardener to J. B. Ward, Esq., Lambourne, Bagshot, being second. The latter exhibitor was first for six *Coleuses* with very fine specimens, and Mr. Kleight was a fair second. In the class for six distinct *Zonal Pelargoniums*, Mr. Wilson was a very good first with well-grown plants; Mr. Lee, gardener to Miss Cave, Bagshot, being second, and Mr. Rance, gardener to E. Lyon, Esq., Windlesham Hall, third. Mr. Lee was also first for six *Begonias*, distinct, with fairly well-flowered plants, and was the only competitor.

Cut flowers charmingly arranged in baskets and vases were very good, as also were the table decorations provided by the ladies of the district. The entries, however, in the latter, for which there was a class, were not very numerous.

Vegetables staged in competition for Messrs. Sutton & Sons and Jas. Carter & Co.'s prizes were of a very high order of merit, as also were they in the numerous other classes, of which space will not allow us to particularise. Cucumbers, Onions, Cabbages, Potatoes, Peas, and Beans may be mentioned as being in very fine condition, and highly creditable to their respective growers.

Fruit was not very largely shown, but the quality was very good indeed. Melons were somewhat extensively exhibited, and the competition was very keen. Strawberries, too, were fine, and the Grapes, both black and white, of excellent substance and finish. Peaches, Nectarines, and Figs were also staged, but not in large numbers.

The amateurs' classes for plants in pots, flowers, fruit and vegetables were fairly well filled, and some good examples of culture were noticeable.

Miscellaneous exhibits were not very numerous, but of very good quality. Messrs. Geo. Jackman & Son, Woking, staged a very beautiful collection of Roses, in which numerous good flowers were noticed. Mr. H. C. Corbette, Horsell Nurseries, Woking, arranged four boxes of Roses, comprising some charming blooms. Hybrid Briars were sent by Messrs. Keynes, Williams & Co., and made one of the most attractive exhibits of the show. Lady Penzance was one of the very best, and is moreover deliciously scented. Jeanie Deans, Anne of Gierstein, and Amy Robsart were also good. Malmaison Carnations were shown in splendid form by Messrs. W. Outbush & Sons, Highgate, and a collection of Tomatoes from Mr. G. Mossman, Valley End, Chorman.

LEE, BLACKHEATH, AND LEWISHAM.—JUNE 4TH AND 5TH.

As usual, the Lee, Blackheath, and Lewisham Horticultural Society's annual exhibition was held at The Cedars, Lee, on the above dates. This was the twenty-seventh show, and the reputation which the Society has so long held in regard to summer exhibitions was well maintained on this occasion. Specimen plants always form a feature here, as do Roses, which this year appeared to be more numerous than usual. The fruit and vegetable classes were also well filled, and the whole of the exhibits made a good display, although they were not arranged in the best possible manner.

The principal class for six specimen stove and greenhouse plants brought out some good exhibits, but not a very strong competition. Mr. C. Birch, gardener to R. Whyte, Esq., Old Road, Lee, secured the first prize, showing *Ixoras Prince of Orange* and *Pilgrimi*, *Gloriosa superba*, *Allamanda Hendersoni*, *Rhynchospermum jasminoides*, and *Aphelexis macrantha purpurea*. Mr. W. Jeffery, gardener to Mrs. Cresswell, The Mount, Eltham, was second. Mr. Jeffery, however, gained the premier award for four specimen flowering plants; Mr. Aley, gardener to R. Kersey, Esq., Hurst Lodge, Lee, being second. Mr. Jeffery was also first for twelve stove and greenhouse plants. Mr. Rhoden won in a class for four stove and greenhouse flowering plants, and Mr. C. Birch had the best four ornamental foliage specimens. *Gloxinias* were well shown by Messrs. J. Rhoden, R. G. Filkins, Aley, and H. Horton.

The first prize for six foliage plants went to Mr. J. Lambert, gardener to D. W. Segelcke, Esq., Elfindale Lodge, Herne Hill. This exhibitor had, amongst others, a fine plant of *Cycas revoluta*, and some excellently coloured *Crotons*. Mr. Jeffery was placed second for half a dozen good plants; Mr. F. Fox, gardener to Mrs. Penn, The Cedars, Lee, being third. The last named exhibitor won with six *Caladiums*, staging splendid plants. The best of these were *Candidum*, *Laingi* and *Chantoni*, all well coloured. Mr. W. Payne, gardener to C. D. Abel, Esq., Blackheath, was second. Mr. Slaymaker, St. John's Park, gained the first prize for four *Caladiums*, Mr. Jeffery being second.

Ferns were exhibited in excellent condition, the specimens being large and creditable to the respective growers. For six exotic Ferns Mr. F. Johnson, gardener to G. Brailsford, Esq., Tudor House, Blackheath, was first, showing with others a grand plant of *Adiantum farleyense*. Mr. C. Birch was second, and Mr. J. Rhoden, gardener to J. Vavasour, Esq., Blackheath Park, third. In another class for six exotic Ferns Mr. C. Birch was first, staging admirably grown specimens of *Adiantum scutum rosea*, *A. Lathomi*, *Davallia fijiensis*, and *D. Mooreana*, with others. Messrs. J. Rhoden and D. Jeffery were second and third respectively.

Groups of plants were not particularly numerous, but those arranged were effective. Mr. J. Lambert had the best group in one class, this being an excellent contribution comprising *Palms*, *Crotons*, *Dracenas*, *Caladiums*, *Gloxinias*, with an edging of *Maidenhair Ferns* and *Panicum variegatum*. Mr. J. Rhoden was second, and Mr. R. E. Filkins, Oakbank Gardens, Chislehurst, third. Messrs. Jeffery, Fox, and Rhoden divided the prizes for a group of twenty-four plants, and Mr. C. Birch was first for a dozen miscellaneous plants. There were only two competitors in the class for a table of plants, these being Messrs. W. Jeffery and F. Fox, to whom the prizes were awarded in order of their names. Numerous minor classes were provided for plants and cut flowers, and the prizes were chiefly secured by the exhibitors above mentioned.

As has been said, Roses were shown in excellent condition. In the class for seventy-two blooms Messrs. G. & W. H. Burch, Peterborough, were the only exhibitors, and the flowers staged by this firm were fresh and beautiful, particularly *Her Majesty*, *Horace Vernet*, *Ulrich Brunner*, *A. K. Williams*, *Victor Hugo*, *Marie Rady*, *Mons. Noman*, and *Viscountess Folkestone*. Messrs. Burch were also awarded the first prize in the class for forty-eight Roses, and likewise in that for twenty-four blooms. The varieties enumerated were amongst the best of those staged in the two last-named classes. It was a pity, however, that other growers were not represented.

In the amateurs' section Mr. J. Bateman, Highgate, staged the best twenty-four Roses, these being on the whole very good. *Ulrich Brunner*, *Madame Gabriel Luizet*, *Beauty of Waltham*, *Marie Finger*, *Lady Helen Stuart* and *Jeannie Dickson* were amongst the best. Mr. C. E. Shea, The Elms, Foots Cray, was a good second, showing excellent blooms. E. R. Smith, Esq., Melford Lodge, Muswell Hill, N., gained the first prize for twelve Roses, exhibiting a stand of splendid blooms. These were neat and well coloured, *Dupuy Jamain*, *A. K. Williams* and *Le Havre* being particularly good. Mr. J. Bateman was second and Mr. Shea third. Mr. G. W. Cook, Glenthorne, New Southgate, won in the class for six blooms of one variety, showing *Général Jacqueminot* in very fine condition. Mr. E. R. Smith was second with splendid blooms of *Suzanne Marie Rodocanachi*. Mr. Day, Eltham, had the best half dozen blooms, distinct, and here *Her Majesty* and *Merveille de Lyon* were well represented. Mr. G. W. Cook was a close second, and Mr. J. Bateman followed. Mr. W. Day secured the leading prize for twelve Tea Roses, and the second one for half a dozen blooms of the same section. Mr. G. W. Cook was first in the latter class with creditable flowers.

Violas made quite a display in themselves. For twelve sprays of *Violas*, Mr. H. A. Needs, Heath View, Horsell, Surrey, was first, showing fresh and large flowers, admirably arranged. The varieties included *Duchess of Fife*, *H. W. Stuart*, *Ardwell Gem*, *J. B. Riding*, and *Columbine*, with others. Mr. A. J. Rowberry, The Crescent, South

Woodford, was second in this class, but was first for six sprays. Mr. D. B. Crane, Woodview Terrace, Archway Road, Highgate, secured a third position in the class for a dozen sprays of *Violas*. It is not often that these charming flowers are so well exhibited by amateur growers at a suburban show.

Fruit included some well-grown Grapes. The best three bunches of black Grapes were shown by Mr. R. Goddard, gardener to T. M. Whitaker, Esq., Eltham Road, who had well-coloured Hamburgs. Mr. J. Rhoden followed, the third prize going to Mr. J. Fulford, gardener to E. J. Wythes, Esq., Bickley Hall. Mr. Rhoden won in the class for three bunches of white Grapes with *Duke of Buccleuch*, Mr. Fulford following with *Muscat of Alexandria*, and Mr. Goddard with *Buckland Sweetwater*. Mr. Fulford was first with one bunch of white Grapes, showing *Buckland Sweetwater*, and also with *Gros Maroc* in the class for one bunch of black Grapes. Strawberries, Melons, and Cherries were best shown by Messrs. R. E. Filkins, C. Birch, and J. Fulford. Mr. T. A. Kester, gardener to W. J. Dawson, Esq., Plumstead Common, was awarded the first prize for a collection of fruit.

Miscellaneous exhibits were not very numerous. Mr. H. J. Jones, Rycroft Nursery, Lewisham, had a magnificent group of tuberous *Begonias*, said to have been the best ever seen at this show. The plants were excellently grown and well flowered, the blooms being remarkable for their size, symmetry, and stoutness of texture. The colours, too, were charmingly arranged, and being interspersed with *Ferns* and *Asparagus plumosus*, the whole made a very fine effect. Mr. Jones also sent a collection of *Zonal Pelargoniums* in great variety. Messrs. J. Peed & Sons, Roupell Park Nurseries, S.E., sent a group of miscellaneous flowering and foliage plants, amongst which some *Orchids* were prominent.

Vegetables were extensively shown by local growers, and the amateurs' classes for plants and flowers were well filled.

REIGATE.—JULY 4TH.

THE eighth annual show of the Reigate Cottage Garden Society and the Rose Association (amalgamated) was held on the above date, and proved to be a very successful exhibition. Of course Roses formed the chief feature, and were remarkably well staged, and in somewhat large numbers, one large marquee not being found sufficient accommodation for them. The nurserymen's classes were not at all well patronised, owing, doubtless, to the lack of prizes, nothing more substantial being offered than medals. Mr. Prince, Oxford, was the only one represented, and gained a gold medal for a small collection of Teas. The names of the prizewinners in the principal Rose classes only are given, space not permitting of details being recorded.

In the open class for twenty-four Roses, distinct, single trusses, there were three competitors; Col. Pitt, Turkey Court, Maidenhead, being first with a grand box, including *Mrs. John Laing*, *Madame Isaac Periere*, *La France*, *Duke of Edinburgh*, *Marguerite de St. Amand*, *Mons. E. Y. Teas*, *Victor Verdier*, *Annie Wood*, *Lady A. Hill*, *Marie Rady*, *Marquise de Castellane*, *Marie Baumann*, *Merveille de Lyon*, *Duchesse de Caylus*, *Lady Mary Fitzwilliam*, *John Stuart Mill*, *Camille Bernardin*, *Beauty of Waltham*, *Emilie Hausburg*, *Earl of Dufferin*, *Thos. Mill*, *Louis Van Houtte*, *Baroness Rothschild*, and *Xavier Olibo*. Mr. F. Budgen, gardener to Miss Baker, Reigate, was a very close second; and Mr. Mease, gardener to A. Tate, Esq., Leatherhead, a good third.

Mr. Mease was first in the class for twelve Teas or Noisettes, showing *Comtesse de Nadaillac*, *Catherine Mermet*, *Boule d'Or*, *The Bride*, *Jean Ducher*, *Maréchal Niel*, *Madame Hoste*, *Princess of Wales*, *Hon. Edith Gifford*, *Souvenir de S. A. Prince*, *Etoile de Lyon*, and *Souvenir d'Elise Vardon*. Mr. Budgen was second with a very charming box, and Colonel Pitt a third with poorly finished blooms.

For eight distinct, three trusses of each, Mr. Budgen was an easy first with *A. K. Williams*, *Madame Gabriel Luizet*, *La France*, *Marie Baumann*, *Merveille de Lyon*, *Louis Van Houtte*, *Etienne Levet*, and *Her Majesty*. Colonel Pitt was second with a good exhibit, and Mr. Mease a rather weak third. For twelve Roses, one variety, Mr. Budgen was again first with superb examples of *La France*, and Colonel Pitt second with *Mrs. J. Laing*.

In the class for twenty-four distinct Roses, open to growers of less than 2000 plants, and with the first prize of which went Mr. F. Cant's challenge trophy, R. E. West, Esq., Reigate, was first with a good exhibit, including *La France*, *Duke of Teck*, *Abel Carrière*, *Suzanne Marie Rodocanachi*, *Prince Arthur*, *Marie Baumann*, *Merveille de Lyon*, *Ulrich Brunner*, *Eugène Furst*, *Louis Van Houtte*, *Chas. Lefebvre*, *A. K. Williams*, *Victor Hugo*, *Général Jacqueminot*, *François Michelon*, *Dupuy Jamain*, *Baroness Rothschild*, *Annie Wood*, *Mrs. J. Laing*, *Marie Rady*, *Mrs. Baker*, *Gloire Lyonnaise*, *Duke of Edinburgh*, and *Violette Bouyer*. He was the only competitor.

For eighteen, distinct, Mr. Humphreys, gardener to P. G. C. Burnand, Esq., Reigate, was first, and was the only competitor. For twelve Teas or Noisettes, Mr. Manfield, gardener to F. W. Campion, Esq., Reigate, was first, and R. E. West, Esq., second.

In the class for twelve distinct Roses, open to growers of not more than 1000 plants, F. C. Pawle, Esq., Reigate, was first with good flowers, amongst the best of which were *A. K. Williams*, *Her Majesty*, *Eugène Furst*, and *Countess of Oxford*. Dr. Seaton, Bitterne, Hants, was second, and C. E. Cuthell, Esq., Dorking, third.

R. E. West, Esq., was first for twelve Roses of one variety with *Ulrich Brunner*, Mr. Humphreys being second with *Baroness Rothschild*.

For nine Teas or Noisettes, distinct, Dr. Seaton was a good first

with clean, well-finished blooms; C. E. Cuthell, Esq., being second, and H. White, Esq., Wateringbury, third. For four distinct Roses, three trusses of each, F. C. Pawle, Esq., was first, and H. White, Esq., second.

In the division open to growers of under 500 plants, E. Horne, Esq., Reigate, was first for three trusses of three distinct Roses with charming blooms; W. D. Freshfield, Esq., Reigate, being second; and Mr. A. Trower, Red Hill, third. The other classes in this division were well filled, and good competition prevailed.

Garden Roses, shown by C. E. Cuthell, Esq., in the class for twelve distinct, was first with a superb collection, forming one of the best features of the show. Austrian Yellow, Austrian Copper, Moschata alba, Hebe's Lip, Red Damask, and Macrantha were superb; Mr. Mease being a good second with highly creditable blooms. For six garden Roses the last-named exhibitor was first, and C. E. Cuthell, Esq., second.

In the cottage garden department, fruit, flowers, and vegetables were largely and excellently shown, almost the whole of the classes being well filled, and in many the competition was very close and keen. The growers deserve congratulation for the produce staged.

Table decorations by the ladies were a very charming feature, exquisite taste having been displayed in the arrangement. Roses formed the predominating feature here as elsewhere, Ferns and Grasses being utilised to enhance the effect. Baskets and vases were also well arranged by the children, and also by the ladies.

Miscellaneous exhibits were numerous and very diversified. Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, sent a charming collection of hardy flowers, comprising Violas, Roses, Delphiniums, and many others. A group of Begonias, Orchids, and Ferns was tastefully arranged by Messrs. J. Laing & Sons, Forest Hill, S.E.; while Messrs. B. S. Williams & Son, Holloway, N., sent Orchids and foliage plants in fine condition. Foliage plants were well shown in a group by Messrs. J. Peed & Son, Norwood, S.E., and cut Roses by Messrs. G. Jackman and Son, Woking. Mr. Wells, Earlswood Nurseries, staged a group of plants, including Coleuses, Begonias, and Hydrangeas. Fruit trees in pots were splendidly shown by Messrs. G. Bunyard & Son, Maidstone, and consisted of Grapes, Apples, and Pears. Messrs. Wm. Cuthush and Son, Highgate, N., showed Malmaison Carnations in superb form.

CROYDON.—JULY 4TH.

THE annual show of the Croydon Horticultural Society was held in the gardens of Wellesley House on the above date, and a magnificent one it was. Roses were shown in really superb form and in large numbers. We can only give an abridged list of the prizewinners, however, and mention is made in the appended report of those in the principal Rose classes only.

The open Rose class for forty-eight distinct, single trusses, brought strong competition, Mr. Frank Cant, Braiswick Nursery, Colchester, being deservedly accorded the premier position. The stand comprised well finished blooms of the following varieties:—Marchioness of Londonderry, François Louvat, Général Jacqueminot, Mrs. Paul, Alfred Colomb, Comtesse de Nadaillac, Caroline d'Arden, Caroline Testout, Exposition de Brie, The Bride, Ulrich Brunner, Danmark, Gustave Piganeau, Merveille de Lyon, Marie Baumann, H. Schultheis, Star of Waltham, Mons. Noman, Victor Hugo, Marie Finger, Sultan of Zanzibar, Crown Prince, Etienne Levet, Camille Bernardin, Earl of Dufferin, Beauty of Waltham, Marchioness of Dufferin, Comte Raimbaud, Honourable Edith Gifford, Prince Arthur, A. K. Williams, Madame Montet, Horace Vernet, Souvenir de S. A. Prince, Fisher Holmes, Ethel Brownlow, Marquise de Castellane, Catherine Mermet, Prince Camille de Rohan, Marguerite Boudet, Duke of Teck, Countess of Oxford, Harrison Weir, Madame de Watteville, Louis Van Houtte, and Medea. Mr. B. R. Cant, Colchester, was second with a splendid exhibit. Thos. Mills, Marchioness of Dufferin, Ulrich Brunner, Duchesse de Morny, Mrs. J. Laing, Lady Sheffield, Horace Vernet, Général Jacqueminot, Dupuy Jamain, Madame Cusin, and Madame Gabriel Luizet were amongst the best in this exhibit. The third prize was accorded to Messrs. Paul & Son, Old Nurseries, Cheshunt, with a highly creditable stand, in which many fine blooms were noticeable. There were six competitors in the class.

Mr. B. R. Cant was first in the class for twenty-four distinct, three trusses of each, there being five competitors. The winning stand comprised Dr. Sewell, Madame Gabriel Luizet, Dupuy Jamain, François Michelin, Marie Baumann, La France, Prince Arthur, Ulrich Brunner, Lady Mary Fitzwilliam, Alfred Colomb, Jeannie Dickson, Camille Bernardin, Mons. Noman, Capt. Haywood, Her Majesty, Suzanne Marie Rodocanachi, Victor Hugo, Marquise de Castellane, Fisher Holmes, Mrs. J. Laing, Earl of Dufferin, Marguerite Boudet, Général Jacqueminot, and Duchesse de Morny. Mr. F. Cant was a good second; Mrs. J. Laing, Ulrich Brunner, Dr. Sewell, Mons. Noman, Jeannie Dickson, Marie Verdier, Duke of Wellington, Caroline Testout, and Duke of Fife were prominent as being particularly good. Messrs. Prior & Sons, Myland Nurseries, Colchester, were third.

There were only two competitors in the class for twenty-four Roses distinct, Messrs. W. & H. Burch, Peterborough, being first with a good stand, in which Niphetos, Ulrich Brunner, Her Majesty, and Duke of Edinboro' were the best; and Mr. Will Taylor, Osborn Nurseries, Hampton, was a very close second. Duke of Wellington, Baroness Rothschild, Earl of Pembroke, and Suzanne Marie Rodocanachi were the best in this stand.

For eighteen Teas or Noisettes, distinct, Messrs. Prior & Son were first with Devoniensis, Dr. Grill, Catherine Mermet, The Bride, Madame de Watteville, Maréchal Niel, Madame Cusin, Souvenir d'Elise Vardon, Souvenir de S. A. Prince, Ernest Metz, Madame Bravy, Comtesse de

Nadaillac, Luciole, Niphetos, Ethel Brownlow, Marie Van Houtte, Jean Ducher, and Amazone; Mr. F. Cant being a splendid second.

For twelve Roses, any one variety, Mr. B. R. Cant was first with grand examples of Marie Baumann, Mr. F. Cant second with splendid flowers of Catherine Testout, and Mr. G. Mount, Canterbury, third with Marie Baumann. There were seven competitors.

For twelve Teas, any variety, Messrs. Prior & Sons were first with Madame de Watteville in good form, and Mr. F. Cant second with Souvenir de S. A. Prince.

For thirty-six Roses, distinct, with the first prize of which went the challenge cup, to be held by the winner for a year, Mr. C. J. Salter, gardener to T. B. Haywood, Esq., Woodhatch Lodge, Reigate, was first with splendid blooms of Mdme. Prosper Laugier, Beauty of Waltham, Margaret Dickson, Marie Baumann, Gustave Piganeau, Mdme. Gabriel Luizet, Charles Lefebvre, Marquise de Castellane, Général Jacqueminot, Violette Bouyer, Le Havre, Dr. Hogg, Dr. Sewell, S. Marie Rodocanachi, Camille Bernardin, Mrs. J. Laing, François Michelin, John Stuart Mill, Captain Christy, Monsieur Noman, Mrs. Baker, Merveille de Lyon, A. K. Williams, Xavier Olibo, Earl of Dufferin, Horace Vernet, Eugène Verdier, Sénateur Vaisse, Abel Carrière, La France, Duchesse de Morny, Duke of Teck, Louis Van Houtte, E. Y. Teas, Victor Hugo, and Marie Verdier. The second prize went to J. G. Fowler, Esq., Glebelands, South Woodford, with good flowers, and Mr. A. Slaughter, Jarvis Villa, Steyning, was a good third.

For twenty-four distinct Roses Mr. A. Slaughter, Steyning, was first, amongst the best of his blooms being Chas. Lefebvre, Marie Baumann, Fisher Holmes, and Général Jacqueminot. J. G. Fowler, Esq., was a good second, and E. M. Bethune, Esq., Denne Park, Horsham, third. A splendid bloom of Duke of Edinburgh was noticeable in this exhibit.

In the class for eighteen Teas and Noisettes, in not less than twelve varieties, Mr. W. Blundell, gardener to G. Christy, Esq., Cadham, was first with a fair stand, Mr. Slaughter being second.

For six Roses, distinct, three trusses of each, Mr. C. J. Salter, was first with François Michelin, La France, Earl of Dufferin, Louis Van Houtte, Marie Baumann, and Star of Waltham. Mr. J. G. Fowler was second with fairly good flowers, and the Rev. J. H. Pemberton, Havering-atte-Bower, Romford, third.

In the class for twelve Roses, one variety, Mr. J. G. Fowler was first with perfect blooms of Mrs. J. Laing. Mr. C. J. Salter second with the same variety, and G. Christy, Esq., third with La France.

In the local Rose classes the entries were fairly numerous, and some charming flowers were to be seen. In the class for twelve distinct, Lieut.-Colonel J. De la Mare, Chichester Road, Croydon, was first, and consequently took the challenge cup, to be held by the winner for one year, with good flowers of the following varieties: Marie Baumann, Dr. Andry, Prince Arthur, Captain Christy, E. Y. Teas, Victor Verdier, Fisher Holmes, François Michelin, Reynolds Hole, Lady Mary Fitzwilliam, Horace Vernet, Marquise de Castellane. Mr. A. C. Gifford, 18, Tennison Road, Croydon, was second, and Mr. J. Knapp, Chichester Road, Croydon, third.

The classes for growers of not more than 500 and 1000 plants respectively were admirably filled and very keenly contested, but the time of going to press precludes our giving details.

Fruit, vegetables, and plants were well shown in the numerous classes, and those in the amateurs' division were highly creditable.

Amongst the non-competitive exhibits noticed were Begonias from Messrs. J. Laing & Sons, Forest Hill, and Mr. Box, Croydon; herbaceous flowers from Messrs. J. Cheal & Sons, Crawley; Caladiums and hardy flowers from Messrs. J. Peed & Sons, Norwood.



HARDY FRUIT GARDEN.

Propagating Strawberries.—The readiness with which Strawberry runners root in moist soil affords an easy means of securing a stock of sturdy, well-rooted plants, at an early date. These, planted on a piece of well-prepared and enriched ground early in August where they are to remain permanently, renders it quite possible to gather liberal crops of fruit the first season. Where time and space are valuable this is a consideration. Even if the permanent planting out cannot be done at the early date named owing to the dry state of the ground and extraordinary heat prevailing, the plants, if in pots and needing moving without delay, might be planted in close proximity to each other in small beds awaiting a suitable opportunity. Water can be easily supplied, and the extra moisture with a good rooting medium will soon cause insufficiently rooted plants to quickly assume an improved condition. The middle or end of August, or even early September, might then be selected for permanent planting. Early rooted plants have a better chance of maturing plump, bold crowns, than those from runners crowded together.

Rooting Runners.—*In Pots.*—One of the best methods of rooting runners is to layer them on the surface of 3 or 4-inch pots filled with

rich loam and manure pressed firmly down. This method requires regular care and attention at first, especially if continued dry weather prevails, water being needed every day. Each plantlet should be held in position on the soil by a stone resting on the runner, or it may be secured by a hooked peg. It is well to partly plunge the pots in the ground. They are then not so easily knocked over, and the soil in them has the slight advantage of being retained more uniformly moist.

On Turves.—The next method, very similar and needing equal care, is that of affixing runners to 3 or 4 inch squares of turf, grass side downwards, which, kept constantly moist, and the plantlets firmly secured thereon, a mass of rootlets soon permeates the entire turves. Before the roots pass into the soil below to any extent, planting should take place, or if this cannot be done as soon as necessary, place the turves on some rough fibrous material to which the roots can adhere, thus preventing serious severance of the growing points when moving for planting.

On Ridges of Soil.—Strong healthy plants may be obtained for general purposes by clearing a space between the rows and laying down a line 2 inches thick and 6 inches wide or more of rich, turfy soil mixed with manure. On this material secure with pegs or stones a select number of the best and strongest runners.

In the Ordinary Soil.—This system involves little or no trouble beyond thinning away a considerable number of the runners, leaving only a reasonable amount to root naturally into the soil which might with advantage be loosened with a fork and broken up for admitting warmth and moisture. For general autumn planting abundance of vigorous plants are thus easily obtained. They will be of a specially sturdy description if light and air are freely admitted among them, and some may be forward enough for early planting. Water copiously as required, but not nearly so much will be needed as when rooting in pots or turves.

General Hints.—When rooted the plants ought not to continue drawing support from the parent clumps, but cut the runners early. In every method of rooting nip off the points of the runners when securing them, and in most cases select the first and strongest plantlet. Propagate always from known fruiting and healthy plants. Beware of apparently good but too luxuriant and flowerless plants, as those from worn out exhausted beds. Clear away all superfluous runners as soon as they show.

Nailing and Tying Wall Trees.—Carefully secure the leading shoots in position as growth proceeds. The proper disposition of shoots in other parts of the trees must also be attended to before they become too firm for laying in easily. It is not necessary that they be closely fastened in to their full length as yet. It will suffice if loosely trained in the right direction, securing them finally when the wood attains to a riper condition. Assigning the bulk of the shoots now their required space and position gives a better idea of what is required for finally furnishing. The superfluous wood may then be entirely cut out, or shortened at the fourth good leaf to form spurs. Morello Cherries, Peaches, and Nectarines usually have a greater proportion of young wood retained than spurs encouraged to form, but sweet Cherries, Apricots, and Plums on walls mostly have a combination of the two systems. The annual laying in, however, of new wood of medium strength offers a means of maintaining the trees healthy and fruitful by dispensing with old worn-out branches.

Destroying Insects.—Black and green fly present on shoots intended for preservation ought at once to be destroyed. Dipping the shoots into an insecticide is a ready method of extirpating them, providing the remedy is of sufficient strength, 3 lbs. of softsoap dissolved in twenty-five gallons of water, adding also the liquid in which 1 lb. of quassia chips has been well boiled forms a good insecticide. Tobacco powder dredged on the affected shoots one day and washed off with a syringe the next is a most effective cleanser. Dipping the shoots reaches the insects in curled up leaves more surely, perhaps, than other methods, but tobacco powder is readily directed with the aid of an indiarubber distributor into very remote corners. When once the insects have been destroyed means should be taken to keep the trees clean, frequently syringing with clear water, affording also due supplies to the roots, the want of moisture and poor exhausted soil often being the chief causes of insects flourishing.

FRUIT FORCING.

Vines.—*Grapes Swelling.*—Nothing helps so much in this as a genial condition of the atmosphere, which should be secured by warmth in the pipes, and sprinkling the paths and border in the morning and afternoon, particularly the latter, the border being mulched with a little short, rather fresh, but sweet lumpy stable manure, additions being made from time to time, so as to secure a supply of ammonia to the atmosphere and manurial matter for washing into the soil each time water is supplied. The mulching should be kept moist, but it ought only to be sprinkled when it is getting rather dry. Avoid a close vitiated atmosphere, particularly in calm dull weather. A little ventilation constantly at the top of the house will make all safe, but it is desirable to close the house in the afternoon, well damping at the same time, allowing the temperature to rise to 90° or 95°, and after the sun passes the west, or at six o'clock, provide a little ventilation at the top of the house. This will allow of a change of air taking place, prevent excessive deposition of moisture through the night, and the foliage will not be so liable to scorch should the sun act powerfully on it before the ventilation is increased, which it ought as soon as the rays act on the structure sufficiently to raise the temperature. The great cause of scorching is inattention to early ventilation. It will

be sufficient to insure a night temperature of 65°, and a day one of 70° to 75°, having recourse to fire heat if necessary. Commence increasing the ventilation between 70° and 75°, allowing it to advance to 80° or 85°, between which keep through the day, and close, as before stated, so as to rise to 90° or 95°. Allow a steady growth of the laterals, it keeps the roots active, but avoid overcrowding, not allowing the laterals on any account to interfere with the free access of light and air to the leaves that are elaborating and storing food in the buds and adjacent wood at their base, those being the pruning buds. Afford full supplies of water or liquid manure as required. The outside borders should not be neglected where the rainfall is deficient, and a light mulching of fresh lumpy stable manure will lessen evaporation without depriving the soil of the beneficial action of air, warmth, and the moisture of dew and rain.

Watering.—High and dry inside Vine borders do not as a rule receive half enough water. Supply them well with tepid water, following, in the case of Vines that carry full crops and in good but not too vigorous health, with thicker liquid manure, also in a tepid state, or apply 4 ozs. of some approved fertiliser per square yard and wash in moderately, mulching with short material, which, if kept moist by sprinkling as it becomes rather dry will give out ammonia and attract the roots to the surface. To allow the border to become dry at the surface causes the roots to strike down in quest of moisture, then the crops finish badly, the wood does not ripen well, and the result is bunches the following year that twist, curl, and wither instead of elongating, or if they escape that they are often spoiled through shanking. Deficient supplies of water and nourishment encourage attacks of red spider and premature ripening of the foliage. Outside borders must be attended to for watering, supplies of liquid manure or top-dressings, and light mulching.

Regulating the Growths.—Permit all the foliage that can be exposed to light to remain, but when the space is fairly covered with leaves keep the shoots closely pinched. The foliage should be rather thinner in the case of Muscat of Alexandria and other white Grapes than in that of black. Avoid large reductions of foliage at a time, it only tends to retard the swelling of the berries, and often causes them to shank through lessening the root activity. Vines extending may make considerable lateral extension, always bearing in mind that the wood on which the fruit is to be borne next season must have full exposure for its foliage, as it is the principal leaves which elaborate the sap and transmit the assimilated matter that forms the buds at their base. The laterals from these having been stopped at the first joint, they may be allowed to make more growth afterwards, but this must not be allowed to interfere with the free access of light and air to the main leaves or those corresponding to the pruning buds.

Figs.—*Second Crops.*—Fruits in early houses have now swelled to a good size, and if judiciously thinned there will be a crop of fine Figs. This, however, depends upon the trees not being overcropped, the foliage being kept free from insects and liberally fed at the roots. If the crop is heavy, and a former thinning not having been sufficient, a second thinning should be attended to at once, leaving the most forward at the base of the shoots, which will ripen earlier than the others, and so afford more time for the ripening of the growths, which is essential to a full first crop another season. Early forced trees—those for starting at the new year—must have the young growths ripened, and be resting by the middle of October.

Watering.—If the borders were allowed to become dry whilst the first crop is ripening they must be watered repeatedly until the soil is thoroughly moistened down to the drainage. Liquid manure will be required by trees in borders of limited extent, and more frequently than by trees with a larger extent of rooting area—about once a week in the first case and every fortnight in the other, giving thorough supplies, and always in a tepid state. Mulch lightly with short partially decayed manure, and damp whenever it becomes dry so as to encourage surface roots.

Syringing and Insects.—Syringe the trees twice daily except in dull weather, when they should be syringed in the morning only or early in the afternoon, so that foliage becomes dry before night. Forcible syringings are generally sufficient to keep red spider in check; but if it obtains a hold it must be dislodged, employing an approved insecticide (one of those advertised), which are effective and safe providing the instructions are carefully followed. If attended to in time syringe with a solution of softsoap (2 ozs. to a gallon of water is effectual), and for scale 3 or 4 ozs. per gallon may be used, using a brush to dislodge the scale, which is more than half the battle in destroying this and other insect pests. Painting the hot water pipes with a cream formed of sulphur and skim milk is an excellent remedy for red spider, and equally efficacious as a preventive of "spot" fungus in the fruit. Heat the pipes to about 180°, and whilst hot dress them with the flowers of sulphur cream. Close the house, the foliage being dry and the pipes hot for about an hour at least after the sulphur is applied. They should then be allowed to gradually cool, syringing the trees forcibly the following morning.

Ventilation and Temperature.—Figs like abundance of air. Ventilate early, especially on bright mornings. Keep through the day at 80° to 85° with sun, and close sufficiently early to run up to 85° or 90°, providing plenty of atmospheric moisture. Artificial heat will not now be necessary, unless the weather is unusually cold and wet; then fire heat will be required to maintain a night temperature of 60° to 65° and 70° to 75° by day. This is very important when the fruit is advanced for ripening, so as to secure a circulation of warm rather dry air.

THE BEE-KEEPER.

APIARIAN NOTES.

THE WEATHER.

FROM June 25th the wintry weather gave way to really genial summer days. The following are the temperatures from the above date up till the 29th ult.:—24th, 38°-52°; 25th, 38°-55°; 26th, 38°-70°; 27th, 55°-75°; 28th, 43°-79°; 29th, 50°-80°. On the 24th a change of temperature occurred. Bees were anxious to be out, and many were chilled. They busied themselves puncturing the spurs of *Aquilegias* for the honey they contained.

HONEY GATHERING—A TEST HIVE.

June 26th, the first bee day of the summer—and the bees worked well upon the Charlock—I suspended a good hive on a spring balance that evening, and by the next evening it had increased 1 lb. The next morning it was back to the original weight. On the 27th another pound was gained, and lost again during the night. On the 28th 3 lbs. were gained, and 1 lb. lost during the night. With a continuation of favourable weather the ingathering will increase daily, but not until my test hive has increased from 15 to 20 lbs. in weight shall I venture to super, and then only if the weather keeps promising. I will keep a register of the evening and mornings' weights of the above hive until it swarms. It is interesting, and is an index to the doings of the other stocks and a guide to the apiarist.

SUPERING AND VENTILATION.

In the case of all strong colonies I will give two stories to commence with, while the weaker hives will be supplied with one only. I have no swarms yet, nor do I expect any for some days, but it must be remembered that there is a vast difference in the strength of my hives than those from a third to a half smaller. Mine have breeding and storage space for present and future use.

It is bad practice to raise the hive from the floor during warm weather. The hot air rushing in on all sides raises instead of lowering the temperature, and so affects the ingathering of honey. If the hives become too warm a little grass, or a wet sack laid on them, or syringing with water tends to lower the temperature greatly, and increases the activity of the bees. Where water is scarce cover the grass or a wet bag with a dry one.

FRUIT TREES AND BEES.

Fruit-bearing deciduous trees are a decided advantage to hives in hot weather, while they in no way injure them during the winter. The blossom is welcomed by the bees; not less so is the fruit to the bee-keeper. The present year is a repetition of the many bad ones experienced by aged bee-keepers, who know what to do, and how to do it. During the past week there has been more growth than in the two months previous, and the Heather which but a short time since had a frosted appearance is now growing rapidly.—A LANARKSHIRE BEE-KEEPER.



*All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Eelworm in Tomatoes (F. W.).—Yes, your plant represents a bad case of eelworm. By all means try the phenol solution as advised, and favour us with the results. We fear, however, the case is too

advanced for cure. Still, try the remedy in different strengths, and you will gain experience that may be beneficial to yourself and others. We are obliged by your note, which arrived just in time for insertion on page 9.

Peach Stones Splitting (Sunderland).—The fruit you send is Early Rivers, a most excellent early variety, and would be extremely valuable but for its proneness to split at the stone. Dr. Hogg says in the "Fruit Manual" that this probably arises from imperfect fertilisation, from the pistil protruding too far beyond the stamens. Pollen should be taken from some other variety which produces it freely, and applied to the flowers with a soft brush, with the view to as far as possible averting the evil in question.

Cesspool Refuse (A Young Gardener).—Nothing is more variable in strength than the contents of cesspools, and in dealing with such matter no plan is so safe as proceeding by experiment. We suspect you have a rich store of plant food if rightly used, but recklessly applied it may be plant poison. Dilute some with six times its volume of water, and try it on grass, also on young plants in the garden, such as Lettuce and others, as well as on any in pots that you can afford to kill. The application may not kill them, it may, indeed, benefit them, and in either case you will gain valuable information. Possibly one part of sewage to ten of water may be strong enough for plants in pots, if not for Cucumbers and Melons in beds. You are much more likely to err in using the sewage too strong than too weak. Proceed cautiously, and you will soon find how to prepare the liquid to best suit the different plants and crops.

Tomatoes Diseased (Echo).—The plants are suffering from root infection by a fungus, which produces a canker, and is no doubt introduced with the soil. The fungus attacks the roots and ascends the stem, being one of those hitherto considered a saprophyte; but it certainly is parasitic in your case, and as there are more than one species and of different genera we are unable to fix upon the right one, though both to our knowledge are parasitic and have active mycelium in the living tissues of the plants. We do not recommend the use of bone-meal nor of superphosphate of any kind, but lime as advised in last week's issue. The disease is hardly likely to lurk in the woodwork of the house, but no harm and possibly good would follow a thorough cleansing. Although it has been suggested, we do not know of any disease or condition of the plant, constitutional or otherwise, that will produce a fungus, but a change of seed is desirable.

Cucumber Plants Dying (Cross).—We think the plants sent are those of young Cucumbers, but through being surrounded with dry cotton wool and resting in the post during Sunday they were about as dry as well made hay, and almost beyond identification. You say "they were raised twenty in a 32-pot, and as soon as the rough leaf showed potted into 60's, some being twisted round and others left straight, then they go off; the men say by 'dry rot,' while you suspect fungus in the soil and errors in watering." This is one of those cases in which the cause of failure was apparent at a glance. It is a case of mismanagement, and nothing else. The plants were allowed to make spindly stems 6 inches from the soil to the seed leaves, and then another joint of growth and rough leaves before being removed. The roots would of necessity be interlaced, and all the more active feeding parts torn off. It could not be otherwise. Some of the spindled plants were "twisted" in the pot, others not. There may or may not have been errors in watering. We know nothing about that; but we know the few broken roots were incapable of imbibing the required nourishment for the plants, and in their endeavour to absorb it through the succulent stems they perished. You will not have a similar calamity by, as you propose, sowing one seed in each 60-size pot, always provided the plants are kept stout and sturdy, large seed leaves developing just above the soil, and no mistake is made in watering.

Tomatoes Failing to Set (J. S.).—You ought to have given fuller particulars, and we could then most probably have given the true cause of the flowers dropping prematurely and wholesale. Some varieties—Trophy and Mikado for instance—frequently fail to set good crops under glass, though they will crop heavily in the open. Are your plants merely trained up the roof or grown in rows across the houses? Probably it is the latter plan that is followed, as you say they are about 4 feet long and grown on a single stem. Seeing that you have not grown them too rankly and have avoided the other extreme, the most probable cause of the flower dropping is overcrowding. The rows across a house should be not less than 3 feet asunder, and the plants 1 foot or rather more apart in the rows. Planted more thickly than that the chances are the flowers will be weak and a crop fail to set. If overcrowding would appear to be the cause, and of this you can now judge for yourself, cut out some of the plants or shorten them to any fruit there may be set, also slightly reducing the size of the older leaves. Possibly you have not used any fire heat for some weeks past, in which case an improvement will soon be perceptible now that the weather has greatly improved. Earlier in the year it is also necessary to tap the stems or the wires smartly towards noon every day after flowering has well commenced, with a view to effectively distributing the pollen grains. At this time of year a good circulation of air ought to obviate the necessity for any artificial distribution of pollen. Over-luxuriant plants frequently fail to set good crops, but once a plant is bearing well feeding ought to commence, otherwise the later flowers will fail to set owing to exhaustion.

Diseased Tomatoes (J. B.).—The fruits sent are infested with the destructive parasite *Cladosporium lycopersici*. This fungus causes the decay of the fruit. It begins with a minute black spot, which surrounds the small decaying style. The black spot gradually increases in size by new circles of growth, one beyond another in the style of fairy rings. The fungus growth at the same time flattens the apex of the fruit, till at last the whole substance is blackened and entirely destroyed by the *Cladosporium*. The fungus spreads from the leaves, also from one fruit to another, till at last leaves, stems, and fruits are all alike decayed. We reproduce an illustration (fig. 4) of a half destroyed fruit, also a view of the assailing fungus enlarged from the microscope 500 diameters. The brown spores of this *Cladosporium* are often produced in such enormous numbers upon both sides of the foliage that they fly from the leaves in millions. Most of the Tomato fungi are in their earlier stages quite superficial, so that if remedies are applied in good time recovery seems to be possible. All such fruits as you have sent should be gathered and burned, the house kept warm, dry, and well

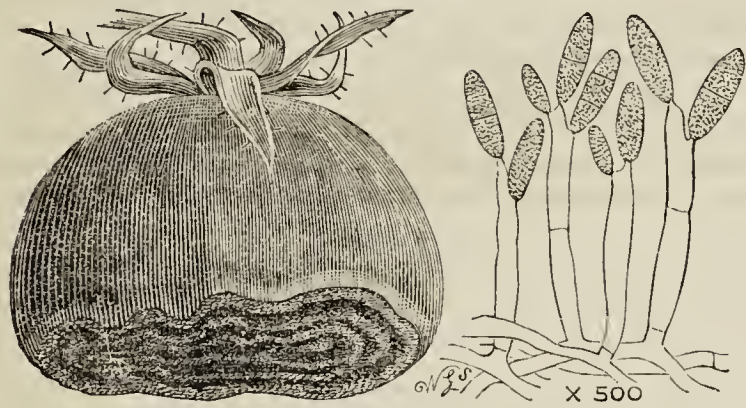


Fig. 4.

DISEASE OF TOMATOES AS CAUSED BY CLADOSPORIUM LYCOPERSICI.

ventilated. If the plants become badly infested remove the worst leaves as well as the fruits attacked and burn them, then spray the plants thoroughly with Bordeaux mixture, using a weak one, say 2 ozs. of sulphate of copper dissolved in half a gallon of water in a vessel by itself, slacking 2 ozs. of quicklime in another vessel, and forming into a thin whitewash; pour this into the vessel containing the sulphate of copper solution slowly through a hair sieve, then add enough water to make $3\frac{1}{2}$ gallons; stir well, and apply to every part of the Tomato plants, coating them evenly with the thinnest possible film of the Bordeaux mixture, also every part of the house. It will not injure the green fruit for use, and that near ripening may be cut, as it is not desirable to use it over fruit approaching ripeness. The lime must be quite fresh and the sulphate pure. It may be necessary to repeat the spraying in about a week or ten days. Ventilate freely, and top-dress with dissolved bones three parts, nitrate of potash two parts; mix, and use 4 ozs. per square yard over a little fresh loam.

Making Mushroom Spawn (New Zealand).—You will not find what you desire in the essay. It is written for the guidance of the inexperienced in growing Mushrooms, and in the hope that they may succeed in their object. There would be ten times more failures than now if beginners were to commence with making the spawn. It would no more answer to do so than for every builder of a house to make his own bricks. Moreover, as has been stated in the *Journal of Horticulture*, there are some things which cannot very well be taught on paper—making a watch, for instance—but can only be learned by experience. It is much the same in respect to making Mushroom bricks. General lines of guidance may be laid down, and with perseverance, and possibly sundry failures, a few persons who follow them may succeed in their object. No better time for making the spawn can be selected than the end of August or the beginning of September in England. Take, as materials, a barrowload of cowdung, rather stiff, and two barrowloads of horse-droppings, with a little short straw with them, and half a barrowload of fibry loam. Mix these into a stiff mortar-like substance until pretty well incorporated and the mixture looks like grafting-clay. Then make a frame of wood, say half-inch boards, and in four pieces—that is, two sides and two ends—enclosing a space of 9 inches long, $4\frac{1}{2}$ inches wide, and $1\frac{1}{2}$ inch deep. Then obtain a flat clean board and a bucket of water, dip the frame in the water, place it on your board, fill it with the prepared material, strike level with a spade or trowel, and turn out the brick on boards to dry. In two or three days, if fine, make two holes in the bricks, but not going through—say about an inch in diameter—turn the bricks until they are tolerably dry, then into each hole push a piece of good spawn, and draw a little cowdung or clay over it to prevent its falling out. Next make up a slight hotbed of litter, on which build these bricks in open honey-comb or pigeon-hole fashion, and cover over with litter, so that these spawned bricks shall have a temperature of from 80° to 85° , and not more. As the spawn runs, the bricks must be examined, and, as soon as they are filled with the gossamer-like white spawn threads, removed, and kept in a dry place until wanted for use. Some bricks or pieces will be ready to remove before others. Such is the method of procedure, and we trust you may be able to exercise the judgment that is requisite in carrying it out to achieve success.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers.

Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (J. R. S.).—1, Send another specimen to arrive in a fresh condition; 2, *Cissus orientalis* (Ivy Vine); 3, *Periploca græca*. (Coombe Park).—1, *Echinops ruthenicus*; 2, *Arum Dracunculus*. (C. K.).—*Melilotus leucantha*. (F. R.).—*Centranthus ruber* (the Valerian). (D. T.).—*Spiræa Aruncus*. (H. P.).—We do not name varieties of Roses; they are florists' flowers, about which see note above. (Amateur).—1, *Begonia Evansiana*; 2, *B. weltonensis*. (F. P. C.).—*Saxifraga pennsylvanica*; (C. T.).—*Saponaria ocymoides*. (Ignoramus).—1, *Lysimachia vulgaris*; 2, *Astrantia major*; 3, *Polygonum orientale*, the dwarf white variety; 4, *Nepeta gibraltarica*; 5, *Eulalia japonica*; 6, *Hordeum pratense*.

COVENT GARDEN MARKET.—JULY 4TH.

MARKET getting busy with heavy supplies, Peaches and Nectarines being a glut. Prices unaltered.

FRUIT.			
	s. d.	s. d.	s. d.
Apples, Tasmanian, per case	8 0 to 12 0		
Grapes, per lb.	1 0	3 0	
Lemons, case	10 0	15 0	
Peaches, per doz.	1 0 to 8 0		
St. Michael Pines, each	2 0	6 0	
Strawberries per lb.	0 6	1 6	
VEGETABLES.			
	s. d.	s. d.	s. d.
Asparagus, per bundle	1 6 to 3 6		
Beans, Kidney, per lb.	0 6	0 9	
Beet, Red, dozen	1 0	0 0	
Carrots, bunch	0 3	0 4	
" new, bunch	0 9	1 0	
Cauliflowers, dozen	1 6	3 0	
Celery, bundle	1 0	1 3	
Coleworts, dozen bunches	2 0	4 0	
Cucumbers, dozen	1 6	3 0	
Endive, dozen	1 3	1 6	
Herbs, bunch	0 3	0 0	
Leeks, bunch	0 2	0 0	
Lettuce, dozen	0 9	1 0	
Mushrooms, punnet	0 9 to 1 0		
Mustard and Cress, punnet	0 2	0 0	
Onions, bushel	3 6	4 0	
Parsley, dozen bunches	2 0	3 0	
Parsnips, dozen	1 0	0 0	
Potatoes, per cwt.	2 0	4 8	
Salsify, bundle	1 0	1 5	
Scorzonera, bundle	1 6	0 0	
Shallots, per lb.	0 3	0 0	
Spinach, bushel	1 6	3 0	
Tomatoes, per lb.	0 4	0 8	
Turnips, bunch	0 3	0 4	
" new, bunch	0 8	0 10	

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.

Orchid Blooms in variety.			
	s. d.	s. d.	s. d.
Arum Lilies, 12 blooms	1 6 to 3 0		
Bouvardias, bunch	0 6	1 0	
Carnations, 12 blooms	0 9	1 6	
" doz. bunches	4 0	6 0	
Cornflowers, doz. bunches	1 0	2 0	
Eucharis, dozen	2 0	4 0	
Gardenias, per dozen	1 0	4 0	
Gladiolus, dozen bunches	1 6	5 0	
Iris, dozen blooms	0 6	1 6	
Lilac (French) per bunch	3 0	5 0	
Lily of Valley, doz. sprays	1 0	1 6	
Lilium candidum, dozen bunches	12 0	18 0	
" blooms	0 6	0 9	
Lilium longiflorum, per doz.	2 0	4 0	
Maidenhair Fern, dozen bunches	4 0	6 0	
Marguerites, 12 bunches	1 6	4 0	
Moss Roses (English), doz. bunches	6 0	12	
Myosotis or Forget-me-nots, dozen bunches	1 6	2 0	
Mignonette, 12 bunches	3 0	6 0	
Orchids, per dozen blooms	1 0 to 9 0		
Pæonies, dozen bunches	10 0	15 0	
Pausies, dozen bunches	1 0	2 0	
Pelargoniums, 12 bunches	6 0	9 0	
Pelargoniums, scarlet, doz. bunches	3 0	6 0	
Pinks, various, doz. bunches	1 0	3 0	
Poppies, various, dozen bunches	0 9	2 0	
Primula (double), dozen sprays	0 6	1 0	
Pyrethrum, dozen bunches	3 0	6 0	
Ranunculus, doz. bunches	2 0	4 0	
Roses (indoor), dozen	0 6	1 0	
" (outdoor), doz. bunches	4 0	8 0	
" Tea, white, dozen	1 0	2 0	
" Yellow, dozen	2 0	4 0	
Roses (French), per dozen	0 6	1 0	
Roses, Safrano (English), per dozen	1 0	2 0	
Roses, Maréchal Niel, per dozen	1 6	5 0	
Stephanotis, dozen sprays	1 0	2 0	
Tuberose, 12 blooms	0 4	0 6	

PLANTS IN POTS.

	s. d.	s. d.	s. d.
Arbor Vitæ (golden) dozen	6 0 to 12 0		
Arum Lilies, per dozen	6 0	12 0	
Aspidistra, per dozen	18 0	36 0	
Aspidistra, specimen plant	5 0	10 6	
Calceolarias, dozen pots	4 0	8 0	
Cineraria, per dozen	4 0	6 0	
Dracæna terminalis, per dozen	18 0	42 0	
Dracæna viridis, dozen	9 0	24 0	
Eriacas, per dozen	9 0	24 0	
Euonymus, var., dozen	6 0	18 0	
Evergreens, in var., dozen	6 0	24 0	
Ferns, in variety, dozen	4 0	18 0	
" (small) per hundred	4 0	8 0	
Ficus elastica, each	1 0	7 6	
Foliage plants, var., each	2 0	10 0	
Fuchsia, per dozen	4 0	8 0	
Heliotrope, per dozen	5 0	8 0	
Hydrangea, per dozen	9 0 to 18 0		
Ivy Geraniums	4 0	6 0	
Lilium Harris, per dozen	15 0	30 0	
Lobelia, per dozen	4 0	6 0	
Lycopodiums, per dozen	3 0	4 0	
Marguerite Daisy, dozen	6 0	12 0	
" yellow, doz. pots	6 0	18 0	
Mignonette, per doz.	4 0	8 0	
Musk, per dozen	2 0	4 0	
Myrtles, dozen	6 0	9 0	
Nasturtiums, per dozen	1 6	6 0	
Palms, in var., each	1 0	15 0	
" (specimens)	21 0	43 0	
Pelargoniums, per dozen	6 0	15 0	
" scarlet, per doz.	3 0	6 0	
Roses (Fairy), per dozen	6 0	9 0	
Spiræas, per dozen	6 0	12 0	
Stocks, per dozen	3 0	5 0	

Roots in variety for planting out in boxes or by the dozen.



CHANGING AGRICULTURE.

A NEW AGRICULTURAL COLLEGE.

THROUGHOUT the long struggle with an agricultural depression, which is now well advanced in the tale of the years

of its second decade, a want of technical knowledge has told seriously against the British farmer. Recognition of this fact has induced action in a variety of ways, such as the formation of associations for the improvement of agriculture, of dairy schools, of experimental stations for soil tests, manurial trials, tillages, and cropping, of co-operative farms, fruit farms, and dairy factories; the latest, and perhaps one of the most important, being the establishment of the South-Eastern College at Wye, in Kent, by the County Councils of Kent and Surrey.

The special object of this institution is to educate the rising generation of farmers, and this will be done in the right way by a combination of theory with practice in school classes and at the farm, which, according to the prospectus, is in charge of a skilled bailiff, has an area of 240 acres, 70 acres of which is in permanent pasture, the rest being of varied character, well suited to the rearing of sheep, dairying, and the growth of fodder and other crops. A portion will be devoted to experiments in connection with the teaching of the College. It also sets forth that "the object of the College is to provide that training which is an indispensable part of the education of all who will in the future be owning or occupying land. The course of instruction will therefore be chiefly occupied with the science and practice of agriculture, and will embrace chemistry, agricultural chemistry, geology, botany, animal physiology, and applied mathematics (book-keeping, mechanics, mensuration, and land surveying). To this will be added practical training in agriculture, dairying, veterinary medicine, and surgery; also in carpentry, smith's work (including horse-shoeing), forestry, fruit culture, and bee-keeping."

The value of such general knowledge is obvious enough, but the most important paragraph in the prospectus is that which states that "from the instruction which will be given in practical agriculture and in chemistry, botany, and such sciences as bear upon agriculture, the student will learn the reasons underlying farming practice, and will become so far acquainted with scientific methods and terms, and the results acquired by research, that he will be able to read technical communications and judge for himself how far scientific advice is suitable to his own circumstances." This is clearly advancing in the right direction, pointing as it does to thoroughness, to a knowledge of cause and effect, to a combination of science with practice, to judicious change to sound management.

It is upon such a basis that we may reasonably hope to see agriculture again flourishing. It will render the blind following of custom impossible, and should lead to the cultivation of farm produce upon which a profit is possible, to that energetic competition with foreign farmers which is so desirable, so necessary, and so possible. The course of instruction is for three years to students of at least sixteen years of age at the time of admission. In that time they will acquire a fund of knowledge that will prove of the highest value to them. They will enter upon the active duties of life with a deeper insight into first causes, wider views of home agriculture in its relation to that of other countries, the skill to cultivate aright, the sense to adapt such cultivation to farming, to profit, and not to fancy.

With such general advantages as this College and others which are certain to follow in its wake, there ought to be, and doubtless will be, a certain general improvement. But after all, successful farming will then, as now, be a matter of degrees very much in proportion to the cultural skill, capacity, energy, ability, and good sense of individuals. Farming of the future must be elastic, tentative, changing with that progressive change which marks advancing civilisation throughout the world, aiming to supply the growing wants and more cultivated tastes

of the masses. We hear much now of an overdone milk trade, of occasional gluts of fruit, yet we may certainly predict a growing demand for both these products of the soil to an extent hardly yet realised. Milk and fruit will enter much more largely into the dietary of the working man's household as their true value becomes realised. This and many another change in the people's wants must lead to change in cropping. For such changes to be prompt and efficient, an altogether higher and more thorough general system of farm management is wanted. It is for such reasons that we welcome such a means of improved agricultural education as the Wye College will afford.

WORK ON THE HOME FARM.

In making a survey of an estate in the Weald of Kent last week we were agreeably impressed with the excellent practice in the Hop gardens—the precise arrangement of the poles and strings, the clean vigorous growth of the "bine," the top-dressing of manure about the stools, and the thorough cultivation of the soil, kept so well stirred by a heavy local horse hoe termed a skim, that not a weed was to be seen, was very satisfactory. It is obvious that Kentish farmers see their interest in the case of such a crop, from which a return of £60 or £70 an acre is possible.

Haymaking has gone on with that rapidity and certainty which is only possible in such settled weather as we have had in the midlands and southern counties. Very heavy grass crops are general, and the hay has been stacked in excellent condition. So far, too, it has been made cheaply, as very much of it has been cut and carried without any rain falling upon it. All this is very satisfactory, but sorry are we to say there is quite another aspect of haymaking this season, and that is on poor, upland farms, stocked very late in spring, and then laid in for hay without any manure worthy of the name. The result is slow weak growth to which the hot dry weather has given a serious check, and there are brown patches of burnt herbage upon it, which show that the hay crop upon it must be a light one. We told in the winter of 1892-3 how we had taken in hand a piece of such poor upland pasture for drainage and a heavy dressing of basic slag. This season the tenant has laid in that meadow for hay, and he has a thick growth of greatly improved herbage, in which the increase of Clover is especially remarkable. We can say that so far the result is very satisfactory; it would have been more so had the tenant had the wit to have applied a moderate dressing of our grass manure mixture, or even nitrate of soda alone in February. But he does not believe in "artificial," and has probably never spent a shilling upon them. Not very encouraging for the landlord to effect improvements for such men, is it?

SEED STANDS AT CAMBRIDGE.—We are informed that the great firms of seed merchants, who provide stands representing their produce at leading shows, made a great display at Cambridge. We cannot give anything approaching a detailed report, as no tickets were sent for that purpose. Messrs. Sutton & Sons, Webb & Sons, Dicksons (Lt.), Harrisons, Carters, and others had fine displays; while Messrs. Boulton and Paul, Foster & Pearson, and others exhibited the wares for which they are celebrated.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1894. June.		Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
Sunday ..	24	29.963	deg. 62.7	deg. 55.1	W.	deg. 60.0	deg. 67.0	deg. 53.1	deg. 108.4	deg. 56.7	Inchs.
Monday ..	25	30.210	64.2	55.6	S.W.	59.8	77.0	49.1	122.0	43.2	—
Tuesday ..	26	30.288	68.8	61.6	N.E.	61.9	74.4	61.4	109.9	59.3	—
Wednesday	27	30.311	60.9	52.9	N.E.	61.3	75.7	51.0	118.9	46.1	—
Thursday ..	28	30.231	68.2	60.0	E.	62.1	82.4	51.4	125.9	46.8	—
Friday ..	29	30.349	64.9	57.8	N.	63.2	82.0	51.8	124.4	45.9	—
Saturday ..	30	30.391	70.8	62.1	N.	63.9	83.8	52.6	125.4	46.2	—
		30.256	65.8	57.8		61.7	77.5	53.6	119.3	49.2	—

REMARKS.

24th.—Fine and generally sunny morning; frequently cloudy in afternoon.

25th.—Sunny and warm day; cloudy evening.

26th.—Sunny early, generally cloudy after 10 A.M., and overcast afternoon.

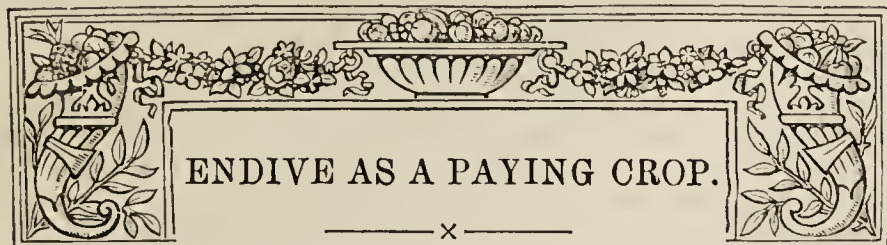
27th.—Almost cloudless throughout.

28th.—Sunny and warm throughout.

29th.—Almost cloudless, with pleasant breeze.

30th.—Almost cloudless.

A fine rainless week, becoming extremely warm at its close. Remarkably little cloud.—G. J. SYMONS.



ENDIVE is extensively grown in this country, but principally in private gardens. As far as the markets generally are concerned these are not well supplied with this serviceable winter salading, and I believe much that reaches Covent Garden is grown in France. Should a tradesman in a provincial town have an order for Endive, he, as a rule, has to send to London for it, whereas he ought to be in a position to supply it perfectly fresh and good at a short notice. As yet, then, we are not a nation of Endive eaters, but there is no good reason why we should not become so, or, at any rate, greatly improve in that respect. It is my firm belief that Endive would soon become a necessary article of diet among the middle classes, being in winter what the Lettuce is to many persons in summer. Well grown, perfectly blanched and fresh, Endive is nearly as crisp as the best Lettuce, and could be eaten in the same way—that is to say, either in a mixed salad or served separately. The slight bitterness noticeable ought to recommend it rather than otherwise, and I think no mistake can be made about the wholesomeness and appetising character of the plant. Hundreds of private gardeners who sell their surplus produce, as well as many market growers, should at once take steps towards supplying the provincial towns with Endive, and once it is found that this excellent salading can be had constantly, or as often as desired, throughout the late autumn and winter months, the demand for it would increase rapidly. Good Endive ought to sell readily at 1s. per dozen wholesale, sometimes realising still more, and would not cost more than a third of that sum to produce. In my case it is treated as a “snap” crop, making no appreciable difference to the labour bill, and not interfering with the growth of more important crops.

While good Lettuce is available the demand for Endive is certain to be of limited extent, but directly the former fails to blanch well, then the latter becomes a very welcome adjunct to the salad bowl. If seeds of the Green Curled and Improved Broad-leaved Batavian forms are sown about the middle of July very good plants, extra fine in fact, would be ready for use by the beginning of October, a portion of this crop being also stored or otherwise protected for later use. Yet another sowing should be made about the first week in August, and it is this crop that ought principally to be stored for late winter or early spring use. But little is gained by growing Endive extra large; indeed, there is no encouragement in so doing, prices for the very best not being enhanced proportionately. Medium-sized, well-blanched hearts are what pay best, and these may be grown somewhat thickly, especially if the blanching is carried out where the plants are established. Borders that suit early Potatoes will usually grow Endive to perfection, and these positions are very convenient for boarding round and covering with lights or other protecting material. Such sites not being available of sufficient extent, then there is no reason why a position in the open should not be selected.

The principal condition is that the ground chosen for Endive should have been well manured for the preceding crop, and be further made in a free working, finely divided state. Very heavy, lumpy ground, will not do. I have in bygone days been under the necessity of opening shallow, spade-wide trenches, and filling these with light soil obtained principally by sifting potting bench rubbish, decayed turf, and old Mushroom bed manure. Under

such conditions Endive succeeded admirably, the plants being either raised where they were to grow, or planted out from a seed bed. In very cold, low-lying positions, either raised beds, such as Asparagus is grown in, or artificially formed banks with a good slope to the south, will grow Endive well and be found very serviceable for forwarding Lettuces or other early crops the following spring. If a start is made later than the above mentioned date, then ought the seeds to be sown where the plants are to remain in drills 12 inches apart, but when sufficient ground is not at liberty it is a good plan to sow the seeds on part of a border, either broadcast, or in shallow drills drawn 6 inches asunder, distributing them somewhat thinly in either case. When the seeds have to be sown in dry weather the drills or bed should be well moistened in advance.

When the seedlings appear they must be protected from slugs by means of occasionally dusting them with soot and lime. Very lightly thin out the plants at first, and when they are about 4 inches high they are quite strong enough for transplanting. Raise them with a pointed stick so as not to break the roots to a needless extent, and replant with a dibber, making the soil firm. Moistening the ground before lifting the plants, their fresh sites also being watered in advance, is a desirable proceeding in dry weather, and if the plants are eventually left or put out about 10 inches asunder in the rows they will grow large enough. Certainly they would well cover more ground, especially if planted early; but as before stated it does not always pay to grow extra large Endive. Where seed beds are formed it is a wise plan to leave some plants in these about 6 inches asunder, and these, without any further trouble, will quickly attain a good size and by pressing against each other also prove self-blanching. The principal breadths must be looked after rather closely for a time. The plants may need protecting from slugs in showery weather or watering occasionally when it is dry. Weeds as a matter of course must be kept under.

Small Endive plants are fairly hardy, but those fully grown are most susceptible of injury from frosts. As a rule it is not till November that protection is needed, but it is well to have something in readiness to save them before that month. Market growers usually have a number of lights at liberty in the autumn, and these with a few stakes and boards for the ends and sides are sufficient protection in all but severe weather, when mats or litter will be further needed. Failing glazed lights use lengths of galvanised iron, shutters, and such like, only these must be taken off in the daytime when the weather permits. These again will not be sufficient protection from severe frosts, corrugated iron in particular affording very slight protection indeed. Those crops grown more in the open, and which are not so conveniently placed for roughly protecting, should be lifted in October, or not later than the first week in November, and replanted somewhat closely in pits, frames, or placed on the floors or borders in vineries or Peach houses. Not much soil need be removed with them, and I prefer to replant not in fruit borders, but on the top in rather good added soil. In pits and frames I sometimes replant in ashes, which are kept moist, and it is surprising how well the plants are supported. Sometimes Endive is transplanted to sheds, but it does not keep so well in these as in lighter structures. It is not wise to be constantly slopping water on the plants, but dryness at the roots should never be tolerated.

Well grown Endive is very easily blanched to perfection, but plants that are only about half grown cannot be done much with at any time. It must also be borne in mind that when once the hearts are blanched they do not keep long afterwards. If the plants in the open are tied up much as Lettuce is done when they fail to fold in properly, and be further enclosed in inverted flower pots, blanching will be rapid and perfect. Laying either boards or slates over a short row will also be the means of quickly blanching the hearts; but in the case of those enclosed in rough

frames, or stored in pits and houses, covering a few dozen plants at a time with a twofold thickness of mats is all that is necessary, a close succession being maintained by covering a fresh breadth every week. The broad-leaved variety keeps the best; but a mixture of this and the cut-leaved or green curled form pleases most persons.—MARKET GROWER.

THE MAKING OF GARDENERS.

I OBSERVE the "Daily News" has been devoting one of its leaders to a criticism of Mr. H. Elliott's pamphlet on the status of gardeners. Mr. Elliott is fortunate in securing such notice, but he has told us nothing whatever that is in any way new; indeed, all his observations are but repetitions of what has been said time after time in the gardening press for the past forty years. It is one of the themes that will be the subject of discussion so long as gardening and the gardening press endure. The suggestions for the establishment of some form of examination for gardeners have been made scores of times, but have never been adopted. Practically it is found impossible to do so, much as we may wish to purge the profession of its many mediocrities and incapacities, yet so long as gardening is regarded rather as a luxury than a necessity, so long will pay be relatively very poor, and the requirements of gardeners equally so. Gardeners never have been an organised body of workers; it is doubtful whether they ever will be. Whether I favour some organisation or not that is not the point, but at least I will not follow Mr. Elliott in seeking to secure a cheer of approval by denouncing trades unions. Really in expressing a desire to set up an examining authority with power to grant certificates, Mr. Elliott is proposing to establish a trades union of the most arbitrary nature.

It seems always to have escaped the attention of critics of this description that gardening is an art that more perhaps than any other comes to us by nature. My experience is but that of scores of others, and I say that I have met with numbers of cases where men have proved to be literally born gardeners, although brought up in totally different work. These men have a true gardener's soul. They are filled with deep love for the work, and when they have a chance to exhibit that love it is really astonishing to see how able they become as gardeners. Take any considerable group of allotments, go through any number of cottage gardens, examine the thousands of amateurs' gardens in the kingdom, note the numbers of men who have suddenly leaped from the bench, or the anvil, or the lapstone, or the factory to be well-to-do growers of market produce, or to be competent florists, or something else, and then we find that though gardening is an art, and a beautiful one, yet does it come to thousands of the human family by nature, for are they not born to the vocation?

How much does gardening owe to all this section of workers? A class that an examination would exclude, and yet proves to be, as practical men, far more useful to horticulture than are any number of passed students. What guarantee does any form of examination afford that a passed student will like his work, that he has his heart in it, that he possesses what is so indispensable to gardeners, a good moral character, is honest and industrious? It would not afford any proof that he would be tidy or methodical, although it may prove that he possessed a considerable amount of theoretical knowledge. Much of the finest theory in the world has been utterly useless, simply because the theorist had no knowledge how to put it into practice. A college such as I referred to in a recent issue may turn out clever theorists, and yet all be absolutely unable decently to dig or hoe a piece of ground.

When Mr. Elliott tells his readers that the "outcast and refuse of every trade and profession swoop down upon gardening," he is making, which, to put it mildly, is a random assertion. Thousands have gone out of gardening because, after being brought up in it they have disliked it, or found they had no aptitude for it, and succeeded or failed in other directions, but so far as my long experience of gardeners has gone, it has shown me that 90 per cent. of those in it have been either brought up in it, or have that special love and aptitude for it that they could not help succeeding. Mr. Elliott's remedies for the evils, he with such ravenlike proclivities proclaims, are union and improved education. Take union first. What does that mean but organisation, and if not to improve the status and position of gardeners, then what does it mean? How is that to be done? By restricting the output, as it were, of gardeners, limiting the supply, practically creating a trade's union—and one of the worst kind—for it would rigidly exclude from the ranks of gardening all who failed to pass the union examination. If it be possible to improve the gardener's

position, give him better wages and more constant work. We shall all be delighted, but there can be no greater fraud on the public or the gardener than to assume that any form of theoretical examination will tend to that end. Of all the fallacies of the age, "cramming for exams" is the greatest. We submit to it because it is now the rage, but when that rage subsides, we shall then see how great has been our folly.

The finest test of a man's gardening knowledge is found in the nature of the work he does. Nothing can equal that form of examination. It is the way we test our allotments and cottage gardens, and it is almost infallible. If some such test could be applied to all garden work, something useful might result. On paper the cleverest student may win, but in actual work the plucked candidate may show by far the best results. No, Mr. Elliott, you have not yet set the gardening Thames on fire.—A. DEAN.

NATURALISING FLOWERS.

THE somewhat despondent note struck by your contributor, "E. K., Dublin," in the issue of June 14th, will find an echo in the breast of many lovers of wild flowers on this side of St. George's Channel. The more beautiful forms are either gone or becoming very scarce in the neighbourhood of London and the larger towns. There is a pressing fear of the extermination of not only the rarer species, but of such familiar kinds as the Dog Roses, the Primroses; most forms of Ferns, except the Bracken, are gone, and even the commoner Orchids are fast disappearing. There are many causes contributing to this denudation and impoverishment of the country side beyond the pressure of population. The inconsiderate ways of professed botanists. One well-known authority boasts of upwards of 200 dried specimens—tubers, leaves, and flower spikes—of *Aceras anthropophora*. Surely the tubers might have been left in the soil. Prizes for dried collections, to be presently thrown away; the day tripper of the ordinary type, and the excursions of day and Sunday schools are responsible for much of the destruction and mutilation which is stripping our woods and waysides of flowers. The Selborne Society is doing what is possible to educate the country into an appreciation of its native flora and the love of Nature *in situ*; and "E. K." will be glad to learn that the Society is extending to Ireland, Mr. R. Lloyd Praeger, of the "Irish Naturalist," interesting himself in the matter.

Whether the steps recommended by "E. K." for enriching our flora will commend themselves to professional botanists the following extract from an article on the subject by the Editor of "Nature Notes" and the "Journal of Botany" will perhaps reveal. After illustrating the extent to which the greed of tourists has despoiled the Alps of the Gentianella, Edelweiss, Androsaces, and other alpine gems, he goes on to say, "Holiday makers who remain at home may find ample scope for self-denial. They will spare at least some of the Ferns they meet with on their country walks; they will refrain from stripping the Thames of its Water Lilies; they will not divulge indiscreetly where they found the Osmunda, or reveal the roots of the rarer Orchids. If they find a rare plant they will pluck it in moderation and spare its roots, and they will discourage "root-grubbing" of all kinds; and they will also hold in detestation a line of conduct diametrically opposed to "root-grubbing," but one equally to be abhorred, we allude to the introduction of plants into localities where they may become naturalised, and apparently form part of the indigenous vegetation. The problems connected with plant distribution, and Nature's ways of working them out, are full of interest, but if human agency is deliberately employed, the interest ceases. Yet this is sometimes done, even by members of natural history societies, who certainly ought to know better. Quite lately the flora of Hampstead Heath and the botany of Keston Bog have been enriched in this manner, and we were ourselves the unwilling spectators of the "planting out" of Butterwort and Grass of Parnassus in a New Forest bog. We also had the satisfaction of following in the tracks of the planter and of endeavouring to remove the traces of his unholy work."

Whether this uncompromising attitude of botanists would, or should be extended to such acts as the re-establishment of the *Dianthus cœsius* on the ruined walls which they formerly enriched at Cheddar, the Primrose on Hampstead Heath, where constables keep watch and ward over roots laboriously dibbled in on the western slopes by enthusiastic ladies, must remain a matter of opinion.

The agency of man, sometimes sensibly, is constantly used to increase, if not to enrich, our native flora. In 1843 the *Anacharis* was introduced from Canada, and has since found its way into nearly all our canals and running streams, much to the detriment of the former. It is well known that the courses affected by the

timber trade from both America and Norway are the seats of continued involuntary experiments in naturalisation, an instance of which is the Small-flowered Melilot (*M. parviflora*) on the Grand Junction Canal. The Orange Balsam (*Impatiens fulva*), a North American species, only a few years ago was confined to the Wey. It has since leaped across the Thames, and may be found a marked feature of the shore herbage of the northern affluents. On the Crane, particularly where its waters pass through private lands, the rich tones of its handsome foliage, and the pendulous ruddy tinted flowers, are quite a characteristic feature towards the end of summer, and is a distinct acquisition.

A cursory glance through an English Flora will show to what an extent our list of wild flowers has been enriched by escapes and survivals from and of the old priory gardens when the monks of the mediæval ages grew collections of plants for medicinal uses. Quite recent illustrations are to hand of the same process. The Sweet Coltsfoot or Winter Heliotrope (*Tussilago fragrans*) is an instance. On the bank which separates Kew Gardens from the Thames a plant is found which does not grow wild nearer than Cornwall or Northumberland, Chives (*Allium schoenoprasum*). Who can doubt that this firmly established locality is due to the cultivation of the plant in the neighbouring gardens? But a still stronger case is that of *Galinsoga parviflora*. Originally grown in the herbaceous grounds at Kew as an exotic, it jumped the walls, and has established itself in the arable land surrounding it on the east. Notwithstanding its tender habit—the first frost kills it—its growth is so rapid that if unchecked it romps over all other crops, and appears to be the only occupant of the field. Instances of the kind might be indefinitely continued. If man unconsciously and unintentionally is the means of introducing weedy and objectionable exotic species to the detriment of agriculture, it seems unreasonable to debar him from the intelligent and deliberate introduction of the more attractive forms. The difficulty is to foresee the results.

The New Zealand colonist, to use an instance most readily to hand, has experimented in this direction much to his own disadvantage. An enthusiastic Scotchman introduced the first Thistle; now the down may be seen floating through the air in clouds, and drifts a foot deep of the pappus and seed is sometimes seen, the plant forming formidable bushes 5 feet high, and even flowering in the forks of trees 40 feet above the ground, so well does the climate suit it. The Dandelion, Sow Thistle, and the Hawkweed take just as kindly to the new soil. Gorse, only recently introduced, finds the fat soil so much to its liking that it actually turns the streams out of their beds, while the Musk and the Watercress flourish the whole year through, monopolising and choking up the beds of the lesser watercourses. The Broom is spreading rapidly too. But perhaps better illustrations of the point are the way in which the Sweet Briar has taken possession of the land. It grows to enormous bushes, and is impossible to extirpate and very expensive to keep down. Who would have expected the sweet smelling Rose of our gardens to have acquired such a character? It was impossible to predicate it. The true Blackberry Briar is becoming a much more formidable enemy, for it not only occupies the newly opened ground, but is developing into a sheep-catching plant. Even now sheep passing within touching distance, or eating the ripening berries, are entangled in the great hooked annual shoots. In their struggles to escape the wool is twisted into ropes, and they die after ineffectual efforts to disentangle themselves.—J. A., *Kew*.

[We believe our correspondent was the originator of the Selborne Field Club, with the objects of which many of our readers will sympathise. We observe by the prospectus of the Lower Thames Valley branch that field meetings are held on Saturdays during the summer, and papers are read after some of the explorations. The annual subscription, we note, is only 1s.]



ROSE SHOW FIXTURES IN 1894.

- July 12th (Thursday).—Bath, Harleston, Woodbridge, and Workop.
- " 14th (Saturday).—New Brighton.
- " 17th (Tuesday).—Helensburgh.
- " 18th (Wednesday).—Newcastle-on-Tyne (show lasting three days).
- " 19th (Thursday).—Halifax (N.R.S.), Halesworth, and Trentham.
- " 21st (Saturday).—Manchester.
- " 24th (Tuesday).—Tibshelf.
- " 26th (Thursday).—Southwell.
- " 28th (Saturday).—Bedale.
- Aug. 1st (Wednesday).—Chesterfield.

ROSE CONGRESS AT ANTWERP.

A CONGRESS was held at the Antwerp exhibition in connection with the special show of Roses on the 1st and 2nd inst. Among the subjects for discussion was that of the formation of an International Rose Society. M. Ketten, of Luxembourg, in a paper which he read, advocated the formation of a society of this kind. He stated that as "Belgium, Germany, England, Holland, and France had its societies of rosarians it appeared to him that it was desirable to form an international society with a view to secure a greater uniformity in various matters appertaining to the world of rosarians. More especially was a society wanted to deal with such questions as the number of novelties introduced annually, the number of varieties in catalogues, synonymous Roses and classification. He also thought it desirable that international exhibitions should be held periodically in various countries." Mr. E. Mawley, who with Mr. G. Gordon represented the National Rose Society, did not consider the time was ripe for the formation of a society such as that suggested by M. Ketten, and that he did not think it would be practicable to hold international exhibitions likely to prove successful owing to the difficulty in arranging dates to suit growers in the several countries. Mr. Gordon concurred, as did Mr. W. Paul.

THE CROYDON ROSE SHOW—A REVIEW.

It may interest some readers of the *Journal* if a review of the Roses at the show of the Croydon Horticultural Society, reported in your last issue, be given. It was held in the grounds of Wellesley House, lent by the Governors of the Whitgift Grammar School. Although not as convenient either by size or proximity to the principal station at Croydon as Mr. Prince's garden, in which we have of late had our Rose shows, it is quite large enough for the purpose of an ordinary attendance; but the attendance this year was phenomenal, the gate money amounting to over £150, and must have greatly gratified Mr. A. C. Roffey, the indefatigable and worthy Secretary of our Society, as it places the Society's finances in a most satisfactory position. The show itself was the best I have seen this year, being far ahead of Windsor in the number of Roses staged, and, as far as regards the amateurs, it was infinitely superior in quality, all the principal exhibitors staging high-class flowers and in some cases very exceptional ones.

The professional growers seemed with one accord, and as if by general agreement, to have deserted the Reigate Executive, as we had nine of the greatest growers in England present, only one of whom had sent Roses also to Reigate show, and I believe that at Reigate only one professional put in an appearance, that show being in this respect on a par with Canterbury, where, I hear, Mr. Mount was also the only trade grower; but I suppose other professional competitors were frightened away from the Cathedral city by the forecast made of their future inferiority to the local grower. Anyway, no one ventured to try a fall with "D., Deal's" champion. "*Mais revenons à nos moutons*;" at Croydon Mr. Frank Cant and Mr. Benjamin Cant renewed their tussle; in the present instance recent decisions were reversed, Frank Cant being first for forty-eight and Benjamin Cant second; Paul & Son third; those not placed being Messrs. Mount, Prior, and Durrant Young. In the class for twenty-four trebles this order was reversed as regards the Cants, and Messrs. Prior took third place, Messrs. Mount and Paul & Son being again unplaced. In Teas Messrs. Prior came to the front, taking first place with a stand of eighteen varieties. For twelve Roses, one variety, B. R. Cant, F. Cant, and G. Mount were placed first, second, and third; others competing in this class. Mr. Frank Cant staged twelve "Caroline Testout," which, to paraphrase a celebrated quotation, nearly induced me to say, "Almost thou persuadest me to believe in Caroline Testout;" these Roses were phenomenal in size and form, but I suppose the Judges of this class did not know this new variety sufficiently, or had not grown it, otherwise would have more highly valued such wonderful specimens. For twenty-four Roses, distinct, Messrs. Burch of Peterborough staged a fine box, and Mr. Will Taylor was second.

The amateurs were in remarkably good form except in Teas, which in all classes but the lowest were inferior, and there was an exciting competition for the thirty-six cup class. Six amateurs staged flowers, amongst them being Messrs. Haywood, Gurney Fowler, Slaughter, Pemberton, and West; but last year's winner, our amateur champion, had no Roses to stage. I think I am writing accurately when I state that it would have required Mr. Lindsell to be in his usual really good form to have won the cup this year, as Mr. Salter had an excellent exhibit, which I was pleased to see; he has had the worst of luck with his Roses in recent years. Mr. Gurney Fowler's flowers were good and well staged, this statement not only applying to the cup class, but to others. Mr. Slaughter was a good third, and Mr. West and Mr. Pemberton were not placed. In twenty-fours Mr. Slaughter was first, Mr. Gurney Fowler second, and Mr. Bethune third. The competition for twelve flowers, one variety, was a good one, and in this class Mr. Gurney Fowler's gardener staged a splendid box of Mrs. John Laing, one of the flowers in this exhibit gaining two medals. A similar double victory was won at Croydon last year with a bloom of the same variety which I showed; but my flower in 1893 I can honestly say would not have been "in the same street" with Mr. Gurney Fowler's Rose, which was the finest specimen I have ever seen, and which was promptly photographed for the benefit of posterity. In the other all-England classes I was very pleased to see my two friends, Mr. Edward Mawley of Berkhamsted, and Mr. Rivers Langton of Hendon, showing in the very finest form, the hot weather evidently suiting their heavy and cold ground. Writing as I do two days before the Palace Show, I think Mr. Langton's

present form portends a tight contest for the Harkness cup between him and Mr. Orpen, and these two I select as the probable winners of that beautiful trophy. Croydon and district suffered severely from the frosts of the 20th and 21st May, so that we none of us expected to see first-class exhibits from our local gardens, and we therefore were not disappointed. Colonel De la Mare won the local cup, there being two other competitors, Mr. Amsden and Mr. Gifford.

Mr. Amsden won a N.R.S. medal for La France, and your correspondent another for Horace Vernet—both good specimens of those varieties.

NATIONAL ROSE SOCIETY'S METROPOLITAN SHOW.

THIS annual event, the greatest of the Rose contests, took place on Saturday, the 7th instant, at the Crystal Palace. As elsewhere this year, so on this occasion, the professionals showed well and the amateurs indifferently. The show was successful in so far that it was a large one. I am unable at the moment to tell the exact number of flowers staged, but I believe they were about 6500, in this respect being second only to the great show of 1892, when 7100 were staged. The exhibits were very numerous in all the classes, more especially in the smaller amateur divisions. As of late so on Saturday, Hybrid Perpetuals were far better in quality than Teas, but I could not say that any exhibit of Tea Roses staged was of the very highest class, or indeed anything approaching thereto. This statement applies not only to amateurs, but also to the nurserymen. This fact was painfully apparent in the search for the best Tea Rose, those judging with me nearly coming to the conclusion, until we saw Mr. Prince's Tea Rose The Bride, that there was not a really good Tea in the nurserymen's division, and this statement no doubt would with equal truth apply to the amateurs' flowers.

In the nurserymen's contest for the trophy, seventy-two varieties, there were five competitors—Messrs. Frank Cant, Benjamin Cant, Paul and Son, George Mount of Canterbury, and Perkins of Coventry. The first three exhibitors named were placed in the order I give them. The judges appeared to take unusual trouble in arriving at their decision, and I have no doubt of its correctness, although up to the day of the show I fully anticipated from his previous recent successes that Mr. Benjamin Cant would this year have been victorious. Mr. Frank Cant's Roses were fresher and maintained their very fine appearance throughout the day, and in his exhibits were many exceptionally fine Hybrid Perpetuals. None, however, came up to the excellence of a flower of Marie Baumann, which gained for Mr. Benjamin Cant the award of the medal for the best H.P., those flowers which came nearest to this award were a Horace Vernet of Messrs. Prior & Sons of Colchester, and a La France of Messrs. Dickson & Sons of Newtownards. It is a remarkable fact in connection with their positions with these respective flowers that on more than one occasion I have called special attention to the wonderful flowers of these two varieties which Messrs. Prior and Messrs. Dickson grow, also frequently show, and with them take first prizes.

Messrs. Paul & Son's exhibit was a very fine one, and I am pleased to be able also to give Mr. George Mount credit for staging a really fine seventy-two, one that in many years would have taken the premier position for the trophy—nevertheless, it seems a pity to be unplaced in a contest when the same flowers in the next class for forty-eight would probably have been about first or second. In trebles the same three winning competitors were again placed, and in the same order. In the class for forty-eight distinct varieties Messrs. Prior & Son of Colchester staged a very fine lot of flowers, and Mr. Burrell of Cambridge one not far inferior, Messrs. Cranston of Hereford being third, and Messrs. Jefferies of Cirencester a close fourth. The most noteworthy incident I can mention in the next class, for twenty-four varieties, was that those placed next to Mr. Mattock of Oxford, who was first, were two firms whose names are somewhat unfamiliar to me, but it is pleasant to see names of new competitors entering the field and winning prizes; they were Messrs. Townsend & Son of Worcester, and Mr. Fletcher of Maidenhead. In twenty-four trebles the winners were Messrs. Prior, Messrs. Cooling of Bath, and Messrs. Harkness. We must wait till the Halifax meeting to see the last-named firm, and also Messrs. Dickson of Newtownards, Messrs. Merryweather, and other northern and Scotch firms competing in their best form, as they have suffered considerably from the frosts of January 5th, and May 20th and 21st. With the short statement that Messrs. Prince maintained their form of this year in Teas, and that amongst other successful competitors in that division were Messrs. Prior & Son, Mr. Mattock, Mr. Mount, and Mr. Burrell, I will here conclude my special remarks on the nurserymen's reserved contests.

The amateur contests were, as I have mentioned, large in number but poor in quality. To this general statement I, of course, can make some exceptions, but the amateurs' Roses were decidedly inferior to those of the last year, which I remember as having been a fairly good one for Roses—namely 1892. In the absence of Mr. Lindsell the amateurs' trophy seemed to be a very open contest, more especially as no one seemed quite to know how much Dr. Budd, of Bath, had suffered by the frosts which practically have shut out many from all competition this year, certainly up to the present. As the event resulted, it seems that the great Bath amateur has not suffered much injury, and his forty-eight was a good one, but not quite up to Dr. Budd's very best form. In his box was found the best amateur's H.P., viz., Marguerite Boudet, a beautiful Rose sent out by Guillot in 1888, in colour a very pale silvery lilac. I had never noticed this Rose prior to the Windsor show this year, when I saw a beautiful flower

staged by Mr. Benjamin Cant. If it could be easily grown it would certainly be worth the attention of exhibitors, but I believe that it may disappoint purchasers, as I believe it is not a vigorous variety. Other competitors in the class for forty-eight were Walter Drew of Ledbury, Mr. Pemberton, and Mr. Foster Melliar.

In the large amateur mixed classes, Mr. Haywood (gardener, C. J. Salter) showed well, as also did another exhibitor, whose name is unfamiliar to me—Mr. Thos Hobbs, of Exeter; and Mr. Gurney Fowler, of South Woodford. In the restricted divisions (under 2000, 1000, and 500), the palm was carried off by Mr. Orpen, who won first place in every class he staged. I say advisedly he won first in every class, as he was most undoubtedly an easy first in the class for nine varieties, although placed second by very erroneous judging (this opinion was universal). Mr. Orpen won the Harkness cup, as I anticipated he would many months ago. There is no amateur who grows the same number of plants (under 1000) who has the faintest chance against him when he is in his best form, as he was to-day. His box of twelve was the gem of the show, and worthy of the beautiful prize given by Messrs. Harkness, whose trophy, I may here say, seemed the admiration of a constant crowd around it at the Palace. Mr. Berners, of Harkstead Rectory, showed in very fine form, and this year he seems to be on most days absolutely invincible. He must be rapidly accumulating a large and valuable collection of silver plate! Amongst the smaller growers, Mr. Rivers Langton, of Hendon; Mr. Jeans, of Shorwell, Isle of Wight; Mr. Geo. Cook, of New Southgate; and Mr. Buchanan, of Canterbury, were the principal winners. Mr. Foster-Melliar, of Ipswich, won the medal for the best Tea with Souvenir d'Elise, and also several other prizes; but the frosts have evidently crippled this great rosarian's plants, as he is in nothing like his form of 1893.

The open classes for Roses of one variety were not very remarkable, but I would mention that Messrs. Dickson of Newtownards staged boxes of twelve of their flowers, Margaret Dickson and their new Rose Marchioness of Downshire (which was awarded the only gold medal this year) in the most splendid form; also a box of La France, in which Rose no one excels them. It was in this latter box that the best H.P. medal Rose was closely approached. Messrs. Burch of Peterborough, Messrs. Townsend of Worcester, and both the Messrs. Cant of Colchester showed fine flowers in the open classes.

Garden Roses were tastefully arranged and well staged. The principal winners were Messrs. Paul & Son (on this occasion turning the tables on Messrs. Cooling of Bath), Mr. Cuthell of Dorking, who showed beautiful flowers, and of high class enough to defeat two of the professional growers. Lord Penzance, Mr. Mattock, and Mrs. Orpen were also successful exhibitors of these varieties.

The attendance at the Palace on Saturday was very large, and the meeting may be considered to have been a distinct success. I should not like to close my remarks without saying that Mr. Head and those responsible for the arrangements on this occasion are to be congratulated on the smooth way that everything was settled and seemed to work. The entrance for exhibitors on this occasion was in the central transept, a great boon to those weary with long previous journeys. The amateurs and professionals were distinctly divided, so that everybody's course was made clear, and there was ample room for everyone's comfort, this notwithstanding a competition so large that I am not surprised to hear it has closely approached the phenomenal entries staged in 1892.—CHARLES J. GRAHAME.



ODONTOGLOSSUM CRISpum ZANOTHES.

REFERENCE has frequently been made in these columns to the rare forms of *Odonoglossum crispum* which Baron Schröder possesses, and amongst these must be placed that depicted in the illustration (fig. 5). A plant of this was exhibited at the Temple show in May last, and a first-class certificate was awarded for it by the Orchid Committee of the Royal Horticultural Society. The flowers are not unusually large, but present a chaste appearance, being white with the exception of a blotch of pale yellow on the lip. It is a charming form, and was admired by all who saw it at the exhibition.

MESSRS. VEITCH'S "MANUAL OF ORCHIDACEOUS PLANTS."

ONE of the greatest desiderata of horticultural literature, and one which has existed for a long series of years, has at last been supplied. By the publication of that masterly work, "A Manual of Orchidaceous Plants Cultivated Under Glass in Great Britain," Messrs. J. Veitch & Sons have placed all Orchid growers under lasting obligations to them. The work consists of two handsome volumes, copiously illustrated by excellent woodcuts. The first volume embraces A General View of the Orchideæ, Morphology of Orchid Flowers, Homologies of Orchid Flowers, Teratology of Orchids

(by Dr. Masters), Vegetative Structure, Minute Structure, Fertilisation, Hybridisation, Geographical Distribution, illustrated by excellent maps, Climatology, and Classification. To many, some of these subjects will no doubt seem abstruse, while to others their treatment will be sufficiently familiar. As a contrast to these technical subjects we have "A Retrospect of Orchid Culture," reaching as far back as 1768 up to the present time. "The Orchid Amateurs of the Past" is a most interesting chapter, calling up many memories of some of the most noted of orchidologists.

The chapters on fertilisation and hybridisation are replete with useful information, and might with advantage be read by all who pertain to be orchidologists. Details as to the most successful modes of fertilising Orchid blooms are given, the lucid instructions being considerably enhanced by the accompaniment of admirably executed engravings. From the chapter on fertilisation we extract the following paragraph:—

"The time that elapses from the pollination of the flower to the fertilisation of the ovules and thence to the maturing of the seed capsules varies considerably in the different genera and even in species belonging to the same genus. It was one of the discoveries of Robert Brown that at the time of the expansion of an Orchid flower the ovules are only in a rudimentary state, consisting merely of minute papillæ projecting from the pulpy surface of the placenta. The application of the pollen to the stigma must have a twofold effect before the seeds can be perfected, first as a stimulant to induce the maturity of the ovules, secondly to fertilise them by means of the pollen tubes. It thence frequently happens, at least where artificial means are employed, that the application of alien pollen, the pollen of a different species, and especially of a species belonging to a different genus, may bring about the first but fail to effect the second, a circumstance that hybridists would always do well to bear in mind. Under the artificial circumstances in which tropical Orchids are placed in the glass houses of this country the period for both processes extends over several months, which is known to be much longer than is required in their native countries."

Relative to the hybridisation of Orchids, it is recorded that the first hybrid raised by hand was *Calanthe* × *Domini*, which flowered in October, 1856. From that date it seems many years elapsed "before the practice was generally taken up by cultivators of Orchids." The supposed first natural hybrid was considered, on the suggestion of Professor Lindley, to be from *Phalænopsis* *Aphrodite*, and fertilised with the pollen of *P. rosea*, the progeny being, it is said, "identical with *P. intermedia* of Lindley." This hypothesis was verified by a hybrid *Phalænopsis* raised in Messrs. Veitch's nursery by Mr. Seden, and which flowered for the first time in 1886. We are told that the significance of this hybrid "was twofold; it was not only the first proof of the existence of wild hybrids, but the first artificially raised hybrid in a genus proverbially difficult to cultivate." By the raising of artificial hybrids "the existence of wild hybrids in five genera have been proved," these being *Odontoglossums* and *Oncidiums*, while "natural hybrids have also appeared among importations of *Lycaste*, *Cattleya*, and *Lælia*, and even hybrids between *Cattleya* and *Lælia*, an admonition by Nature herself against placing too much stress upon a single character for separating genera in the Orchideæ." In reference to the latter it is stated that *Lælia elegans* is supposed to have been derived from *L. purpurata* and *Cattleya guttata*, and "*Lælia Schilleriana* from *L. purpurata* and *C. intermedia* have been imported in considerable numbers." Other instances of wild hybrids are also given. It is likewise mentioned that the first bigeneric hybrid was raised by the late Mr. Dominy from *Phaius grandifolius* fertilised with the pollen of a variety of *Calanthe vestita*.

The raising of seedling Orchids, whilst being interesting work, requires patience, and even then the hybridisers do not always see the results of their labours. This may be seen by the following:—

"The period from the germination of the seed to the first flowering of the plant varies more in some genera than in others; thus, in *Cattleya* and *Lælia* (which are as regards hybridisation one genus, excluding some Mexican species referred to *Lælia*) the shortest recorded period is six years. *Lælia* × *caloglossa* raised by Dominy from

Cattleya labiata and *Lælia crispa* was nineteen years before it flowered, but this is undoubtedly an extreme case. The periods in ten recorded instances ranged from seven to ten years, while those of some of the older hybrids were a little longer. In *Dendrobium* the period is usually four or five years; in *Phalænopsis* from four to six years; in *Cypripedium* from four to six years with a few cases of shorter duration, but five years is recorded for more crosses than any other period. The shortest periods occur in the *Calanthes* of the *Vestitæ* section; these usually flower from three to four years from the seed. Seedling *Epidendrum* and *Masdevallias* flower in about four years. It is a remarkable fact that the period of terrestrial Orchids from the germination of the seed to the first flowering of the plant, like the fertilisation of their ovules, is much shorter than in the epiphytal species; thus *Disa* × *Veitchi* raised by Seden from *D. grandiflora* and *D. racemosa* flowered in twenty-one months from the sowing of the seed; and with *D. × Premier* raised by Mr. Watson at Kew from *D. × Veitchi* and *D. tripetaloides* the period was still shorter."

The foregoing citations to a certain extent indicate the character of one portion of this excellent work, but by no means show the



FIG. 5.—ODONTOGLOSSUM CRISPUM ZANOTHES.

comprehensiveness of the whole book nor the scientific accuracy with which the numerous genera of Orchids are described. References to these matters have previously been made in these columns, and it only remains to say that parts x., v., iii., vi., ii., bound in the order given, constitute the first volume. Besides the subjects already mentioned, the following genera are described:—Part v., *Masdevallias*, *Pleurothallis*, *Cryptophoranthus*, *Restrepia*, *Arpophyllum*, and *Platylinus*; part iii., *Dendrobium*, *Bulbophyllum*, and *Cirrhopetalum*; part vi., *Coelogyne*, *Epidendrum*, *Spathoglottis*, *Phaius*, *Thunia*, *Chysis*, *Pleione*, *Calanthe*, *Diacrium*, and *Nanodes*; part ii., *Cattleya*, *Lælia*, *Læliopsis*, *Tetramicra*, *Schomburgkia*, and *Sophranites*. In the second volume the other genera of Orchidaceous plants cultivated under glass are detailed, and a glossary of technical terms, with the systematic and alphabetical indexes, complete a work that occupies a prominent position in horticultural literature.

STRAWBERRIES IN 1894.

THE season of 1894 has in this locality but one word to describe it—disaster. The greater number of varieties were in full bloom when we experienced a frost, which not only registered 10° at 3 feet from the grass, but which lasted for at least six hours. The consequence was that not only the expanded blooms, but also the majority of the unopened buds were destroyed, and the few blooms which survived this ordeal have been prevented bringing

their fruit to perfection by the extraordinary hot weather and parching winds which have prevailed during the past three weeks. Disasters are not pleasant to talk about, but one can often learn something from them, and I thought it would perhaps be worth while to chronicle the few exceptions to the rule of this season's failure, in order to see if your correspondents' experience in other localities in any way coincided.

Amongst early varieties John Ruskin stands conspicuous, bearing a full crop of fair sized fruits, and of excellent flavour. King of the Earlies being a variety with but little foliage to protect it, is a total failure. La Grosse Sucrée has only a few second blooms which have carried fruit, and Noble has even less. Vicomtesse Hericart de Thury, one of the most hardy varieties we possess, is almost fruitless; Pauline, Rivers' Eliza, and Scarlet Queen a quarter crop. White Knight has not a fruit on a bed. President, Dr. Hogg, Jas. Veitch, and Barnes' Prolific are in nearly the same condition. Sir Joseph Paxton has a quarter crop, whilst Commander has a full crop.

Amongst the later kinds Eleanor, Elton Pine, Frogmore Late Pine, and Loxford Hall are total failures, Latest of All one-third of a crop, Waterloo a good half crop if the longed-for rain comes to save them, and Jubilee, a very heavy crop of very fair quality. This variety has a few fruit ripe now, and a succession which should last a fortnight.

I have given as a cause of the failure of King of the Earlies its scant foliage, but I think the reason is hardly a good one, for surely the foliage of Scarlet Queen is ample enough, and so is that of Vicomtesse Hericart de Thury and President, whilst two of the kinds which have done well—viz., John Ruskin and Commander, have poor protection, the former having little foliage, and the latter carrying its blooms on footstalks well over the tops of the leaves. Again, Waterloo has but little protection, but it blooms late, and on very short stalks. Can it be there is anything in the breeding of Strawberries which conduces to hardiness? Perhaps some of our raisers can tell us. John Ruskin, Commander, and Jubilee are the only kinds amongst the older varieties which can be called a success this year.

Turning to the newer varieties Royal Sovereign ranks first. We had only a bed of one-year runners which were allowed to fruit, but nearly every bloom set, and the fruit has been excellent. The constitution of the plant seems all that could be desired. Sensation (speaking from a very limited experience) seems a Strawberry gone mad. It grows like a Willow, and throws out such foliage and runners that the plants will require a small plot each to develop, carrying a half crop of very large fruit not yet ripe. Lord Suffield is a good half crop, but not ripe. Albert, robust habit, very late, fair crop. Empress of India and Gunton Park we must wait until another year, and hope for a less severe spring frost before we can speak about them here.—A. H. PEARSON, *Chilwell Nurseries, Beeston.*



AN IMPROVED CHRYSANTHEMUM CUP AND TUBE.

MR. E. BECKETT, The Gardens, Aldenham House, Elstree, Herts, sends us a sample of his improved extension Chrysanthemum cup and tube, which for simplicity and durability is perhaps unequalled. The new feature in the cup is that it can be raised or lowered in the tube by turning the screw and without taking the stem of the flower out of the water. There is also an improved grip for holding the stem of the bloom. The article is made of brass, and in different shapes to suit all kinds of flowers. It is the best invention of the kind that has been brought to our notice, and will no doubt become popular with exhibitors. The makers are Messrs. W. M. Still & Co., 24, Charles Street, Hatton Garden, E.C.

NATIONAL CHRYSANTHEMUM SOCIETY'S ANNUAL OUTING.

THE members of the National Chrysanthemum Society will hold their annual outing on Monday, July 23rd. The members will travel to Windsor by the Great Western Railway, embark on two steam launches at Thames Side, Windsor Bridge, proceed up the river to Bourne End. After dinner the launches will steam up the river as far as possible, returning to tea at the Quarry Hotel, and from thence to Windsor. The charge for the day, including return fare from Paddington to Windsor and back, boat, dinner, and tea, will be 9s. 6d. to members, and 10s. 6d. to non-members. Members joining the party at Windsor or Maidenhead will pay 7s. 6d., and non-members 8s. 6d. Applications for tickets should be made to Mr. Richard Dean, Ranelagh Road, Ealing.

CLEMATIS COUNTESS OF ONSLOW.

AT the meeting held at the Drill Hall, Westminster, on the 26th ult., Messrs. G. Jackman & Co, Woking, exhibited a plant of a new hybrid Clematis named Countess of Onslow. It is the result of a cross between *C. coccinea* and the variety Star of India, and was raised by the above mentioned exhibitors, to whom a first-class certificate was awarded on the occasion referred to by the Floral Committee of the Royal Horticultural Society. As depicted in the engraving (fig. 6, page 37), the flowers are inclined to be trumpet shape, while the colour may be designated a rich reddish purple, with bands of deep scarlet. The foliage resembles that of *C. coccinea*, and although perfectly hardy, Messrs. Jackman & Son inform us that this Clematis is well adapted for growing in a conservatory. It is a good grower and of a climbing habit.

SYRINGING "MALMAISON" CARNATIONS.

"COME and see my Malmaison Carnations grown on the non-syringing system." Such was a message received from Mr. C. A. Young, who was some few years ago gardener to the late Joseph Evans, Esq., Hurst House, Prescott, but now carrying on a successful business as nurseryman and florist at West Derby. Knowing him to be an old reader of the *Journal of Horticulture*, I was convinced that he was interested in the articles on syringing Carnations which have been appearing for the past few weeks in its pages, for "Malmaisons" are Mr. Young's speciality.

Picture a long span-roofed house containing 2000 healthy plants of such sorts as Prince of Wales, the Old Blush, Lady Middleton and Baron Rothschild, all just expanding their blooms; and I leave readers to judge whether the opinion of such a grower is worthy of consideration. "Are you in favour of Malmaisons being syringed, or would you adopt it generally?" I asked Mr. Young. "Certainly not, for it is a practice if carried on by others than the most skilful cultivators would certainly end in failure, therefore I should not recommend it." On requesting a few items as to how he succeeds so admirably Mr. Young said:—Layer early in frames filled with light soil, do not overpot, stand the pots on a cool bottom, give free ventilation but avoid draughts, water most carefully, for this is of more importance than anything else, shade moderately during bright sunshine, only giving just sufficient heat to keep out the frost. If this is carefully followed out we should hear very little of failures with Malmaison Carnations. So I thought, as I saw the plants in such excellent condition.

If more proof is wanted regarding these beautiful flowers there are many celebrated gardeners in this district (Liverpool) who, having seen them, could testify that no amount of syringing could keep plants in better condition than those grown on the non-syringing principle by Mr. Young. One more word, which may not be out of place whilst speaking of Carnations. Two shelves running the whole length of the house contained pots of Carnation Mrs. Reynolds Hole placed thickly together. The flowers were trained to meet each other, and formed a perfect canopy of bloom.—R. P. R.

I AM in hopes that the discussion *re* syringing Malmaison Carnations will bring out some hints from our most noted cultivators, and although I do not syringe the plants I will not maintain that the practice is wrong. I have not the slightest doubt that syringing in many cases is beneficial, particularly in a high and dry locality; or where the stages and floors in the houses are of slate or any other dry substance, and the structures themselves are narrow, light, and have an arid atmosphere.

In my case the plants are grown, when young, in cold frames, wintered in a Peach house on a shelf near the side ventilators and flowered in a greenhouse where both floors and stages are covered with shingle. The houses are low, consequently the atmosphere is moist, so that syringing is not practised. I have at present a good show of bloom with which all concerned are perfectly satisfied, but I would like to be able to produce them about two months in advance of this date. Careful watering seems to me to be of the utmost importance, and during the winter the plants under my charge are kept rather dry. As a stimulant I have so far used nothing but soot.—W. J. IRELAND.

DISEASE IN CARNATIONS.

I WAS pleased to see the note on this subject (page 3) by Mr. Martin R. Smith, because his experience exactly coincides with my own, and the minute description given by him of the most troublesome form of fungus which attacks Carnations will enable cultivators to distinguish from which of the several kinds of disease their plants are suffering. My experience teaches me that syringing, as I previously advised, prevents to a great extent the spread of all forms of fungus, because the spores lose their most potent qualities if damped; but I am at present trying several experiments in that direction, and hope to say more about the matter later on.

I have frequently noticed how plants that have done flowering improve after they are placed in the open air, especially during very wet periods. A few weeks ago I noticed some plants of "Malmaison" Carnations in a neighbour's garden. They had been in the open air throughout the winter, and although we had then just experienced a few weeks of cold, wet weather, not the slightest trace of disease could

be found upon the plants, which evidently appreciated the abundant moisture. I think it would be an excellent plan for all large growers to plant a number of young plants in the open air each year for the purpose of affording healthy stock.

Although the discussion under this and somewhat similar headings has brought out many conflicting opinions, I feel sure it has resulted in setting many to work in a more determined manner to try if possible to overcome the various diseases which attack these popular flowers, for in too many instances affected plants have been consigned to the rubbish heap when they might have been restored to health instead.—H. DUNKIN.



EVENTS OF THE WEEK.—The events of horticultural interest which will occur during the ensuing week include the Newcastle-on-Tyne exhibition. This opens on Wednesday, July 18th, and will continue the two following days. On July 19th the northern exhibition of the National Rose Society will be held at Halifax, and on the 21st inst. a Rose show will be held at the Manchester Botanical Gardens. The northern section of the National Pink Society holds an exhibition on that day at the same place. A list of other Rose shows is published on another page.

— **THE WEATHER IN LONDON.**—Showery weather has prevailed in the metropolis since publishing our last issue. On Sunday rain fell in the evening, the same occurring on Monday. Tuesday was fine, but much rain fell during the night. Wednesday opened dull, but it cleared as the day advanced.

— **ROYAL HORTICULTURAL SOCIETY.**—At the Drill Hall on Tuesday last it was announced that a special general meeting of the Fellows of this Society will be held at 2.30 P.M. on July 24th, at the offices, 117, Victoria Street, S.W. The meeting is convened for the purpose of adopting and confirming (or otherwise) a new by-law on the subject of life composition in lieu of annual subscription.

— **ROYAL GARDENERS' ORPHAN FUND.**—At the Croydon show on Wednesday, July 3rd, there was held a Rose Fair, at which flowers were sold for the benefit of the above fund. We are glad to know that, under the kind superintendence of Mrs. Gunner, the amount taken was £9 12s. 5d., only a few shillings of which would have to be deducted for expenses. Many of the leading amateur and professional growers were kind enough to contribute Roses, some of which realised 3d. each. The Croydon Society sets an excellent example in this matter, and it is hoped others will take it up, and do what they can for this deserving fund.

— **UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.**—The quarterly meeting of this Society was held at the Caledonian Hotel on Monday evening last, Mr. G. W. Cummins in the chair. Forty-five new members have been elected this year. Three members have died, and there are two members on the sick fund at the present time. The Treasurer reported that he had purchased £200 worth of South Indian Railway 3½ per cent. Stock, guaranteed by the Indian Government. The usual business of the Society was transacted, and a cordial vote of thanks to the Chairman ended the meeting.

— **THE PROPOSED CACTUS SOCIETY.**—About twenty persons interested in the culture of Cactaceous plants met at the Hotel Windsor, Victoria Street, S.W., at the invitation of Mr. H. Cannell of Swanley, on Tuesday afternoon last, to consider the advisability of forming a Cactus Society. After lunch Mr. Cannell dwelt at some length on the subject, remarking that if a Society of the kind mentioned could be formed greater interest would be taken in the cultivation of Cactuses in this country. Other gentlemen concurred, but Mr. W. Watson of Kew, whilst expressing his sympathy with the movement, suggested that the better plan would be to solicit the assistance of the Royal Horticultural Society rather than inaugurate an independent and necessarily weak association. Further discussion took place, and subsequently Mr. Watson moved the following proposition:—"This meeting of Cactus specialists request the Royal Horticultural Society to arrange for an annual exhibition of Cactuses, and if possible to offer medals for them. Also that they be asked to form a sub-Committee specially for Cactuses,

the members of which could be selected from those interested in these plants." This motion was seconded by Mr. Lynch, and on being put to the meeting was carried unanimously.

— **TESTIMONIAL TO MR. WM. DEAN.**—We are desired to say that at the request of the Midland section of the Committee interested in this testimonial the presentation has been delayed till August. The Hon. Treasurer, however, sent on Monday in last week a substantial instalment of the amount collected to Mr. Dean, it being the occasion of his seventieth birthday. The original intention was to make the presentation on that day. Any further subscriptions, however small, will be gladly received and acknowledged by Mr. George McLeod, 46 Cannon Street, London, E.C., or Mr. William Cuthbertson, Springfield, Rothsay.

— **"THE NATURAL HISTORY OF PLANTS."**—We have received from Messrs. Blackie & Son the third instalment of this excellent work. The present volume deals chiefly with the physiology and functions of the leaves and the reciprocal action of plants and soils. As in the case of the last volume the illustrations preserve a high average of merit. Prefixed to the whole is a coloured plate of Tropical Epiphytes in Ceylon, and the diagrams plentifully distributed throughout the body are peculiarly distinguished by the definiteness of their execution. The matter is, perhaps, rather more abstruse than that contained in the previous number; but it is nevertheless most interesting to peruse. Those of our readers who take a pride in their libraries should not allow this publication to pass unobserved.

— **THE ROYAL BOTANIC SOCIETY'S EVENING FÊTE.**—Fair weather prevailing on the occasion, the Evening Fête at the Royal Botanic Society, held in the gardens at Regent's Park on the 4th inst., was a success. In the large tent was the usual display of flowers, but so strong was the temptation to sit out on the lawn or saunter along the gravel paths that they did not attract the attention their merits deserved. The Duke and Duchess of Teck were present, being received at the entrance by the Marquis of Bristol and other members of the Council. There was no cessation of music from eight o'clock till midnight. The Ladies Pompadour Band performed in the conservatory, the band of the 1st Life Guards on the lawn, and the band of the 2nd Life Guards near the lake, which was beautifully illuminated. Among those who took prizes for floral displays were Mr. W. C. Buster, Messrs. F. & C. Osler, Mr. H. O. Garford, Miss N. Erleboch, Mr. R. Scott, Mr. W. Elliott, Messrs. Perkins & Sons, Mr. John Russell, Mrs. Garford, Messrs. W. Paul & Son of Waltham Cross, and Messrs. Barr & Son. It was estimated that between 8000 and 9000 persons visited the gardens.

— **VIOLAS AT CHISWICK.**—When I saw the extensive collection of bedding Violas being grown at Chiswick the weather was hot and dry. Still I could not help thinking of these hardy flowers that they seemed very unhappy in our hot southern clime. The majority of them are of Scotch origin, notably Dr. Stuart's rayless varieties, and were the Chiswick form to be regarded as correct southern form not one in twenty is worth growing. Utterly valueless for decorative purposes is the great bulk, especially the parti-coloured forms, that look so pretty on wired frames at shows, but are so ineffective for gardens. Violas specially need a cool atmosphere, ample moisture, and plenty of room. Even then we need only half a dozen sorts of decided colours that can be utilised to intermingle with tender plants in the summer, or will make good effect of themselves. Of the Chiswick Violas there is exceeding sameness and poverty of colour effect. I have seen many a long way better than are there now. Will anyone tell readers of the very best six self-coloured Violas in existence, free and enduring? Those would satisfy all requirements.

— **SWEET PEAS AT CHISWICK.**—A very interesting collection of these hardy annuals is growing there also, but like the Violas there are too many having ineffective or washy tints that are of little value either for garden decoration or when cut. So far as I could make a selection when recently in the gardens, I found the best to be Queen of England, white; Ovid, rosy pink; Lady Penzance, rich carmine; Mrs. Eckford, primrose; Her Majesty, rosy red; Ignea, crimson; Standard, rosy red wings; Firefly, crimson scarlet; Duke of Clarence, violet purple; and Stanley, maroon. Those who may prefer more pale hues may add the new white Emily Henderson, Princess Beatrice, and Mrs. Gladstone, both soft tints, and they will have a good dozen for all sorts of purposes. There is yet ample room beyond what has been done to improve the substance and form of Sweet Pea flowers that presents more useful aims than in multiplying useless varieties.—A. D.

— WE are requested to state that the first annual exhibition of the NORTH CARDIGANSHIRE HORTICULTURAL SOCIETY will be held at Aberystwyth on August 22nd.

— GARDENING APPOINTMENT.—Mr. Alfred Lodge, formerly head gardener at Brougham Hall, Penrith, has been appointed head gardener to Lord Iveagh, Elvedon Hall, Thetford, Suffolk.

— FRENCH HORTICULTURISTS.—We understand that the name of M. Druetz, the President of the Northern Horticultural Society, of France, Lille, has been added to the roll of Chevaliers of the Legion of Honour; and that of M. Saint Leger, the Librarian of the same Society and of the Lille Botanic Garden, to the distinguished list of Chevaliers of Agricultural Merit.

— CELERIAC should be grown on the level and not in trenches, a large Turnip-like root and not much top growth being most desirable. If the ground was heavily manured for early Cauliflowers this should require very little preparation for Celeriac. Merely hoe over the surface and clear off any weeds or rubbish there may be, and replant at once. Fifteen inches apart each way is enough space for the compact growing Continental varieties, but another 3 inches may be allowed the common form or that most generally grown in this country. Keep well supplied with water during dry weather.—GROWER.

— AMERICAN APPLE CROP.—It is expected that the crop of Apples will be fully equal to that of 1892-93. According to the American papers, "Kansas has a full yield, and many young orchards have come into bearing in that State this year. New York reports good prospects, especially in the Hudson River district; and in the western part of New York State a fair to good yield is expected. Michigan, New Jersey, and Virginia will have a good crop of Apples. In the Ontario district of Canada there is said to be a heavy growth. Nova Scotia will also market a good yield."

— CYRTANTHUS O'BRIENI.—This is a new species named by Mr. Baker in compliment to Mr. James O'Brien of Harrow, who recently introduced it from Natal. The genus *Cyrtanthus* is an interesting one, all the species being pretty in flower, and their only drawback is the difficulty experienced in keeping them in good health in cultivation. There are, however, a few species which are as easy to manage as *Lachenalias*, and *C. O'Brieni* is one of them. It is near *C. angustifolius* and *C. MacOwani*, and these are near the common *C. McKenii* and *C. lutescens*. The new one, according to Mr. Watson in the "Garden and Forest," bears tubular, bright, pale scarlet flowers in umbels of five to eight on slender scapes about a foot long. The leaves are linear and like those of *C. McKenii*.

— CUCUMBERS IN FRAMES.—Plants growing in pits and frames the growths must be gone over regularly, cutting out those that are exhausted, training and earthing the plants as may be required, sprinkling the foliage at about four o'clock. In dull periods keep the beds well lined, and admit air constantly by tilting the lights at the back. Keep the growths fairly thin, aiming at a supply of young shoots to supplant the exhausted, stopping one or two joints beyond the fruit. Ventilate early, just a little to allow of accumulated moisture escaping, increasing the ventilation with the advancing temperature, but keeping through the day at 80° to 85° or 90°, closing sufficiently early to insure the temperature rising to 90°, 95°, or 100°. Shade only to prevent flagging. If aphides appear fumigate two or three times, it being better to afford a moderate fumigation on two or three consecutive evenings than to give a strong dose, which often seriously injures the foliage.—A.

— THE ODOUR AND USE OF ONIONS.—The odour of this vegetable, which is what makes it so unpleasant, is due to a volatile oil, which is the same as that in Garlic, though in the Onion it is milder and naturally does not last so long. There are, besides, easy ways of removing at once all unpleasantness from the breath. A little Parsley or a few grains of Coffee, or even a swallow or two of milk, if taken after eating, proves an effective remedy. Boiled Onions are the least objectionable in regard to odour, and are as easily digested as any. The oil in the Onion passes off into the water in which the vegetables are boiled, and if the kettle be kept closely covered and the water changed after they have boiled five minutes, and then again ten minutes later, there will be no odour through the house, and the Onions will be white instead of grey, as they so often are. Besides being rich in flesh-forming elements raw Onions are especially good in breaking up a heavy cold; they are also stimulating to fatigued persons, and are otherwise beneficial.—("Scientific American.")

— THE "BOTANICAL MAGAZINE."—The July number of this periodical contains the following illustrations of plants:—*Houlletia Landsbergi* (Costa Rica), *Gastrochilus Curtisi* (Malay Peninsula), *Colocasia antiquorum* (India), *Æschynanthus Hildebrandi* (Burma), *Spathoglottis gracilis* (Borneo).

— A PURE YELLOW FLOWERED CANNA is something that florists have been working for for years without, until recently, success. They have it now though—a clear yellow, and without a trace of speck or strain of any colour in it. It belongs, says an American contemporary, to the Crozy section, and has nothing of the flaccida or *Premices des Nice* character about it. Its flower spike is bold, stiff, and strong, and rises well above the foliage, and the blossoms are firm and of good substance.

— LATE CELERY.—Trenches should be dug at once for the latest crops of Celery. These will require to be moulded up heavily, and single rows will be found the most reliable. A heavy soil or water-logged site ought to be avoided. Such good red or pink varieties as Leicester Red, Major Clarke's Solid Red, and Standard Bearer are suitable for main and late crops, the last named proving an excellent keeper. Do not delay planting after the plants are strong enough to be moved, as that is not an aid to the production of good late Celery, but rather the reverse.—W.

— HAMPSHIRE STRAWBERRIES.—During the last two or three weeks enormous consignments of Strawberries have been sent to the London and provincial markets from Swanwick, Bursledon, Botley, and neighbourhood, many thousands of the now familiar cross-handled baskets having been dealt with by the Waterloo officials in that time. Some idea of the traffic may be gathered from the fact that on one morning no fewer than sixty pair-horse vans were required to cart the fruit to various London markets, the amount of labour involved in checking and making out accounts severely testing the parcel department staff at that station.

— MELONS SETTING THEIR FRUIT.—Though artificial impregnation is not so essential now as early in the season, it is advisable to attend to it in order to secure an even set of fruit. If there is a difficulty in getting Melons to set in frames, apply good linings, and admit air freely, ventilating a little at night, so as to prevent the deposition of moisture on the blossoms, as to set the pollen must be dry and the stigmas not destroyed by moisture. Keep the foliage fairly thin, but it is not advisable to use the knife much during setting, still light and air is essential. Avoid giving air if it can be helped, yet the foliage must not flag.—H. R.

— ROYAL SOVEREIGN STRAWBERRY.—I was very interested in Mr. Iggulden's (page 7) remarks on the trial grounds of Messrs. Laxton Brothers, more especially the Strawberries, for which that firm are famous. I have tried every new variety sent out by the late Mr. Laxton in a town garden here, with a considerable admixture of lime rubbish, and so far think best of Royal Sovereign. The plants were in bloom when the severe frost (22° Fahr.) caught them, but apparently sustained little injury. The fruit ripened immediately after Noble, and ten days earlier than that magnificent Strawberry Auguste Nicaise. I am glad to learn Mr. Wright thinks so highly of Royal Sovereign in his excellent "Fruit Growers' Guide."—W. J. MURPHY, *Clonmel*.

— STRAWBERRIES IN POTS.—The outside Strawberries make a poor display as compared with the late ones in pots a short time since, the latter being over an ounce weight each. As runners come early, the best from one-year-old plants have been layered in 3-inch pots, into which strong loam was rammed, adding a quart of wood ashes and a similar quantity in equal parts of bonemeal and soot to every bushel of loam. The loam being turfy no manure was added, but when otherwise a fifth of fresh horse droppings is a decided advantage. My plan is to place a row of pots half plunged between every two rows of plants in the open, which leaves a space between alternate rows for operating in layering and watering. Strong runners are laid in the pots, one in the centre of each, a slight hole being made, and each secured with a peg made of galvanised wire (No. 12), cut in lengths of 2½ inches, and doubled. With proper attention to watering the runners root quickly, and when the roots show at the bottom of the pots, and before they are rooted through into the soil, they are detached, stood under a north wall for a few days, and then potted. Runners are only taken from young vigorous plants, and such as have shown fruits. I still grow La Grosse Sucrée and Vicomtesse Héricart de Thury for early; Noble, President, Sir Joseph Paxton, Lucas, and Auguste Nicaise for general work; Sir Charles Napier, Dr. Hogg, British Queen, and Waterloo for late use.—G. A.

— PANSIES IN CANADA.—A correspondent writes that the Pansy fanciers of Montreal and vicinity have formed an Association for promoting the better cultivation of this favourite among flowers. The first exhibition was to have been on July 7th. Our informant adds that although Canadian horticulture is, so to speak, yet in its infancy, there are many beautiful gardens in the Dominion.

— THE TOTAL RAINFALL AT ABBOT'S LEIGH, HAYWARD'S HEATH, SUSSEX, for June was 1.99 inch, being 0.19 inch above the average. The heaviest fall was 0.57 inch on the 6th. Rain fell on fifteen days. Total for the six months, 13.09 inches, which is 0.92 inch above the average. The maximum temperature was 83° on the 30th; the minimum 41° on the 12th. Mean maximum, 68.23°; mean minimum, 49.10°. Mean temperature, 58.66°—0.69 below the average. The last ten days was as brilliant as the earlier part of the month was dull, wet, and cool.—R. I.

— THE WEATHER IN JUNE.—Mr. W. Mabbott, The Gardens, Gwernllwyn House, Dowlais, Glamorgan, writes:—"The following is a summary of the weather here for the month of June:—Number of hours sunshine, 130 hours 55 minutes; number of days on which the sun shone, twenty-four; maximum only on the last four days, minimum 10 minutes on the 10th. Number of days on which rain fell, fifteen; total depth, 2.79 inches; maximum, 0.94 on the 3rd; minimum, 0.01 on the 21st. With the exception of two days the wind has been north-west and east the whole of the month, and very strong and cold the most of the time. The only really mild day was the 21st. Vegetation of every description is very backward."

— THE WEATHER LAST MONTH.—Mr. W. H. Divers, Belvoir Castle Gardens, Grantham, writes:—June was cold and showery in the early part, but warmer after the 13th; the last two days were clear. Wind was in a northerly direction sixteen days. The total rainfall was 2.28 inches, which fell on fourteen days, the greatest daily fall being 0.62 inch on the 4th. Barometer, highest 30.234° on 30th at 9 A.M.; lowest 29.410° at 9 P.M. on 10th. Temperature, highest in shade, 80° on the 30th; lowest, 36° on the 1st. Mean daily maximum, 66.13°; mean daily minimum, 48.03°. Mean temperature of the month, 57.08°; lowest on grass, 32° on the 1st; maximum in the sun, 139° on 30th. Mean temperature of the earth at 3 feet in depth, 53.13°. Total sunshine, 148 hours 13 minutes.

— SUMMARY OF METEOROLOGICAL OBSERVATIONS AT HODSOCK PRIORY, WORKSOP, NOTTS, FOR JUNE.—Mean temperature of month, 56.5°. Maximum on the 30th, 80.3°; minimum on the 1st, 35.4°. Maximum in the sun on the 17th, 128.9°; minimum on grass on the 1st, 29.1°. Mean temperature of air at 9 A.M., 58.2°. Mean temperature of soil 1 foot deep, 56.3°. Nights below 32° on grass, two. Sunshine—Total duration in month, 134 hours, or 27 per cent. of possible duration; we had four sunless days. Total rainfall in month, 2.25 inches; rain fell on fourteen days. Average velocity of wind, 6.7 miles per hour. Velocity did not reach 400 miles on any day, and fell short of 100 miles on nine days. Approximate averages for June—Mean temperature, 57.4°; sunshine, 157 hours; rainfall, 2.01 inch. A cool and cloudy month, rather wet at first, the last few days fine and warm.—J. MALLENDER.

— LIFE OF LICHENS DURING THE WINTER.—Of all plants Lichens are the ones that most easily endure the lowest temperatures. They are met with in profusion in the Polar regions and at the highest altitudes, where no other plant can subsist. The causes of this peculiar resistance being unknown Mr. H. Jurnelle decided to ascertain how, from the standpoint of gaseous exchanges with the atmosphere, the Lichens of our country behave during the winter. The study of this point was evidently capable of throwing light upon the question of the resistance of these plants. The results obtained by Mr. Jurnelle, and recently communicated to the Society of Biology, are as follows:—In our country, where the temperature descends below zero, Lichens enter upon a retarded course of life, due less to the lowering of the temperature than to a loss of water. In the Lichens that grow under shelter and on the ground, the loss of water being less, the gaseous exchanges will be merely decreased and remain sensible. On the contrary, in Lichens living upon trees and exposed to the air dessication occurs to a considerable extent, and the life is then so retarded that in darkness as well as in light the gaseous exchange no longer becomes appreciable. If by chance the Lichen contains a notable proportion of water the freezing of the latter produces an effect analogous to that of dessication, and the gaseous exchanges are again of the feeblest character.—("Rev. Scientifique.")

— SANITARY QUALITIES OF WATERCRESS.—The Watercress is a plant containing very sanitary qualities. A curious characteristic of it is that, if grown in a ferruginous stream, it absorbs into itself five times the amount of iron that any other plant does. For all anæmic constitutions, says the "Scientific American," it is therefore specially of value. But it also contains proportions of garlic and sulphur, of iodine and phosphates, and is a blood purifier, while abroad it is thought a most useful condiment with meat roast or grilled. The cultivated plant is rather more easy of digestion than the wild one.

— GLADIOLUS COLVILLI THE BRIDE.—For any kind of decorative work there are very few more useful flowers than this beautiful Gladiolus. Potted at intervals, placing from nine to twelve bulbs in a 6-inch pot, and plunged in ashes in a cool frame, they may be taken out and forced as required, frequent applications of manure water giving tone to the foliage as well as the flowers. Where they are wanted for cut flowers alone a cool frame filled to a depth of from 9 inches to a foot with good compost, the bulbs being planted just below the surface, is an excellent place in which to grow them, their only requirements being to ventilate carefully as growth proceeds, and not stinting them for water when the roots have a firm hold of the soil. During very severe weather a few mats placed over the frame will prevent the points of the foliage getting damaged by frost.—R. P. R.

— HELIANTHEMUM VULGARE HYSSOPIFOLIUM FLORE-PLENO.—What a pity this plant should be burdened with such a formidable name, enough to make many persons wish for common names, although the latter in many instances give far more trouble. The plant in question bears bright red double flowers, commencing in March and April, gradually becoming a mass of red. It is very distinct, and is useful for many positions in the flower garden, as like most of this family it thrives well without much attention when it is properly established, and does not grow too large. It thrives in poor stony soil where many plants would barely exist. The colour is brightest where the flowers are partially shaded from the sun. Another desirable member of this family is *H. polifolium roseum*, which bears flowers of a beautiful soft rosy pink shade.—W. H. DIVERS, *Belvoir Castle Gardens, near Grantham*.

— MARKET GARDENERS' COMPENSATION BILL.—After two failures, due to the lack of a quorum, the House of Commons Standing Committee on Trade has disposed of this measure. It was agreed, at the instance of Sir E. Lechmere, prompted by the President of the Board of Agriculture, that the vexed question, "What is a market garden?" should be settled by the insertion of this definition in the Bill, "The expression 'market garden' shall mean a holding cultivated as a garden or orchard exclusively or mainly for the sale of the produce thereof." Clause 9, which forbade the application of the measure to any "land cultivated as nursery ground," was struck out. So was Clause 5, which made the measure retrospective without qualification. Its place was taken by one declaring that if the tenant of a market garden has planted fruit trees, Strawberry plants, or Asparagus within three years prior to the passing of this Bill, and shall, not more than six months after the measure comes into force, give written notice of the planting to the landlord or agent, he shall be entitled to compensation for it. An amendment, defining the manner in which compensation shall be paid for the improvements in market gardens on Crown lands having been agreed to, the Bill was sent back to the House.

— BIRMINGHAM AMATEUR GARDENERS' ASSOCIATION.—There was a very large exhibition of cut blooms at the meeting of the above Association held at 116, Colmore Row, on Wednesday last (the 4th). The quality and number of the exhibits were far in advance of any previous exhibition. The exhibitors were Messrs. Hy. Beach, C. Daniell, S. Dascombe, Peake, A. Stanford, and W. H. Twist. There was a fair competition for a special prize of a large photo album offered by Mr. A. Stanford for six blooms of Roses. The winner was Mr. S. Dascombe, Upper Bentley, Bromsgrove, whose blooms were remarkable for their colour and quality, being far ahead of the other exhibitors. Mr. W. H. Twist, Small Heath, was the winner of a special prize offered by Mr. W. H. Gabb, Small Heath, for six sprays of Violas; Mr. Twist's blooms were perfect in form and were well arranged. Mr. S. Dascombe was second. The first two certificates for special merit yet won were gained by Mr. A. Stanford, King's Norton, for a superb stand of herbaceous blooms, and Mr. W. H. Peake, Handsworth, for a very fine specimen Cucumber. The results of the competition for these special prizes were encouraging to the donors, and will no doubt lead to further offers next year. Mr. W. B. Child, Acocks Green, exhibited, not for competition, a fine stand of herbaceous blooms.—W. B. GRIFFIN, *Hon. Sec., Wychbury, Alcester Road, Birmingham*.

— **TOMATO BLOOMS FALLING.**—Does not this arise solely from lacking fertilisation? I have found very considerable and dry heat—such as strong sunshine will create in glass houses—to produce sterility, but why it may be difficult to say, unless there is in such dry heat that which is destructive to the fertility of pollen. We all know that given fairly natural conditions of light and warmth, with plenty of air, Tomato blooms will set freely, and it is this fact which leads to the puzzling of the uninitiated when they find, under diverse weather, conditions, or surroundings, that the flowers fall. Potato blooms closely resemble those of the Tomato, but they fall wholesale, indeed nearly all do so, because they are quite devoid of pollen, or else pollen is found in such minute quantity as to be useless. That sterility has grown out of so much in-and-in-breeding, though, happily, we suffer nothing in consequence, because we have gained largely in root tubers, and through these all we need is secured. In the case of Tomatoes if seed fails we can but revert to cuttings as a means of propagation, but that is a very troublesome process. Happily, we have not found any lack of pollen or of seed yet, and I do not think we shall, in spite of the fact that conditions sometimes produce sterility and falling flowers. Anyone suffering from this evil under glass may do some good by syringing the plants, and lightly damping the house in the evenings, and they should endeavour to procure fertilisation, not only by tapping the stems near the trusses of bloom in the morning, but also if the house then be dry, holding a sheet of white paper beneath to catch waste pollen, and with that and a camel's hair brush artificially fertilise flowers.—A. D.

ROYAL HORTICULTURAL SOCIETY.

JULY 10TH.

THE meeting held on the above date was not a particularly large one. Hardy flowers constituted the bulk of the exhibits, and a few collections of Cactuses were shown. Orchids were very sparingly represented, the same applying to fruit and vegetables.

FRUIT COMMITTEE.—Present: Mr. Philip Crowley (in the chair); Rev. W. Wilks, Dr. Hogg, Messrs. Harrison Weir, G. W. Cummins, G. Bunyard, J. Cheal, G. Taber, T. J. Saltmarsh, A. Dean, J. A. Laing, G. H. Sage, F. Q. Lane, and H. Balderson.

Messrs. J. Veitch & Sons sent fifty dishes of fruit, including twenty-three dishes of Cherries in distinct varieties, the most showy of these being Black Hawk, Early Red Gean, May Duke, Empress Eugénie, Bedford Prolific, Archduke, and Cleveland Bigarreau. These were grown on pyramids in the open ground at Slough. Messrs. Veitch likewise had two boxes of Gunton Park Strawberry, large, handsome, dark coloured fruit, and also two boxes of Lord Suffield. From the same source came several dishes of Gooseberries, Red and White Currants, and a dish of Superlative Raspberry. A silver Knightian medal was recommended.

Messrs. T. Rivers & Son, Sawbridgeworth, exhibited Cherry, Plum, and Nectarine trees laden with fruit. The Cherries included Noir de Guben, Bedford Prolific, and Montreuse de Mezel. Amongst the Plums were Belgian Purple and Jefferson, with a dish of Oullins Golden Gage. The Nectarine trees were Early Rivers, grown in 12-inch pots in a cold house, and all were carrying a good crop of fruit (silver Knightian medal).

Mr. Owen Thomas sent a fine collection of fruit from the Royal Gardens, Frogmore, and a silver Knightian medal was recommended. This contribution included sixteen varieties of Cherries, large, fresh, and well coloured; the same applying to the fifteen varieties of Strawberries sent by Mr. Thomas. The best of these were Noble, The Countess, Sir Charles Napier, and Aromatic. Some new Melons and Walburton Admirable Peaches were likewise sent from the Royal Gardens, but the Melons were not cut, and no further award was made.

Messrs. G. Steel & Sons, Ealing Dean, sent a basket of Steel's Victoria Raspberry, a fruit of good appearance and crisp flavour. Col. Archer Houlton, Welford Park, Newbury (gardener, Mr. Ross), showed a seedling Melon, but no award was made. Mr. Miller, gardener to Lord Foley, Ruxley Lodge, Esher, staged some Nectarines, Peaches, and Figs (vote of thanks), and Mr. C. T. Holden, Grange Road, Rhyl, North Wales, some Cucumbers (vote of thanks). A vote of thanks was accorded to Mr. A. T. Harwood, Colchester, for a dish of Gooseberries.

A variegated leaved Tomato was shown by Messrs. Collins and Gabriel, Waterloo Road; and Dr. P. H. Emerson, Broadstairs, had some Carrots, Florence Fennel, and Turnip-rooted Parsley.

FLORAL COMMITTEE.—Present: Mr. W. Marshall (in the chair); with Messrs. J. Laing, H. Herbst, C. T. Druery, G. Stevens, C. F. Bause, R. B. Lowe, J. T. Bennett Poë, H. Cannell, W. Bain, J. Walker, H. Selfe Leonard, C. E. Shea, C. Beckett, C. Noble, H. Turner, and J. Jennings.

A charming collection of Carnations and Picotees was staged by Messrs. J. Veitch & Sons, Chelsea, amongst which such varieties as Mrs. F. Watts, Florence, Mrs. F. Gifford, Norman Carr, Clara Penson, Showy, and Alice Ayres were prominent. Plants of Germania in flower were also sent, as also were Nepenthes mixta, Polypodium tricuspe, and Selaginella viridangulata. Baskets of Quercus cuspidata, Stuartia pseudo-Camellia, Rubus japonicus tricolor (see below), Cornus stricta, and Rhus cotinus purpurea, too, were staged by Messrs. Veitch (silver Flora medal). G. F. Wilson, Esq., Weybridge, sent blooms of Calochortus venustus vesta, C. v. rosea, and C. v. purpurascens.

Messrs. Wallace & Co., Colchester, exhibited a good collection of Calochorti, amongst the best of which were C. venustus purpurascens, C. v. roseus, C. v. citrinus, C. v. oculatus, C. splendens, C. s. atro-violaceus, C. luteus, C. l. concolor, and C. Kennedy. Lilium Thunbergianum Horsmani (see below), and others were sent by the Colchester firm (silver Banksian medal). A superb group of Begonias, including double and single varieties, was contributed by Messrs. J. Laing & Sons, Forest Hill. Neatness, Lydea, Countess of Dudley, Lord Hawke, Mrs. French, Lord Dunraven, and Countess of Craven were prominent in the doubles; John Roberts, Laing's Fringed White (see below), Lady Grimthorpe, were the best of the singles (silver Flora medal).

Plants of Bougainvillea glabra Sanderiana, splendidly grown and flowered were shown by Messrs. Sander & Co., St. Albans, while Sonerila Mrs. H. Walter (award of merit) came from the same source.

Mr. Eckford, Wem, Salop, sent blooms of Pansies, and some magnificent Sweet Peas, the best of which were Captivation, Little Dorrit, Lady Grisel Hamilton, Countess of Aberdeen, Mrs. Dugdale, Blanch Purple, Countess of Powis (see below), Lord Rosebery, Salopian (see below), and Alice Eckford (silver Banksian medal).

A showy group of Antirrhinums and Sweet Williams was shown by Mr. W. Salmon, Ivy Cottages, Elder Road, West Norwood (bronze Banksian medal), and Mr. J. Walker, Thame, sent handsome blooms of Walker's Auricula-eyed Sweet Williams (bronze Banksian medal). An award of merit was accorded to Mr. S. Kidley, gardener to W. E. Hall, Esq., Coker Court, Yeovil, for Bougainvillea glabra, Coker Court variety.

A splendid collection of hardy flowers, comprising Erigerons, Alströmarias, Delphiniums, Geums, Campanulas, Veronicas, and many others (silver Banksian medal) was staged by Messrs. W. Cutbush and Sons, Highgate, N., who also sent a very fine group of Souvenir de la Malmaison, Uriah Pike, and other Carnations, with plants of Lilium Harrisii (silver Flora medal). Mr. M. Prichard, Christchurch, sent a small collection of hardy flowers, in which Chrysanthemum maximum Maurice Prichard (award of merit, see below) was noticed. Hardy flowers, including Campanulas, Linums, Phloxes, Centaureas, Poppies, Gaillardias, and others, all in splendid condition, came from Messrs. Veitch & Sons.

A group of Larkspurs, comprising some handsome forms, were staged by Messrs. H. Cannell & Sons, Swanley and Eynsford, who also sent Cannas, Sweet Peas, Stocks, and other hardy flowers (bronze Banksian medal). Blooms of Carnation Annie Fry were sent by Mr. Geo. Fry, Lewisham, and plants of Coleus Westgate Gem by Mr. H. Burbidge, Grove Nursery, Westgate-on-Sea.

Sir Trevor Lawrence, Bart., contributed plants of Exacums affine and macranthum, also blooms of Pentstemons, of which Jean Mace received an award of merit. An award of merit was given to Messrs. J. Ivery & Sons, Dorking, Surrey, for Clematis Lady Ashcombe. M. R. Smith, Esq., The Warrens, Hayes, sent blooms of some very fine Carnations, of which Winifred received an award of merit (see below).

The collections of Cactaceous plants sent by Messrs. H. Cannell and Sons (silver Flora medal); Mr. G. J. Pritchard, 78, Godwin Road, Forest Gate (silver medal); Mr. J. W. Singer, Frome (silver Banksian medal); and Mons. E. Rebut, à Chazay, d'Azerjues, Rhone, France, were extensive and very interesting, and shows to a certain extent in what popularity these plants are held. Mr. C. G. Ludford staged a collection, and a bronze Banksian medal was recommended.

There were several competitive classes for hardy flowers, but the contest was very keen. For twelve bunches of hardy herbaceous perennials Mr. G. H. Sage, Ham House, Richmond, was first with a choice collection, amongst which Gaillardias, Delphiniums, Liliums, and Everlasting Peas were conspicuous. Mr. S. Kidley, The Gardens, Coker Court, Yeovil, was a close second, showing a fine collection. Miss R. Debenham was awarded first prize for six bunches of hardy flowers, these being fresh and attractive. Dr. P. D. Emerson, Claringbold, Broadstairs, was awarded first prize for six varieties of Gaillardias.

ORCHID COMMITTEE.—Present: Mr. H. J. Veitch (in the chair), with Dr. Masters, Messrs. J. O'Brien, De B. Crawshay, H. M. Pollet, T. W. Bond, R. B. White, H. J. Chapman, E. Hill, C. Pilcher, H. Ballantine, W. Cobb, T. B. Haywood, H. Williams, and S. Courtauld.

Orchids were not very extensively shown, but some choice plants were noticeable. Mr. F. Wigan, East Sheen, sent plants of Cypripedium Wiganianum and C. macropterum, both very fine species. Mr. C. J. Lucas had a plant of Ophrys apuleia grandiflora, a chaste, fragrant species. Mr. J. W. Temple, Leywood, Tunbridge Wells, had a plant of Cattleya gigas Leywoodiensis, a very fine variety. The same exhibitor sent C. gigas Temple var. and other Orchids. Mr. De B. Crawshay had some very fine Odontoglossums, including O. Harryanum platychectum and O. Harryanum giganteum. The last named is a very fine form. Messrs. Sander & Co., St. Albans, exhibited a plant of Dendrobium filiforme (cultural commendation) and other Orchids, amongst which Cypripedium exul, C. Parishii, C. hybridum Youngianum, and some Cattleyas were conspicuous. Messrs. Lewis & Co. Southgate, contributed a group of Orchids, chiefly Cattleyas in variety, Odontoglossums, and Lælia purpurata (silver Banksian medal).

Messrs. J. Veitch & Sons, Royal Exotic Nursery, sent a few very choice hybrids. These included Thunia × Veitchii superba, Lælio-Cattleya Timora, and Disa × Diorea. Some of these are described below. Dr. Davis, Maidstone, Kent, staged a plant of Odontoglossum cristatellum, and Mr. C. W. Fincken, Hoyland Hall, Barnsley, had a fine variety of Cattleya Rex. Mr. R. J. Measures, Camberwell, sent a number of Masdevallias, with cut flowers of Odontoglossums. Mr.

R. Young, Sefton Park, Liverpool, had a spray of *Cattleya Warscewiczii*, and Mr. Stevens, Stone, sent *Cattleya Gaskelliana Nellie*, for which an award of merit was adjudged. *Odontoglossum vexillarium* Highburyensis came from the Right Hon. J. Chamberlain, M.P., and Phaius Henryi from the Royal Botanic Gardens, Glasnevin, but no awards were made. Messrs. Hugh Low & Co. secured a botanical certificate for *Vanda Rolblingiana*, Rolfe's variety.

CERTIFICATES AND AWARDS OF MERIT.

Begonia Lord Dunraven (J. Laing & Sons).—A good double variety, with rich crimson flowers (award of merit).

Begonia Laing's Fringed White (J. Laing & Sons).—A medium sized bloom, pure white, deeply serrated at the margin (award of merit).

Begonia Neatness (J. Laing & Sons).—A very bright cerise, the flowers being neat in form (award of merit).

Bougainvillea glabra, Coker Court variety (S. Kidley).—This variety has been previously described in these pages. The colour is very rich, and an improvement on the type, being also deeper than *B. glabra Sanderiana* (award of merit).

Calochortus venustus Vesta (G. F. Wilson).—This is a fine variety from 3 feet high. The flowers are large, creamy white, with yellow and brown throat (award of merit).

Calochortus venustus purpurascens (G. F. Wilson).—The flowers of this variety are large and attractive, being creamy white with yellow, reddish brown and purple in the centre (award of merit).

Carnation Winifred (Martin R. Smith).—A good variety, with large flowers of a rosy terra-cotta shade (award of merit).

Cattleya Gaskelliana Nellie (Stevens).—This is a distinct form, the sepals and petals being white, as is the lip, with the exception of a purplish blotch in the centre, and orange yellow in the throat.

Chrysanthemum maximum Maurice Prichard (M. Prichard).—A large flowered form of *C. maximum* (award of merit).

Clematis Lady Ashcombe (J. Ivery & Co.).—An attractive variety, with pale blue flowers of a fair size (award of merit).

Lælio-Cattleya Timora (J. Veitch & Sons).—This is a beautiful bigeneric hybrid, being the result of a cross between *Cattleya Ludde-manniana* and *Lælia pumila Dayana*. The sepals and petals are bright rosy mauve, the lip being a rich purplish crimson (first-class certificate).

Lilium Thunbergianum Horsmani (Wallace & Co.).—This is a very rare and distinct form, the flower being exceedingly dark, approaching a deep maroon red with black spots (first-class certificate).

Pentstemon Jean Mace (Sir T. Lawrence).—A distinct variety with large flowers of a deep red colour and white centre (award of merit).

Rubus japonicus tricolor (J. Veitch & Sons).—A small-leaved form with rose, white, and green foliage (first-class certificate).

Sonerila Mrs. H. Walter (F. Sander & Co.).—This is a hybrid, the result of a cross between *S. orientalis* and *S. Hendersoni elegans*. The leaves are pale brown, thickly covered with grey spots (award of merit).

Sweet Pea Countess of Powis (H. Eckford).—A pleasing rosy cerise, medium sized flowers (award of merit).

Sweet Pea Salopian (H. Eckford).—A distinct variety, with dark brick red flowers, suffused purple (award of merit).

Thunia Veitchii superba (J. Veitch & Sons).—This is a hybrid, the result of a cross between *T. x Veitchii* and *T. Bensoniae*, the former being the pollen parent. The sepals and petals are pale purplish rose, with the lip of a deeper shade (award of merit).

At the afternoon meeting a paper on "Cactaceous Plants" was read by Mr. W. Singer. Dr. Masters, F.R.S., presided, and a good audience was present. In opening the subject Mr. Singer said that his attention was first drawn to Cactaceous plants whilst travelling on the Continent. He subsequently turned to English works on the matter, and there found the advice that Cactuses should be grown in rather poor soil. With this his experience did not agree, and moreover he noticed that the growers abroad cultivated their plants in much richer soil, with the result that they were fresher and greener in appearance. An American grower also recommended a fertile compost, and for the genus *Cereus* fertilisers might be used with advantage. A temperature of 50° was favourable to the majority of Cactaceous plants, abundance of air being necessary. The insect pests liable to attack the plants were referred to, and methods of eradication detailed. In conclusion Mr. Singer said these plants were much more popular about thirty years ago, and there were only about twenty-three really good collections in this country—a small number compared with those in America.

Dr. Morris, in opening the discussion which followed, said he thought for English purposes the word "succulent" would be more appropriate than Cactaceous plants. There were no plants that strike the visitor in America more than these. In some parts of Jamaica, too, many of these plants were used for hedges, but in other districts, where rain fell heavily, they failed to grow. Much may be said in favour of them, the smaller kinds being adapted for small greenhouses.

Mr. Watson observed that it was easy to keep Cactuses alive, and they would stand much more moisture than many persons believed. It was, however, absolutely necessary to keep the plants dry for a certain period to induce them to flower. He believed that they would flower better in this country and be more popular if we had more sun. This was the reason of their popularity on the Continent and in America. Other gentlemen recorded their experiences in regard to Cactus plants, and a vote of thanks to Mr. Singer for his interesting paper concluded the proceedings.

ROSE AND HORTICULTURAL SHOWS.

NATIONAL ROSE SOCIETY.

GREAT SHOW AT THE CRYSTAL PALACE.—JULY 7TH.

BUT few events in the gardening world create so much interest among any particular section of horticulturists as does the great show of Roses which is held annually at the Crystal Palace, under the auspices of the National Rose Society. To rosarians, and all persons interested in the culture of Roses for exhibition, this is the principal incident of the year. Such it has been for a long period, and that which took place on Saturday last proved no exception to the rule. Growers from all quarters have for many years met in friendly contest at Sydenham, and at times the interest thus evinced has almost reached the stage of enthusiasm, especially in regard to the trophy classes. Nor does the feeling decrease in any way, for on taking a preliminary view of the leading exhibits at the meeting now under notice, many voluntary opinions as to the merits of the blooms staged were to be heard. Thus the work of exhibiting Roses becomes exciting to the participants, whilst even casual observers cannot be other than interested in what they see and hear in respect to this matter.

The results of this exhibition to many of the noted growers depend, to a certain extent on the season. Those who can look back for the past decade will realise the correctness of this statement. It has been shown how in unusually early seasons, as for instance 1893, the southern growers are practically out of the running, to use a sporting phrase, whilst in such cases the northerners carry all before them. It may therefore be interesting to take a retrospect of the trophy classes for the past ten years. In 1884 Messrs. Paul & Son secured the nurserymen's challenge trophy; but have never since recovered that position, Mr. B. R. Cant being the winner in 1885 and 1886. Then came the victory of Messrs. Harkness & Sons, the northern growers, in 1887, a season that will be remembered for its earliness and heat, and when the southern Roses were hurried on with rapidity. The succeeding year, however, was cooler, and gave Mr. Frank Cant an opportunity of winning the trophy, but only for a short period, as the Yorkshire growers wrested it from him in 1889, another warm and early season. In 1890 the young rosarian of Essex was again to the front, followed by his namesake, Mr. B. R. Cant, in 1891. The next year, 1892, saw Mr. Frank Cant once more the winner; but the abnormally hot season of 1893 proved too much for the southern growers, and consequently Messrs. Harkness and Son, with other north country rosarians, secured the leading awards. Two or three months ago many persons were inclined to prognosticate a repetition of this, but the climatic influences decided it otherwise, and again Mr. Frank Cant gained the premier award of the exhibition so far as nurserymen's blooms were concerned. The flowers in the class for seventy-two distinct blooms which won him this honour were worthy of the grower, being beautifully fresh and on the whole faultless in colour and finish. The others, too, were in many cases quite up to the average, and creditable to the exhibitors.

As regards the amateurs' challenge trophy, this has been only won by southern growers during the past decade, and it would seem that but few or no northern rosarians compete for it. In 1884 Mr. T. B. Haywood of Reigate secured this prize, while the Rev. J. H. Pemberton took the trophy to Essex in the two following years. Jubilee year, 1887, saw Mr. W. J. Grant taking it to Hereford, but Mr. R. N. G. Baker won it for Devonshire in 1888, only to be recaptured by Mr. Grant in 1889. For the four following years Mr. E. B. Lindell of Hitchen conquered, being apparently indifferent to the weather up till the end of 1893. But time has truly had its revenge, and those who saw, as the writer did, the results of the May frosts in respect to Mr. Lindell's Roses can do no other than sympathise with him in being thus prevented retaining the position he has held against all comers for four consecutive years. Dr. Budd, however, has frequently proved a formidable opponent, and the present year saw him to the front, this exhibitor having won the challenge trophy and numerous other prizes, as the report will show.

Considering the fickleness of the season, the show was an average one as regards merit. Most of the classes were well filled, whilst in many there were more entries than usual, thus rendering the competition keen. Mr. Mawley, one of the honorary secretaries, says it was, with the exception of 1892, the largest show the N.R.S. has yet held. Hybrid Perpetuals were, as a rule, good and well coloured, although a thinness of petal could be occasionally noticed. Teas it was thought were fairly good taken on the whole, with a few occasional exceedingly fine blooms. Mr. Prince was this year to the fore with his noted Teas, and the Rev. Hugh A. Berners succeeded in winning the challenge trophy in this section with a stand of excellent flowers. The exhibits were arranged better this year, affording more diversity to the visitors. We append the names of the prizewinners with the varieties shown in the leading stands.

NURSERYMEN'S CLASSES.

There were five competitors in the class for seventy-two singles, distinct, with the first prize of which went the champion trophy, and some magnificent examples were staged. The premier position was accorded to Mr. Frank Cant with an almost faultless exhibit. This stand comprised examples of the following varieties—Alfred Colomb, Marchioness of Londonderry, Reynolds Holc, Margaret Dickson, Suzanne Marie Rodocanachi, Duke of Albany, Marie Verdier, François Levet, Général Jacqueminot, Pride of Waltham, Charles Darwin, Mrs. John Laing, Earl of Dufferin, Merveille de Lyon, Marie Baumann,

Madame Charles Crapelet, Her Majesty, H. P. Jowitt, Caroline Testout, Dr. Andry, La France, Gustave Piganeau, Madame Eugénie Verdier, Ulrich Brunner, Madame Montet, Comte Raimbaud, La Boule d'Or, Charles Lamb, Harrison Weir, Countess of Oxford, Duke of Teck, Catherine Mermet, Miss Ethel Brownlow, Comtesse de Comando, Madame de Watteville, Madame Henri Perriere, Mons. Noman, Victor Hugo, Baroness Rothschild, Horace Vernet, Star of Waltham, Countess of Rosebery, Le Havre, Madame Gabriel Luizet, Duke of Connaught, Jeanie Dickson, Exposition de Brie, Marquise de Castellane, E. Y. Teas, Lady Mary Fitzwilliam, Dr. Sewell, Mary Bennett, Comtesse de Nadaillac, Beauty of Waltham, Madame Cusin, A. K. Williams, Duke of Wellington, Jean Ducher, Prince Camille de Roban, Heinrich Schultheis, Duke of Edinburgh, The Bride, Comtesse de Ludre, Nipbetos, Louis Van Houtte, Alfred Dumesnil, Souvenir de S. A. Prince, Lady Arthur Hill, Souvenir d'Elise Vardon, Camille Bernardin, Marchioness of Dufferin, and Duchesse de Morny. Mr. B. R. Cant, Colchester, was a good second, only a few weak flowers being noticeable; while Messrs. Paul & Son, Old Nurseries, Cheshunt, was a close third.

In the class for forty Roses, distinct, three trusses of each, Mr. F. Cant, Colchester, was a splendid first with Comtesse de Nadaillac, Duke of Albany, Merveille de Lyon, Reynolds Hole, Madame de Watteville, Duke of Teck, Horace Vernet, Pride of Waltham, Marie Verdier, Suzanne Marie Rodocanachi, Beauty of Waltham, Souvenir de S. A. Prince, Ethel Brownlow, François Louvat, Chas. Darwin, Ethel Brownlow, A. K. Williams, Boule d'Or, E. Y. Teas, Catherine Mermet, Madame H. Perriere, Her Majesty, Spenser, Gustave Piganeau, The Bride, Général Jacqueminot, Fisher Holmes, Mrs. John Laing, Margaret Dickson, Comte Raimbaud, Earl of Dufferin, Baroness Rothschild, Madame Montet, Star of Waltham, Alfred Colomb, Caroline Testout, Marie Finger, Victor Hugo, Xavier Olibo, and Marchioness of Londonderry. Mr. B. R. Cant, Colchester, was second with a grand exhibit; and Messrs. Paul & Son, Cheshunt, third, there being five competitors.

Messrs. D. Prior & Son, Colchester, were first in the class for forty-eight, distinct, single trusses, showing examples of Gloire de Margottin, Lady Mary Fitzwilliam, Countess of Oxford, Pride of Waltham, Abel Carrière, Magna Charta, Horace Vernet, Madame Bravy, Sultan of Zanzibar, Margaret Dickson, Star of Waltham, Merveille de Lyon, Ulrich Brunner, Eugène Furst, Jeanie Dickson, Suzanne Marie Rodocanachi, Etienne Levet, La France, Prince Camille de Rohan, Heinrich Schultheis, Gustave Piganeau, Maréchal Niel, Marie Baumann, Marie Finger, Duke of Teck, Baroness Rothschild, Duke of Wellington, The Bride, Fisher Holmes, Marie Verdier, Alfred Colomb, Her Majesty, Reynolds Hole, Ernest Metz, Victor Hugo, Devonensis, Earl Dufferin, Duchesse de Morny, Chas. Darwin, Duke of Connaught, Viscountess Folkestone, A. K. Williams, Maurice Bernardin, Alphonse Souper, Margaret Haywood, Madame Eugène Verdier, and Prince Arthur. The second and third positions were accorded to Messrs. Burrell & Co., Cambridge, and the English Fruit and Rose Company, King's Acre, Hereford, in the order of their names.

For twenty-four distinct, singles, Mr. J. Mattock, New Headington, Oxford, was first with clean well-finished flowers. The varieties staged were Victor Hugo, Ernest Metz, Gustave Piganeau, Lady Mary Fitzwilliam, A. K. Williams, The Bride, Star of Waltham, Maréchal Niel, Marie Baumann, Marguerite de St. Amand, Reynolds Hole, Edith Gifford, Earl Dufferin, Mons. Noman, Mrs. Baker, Margaret Dickson, Chas. Lefebvre, Suzanne Marie Rodocanachi, Duke of Connaught, Mrs. J. Laing, Duchess of Bedford, Hon. Ethel Brownlow, Horace Vernet, and Capt. Christy. Messrs. Townsend & Sons, Broad Heath, Worcester, was second, and Mr. F. J. Fletcher, Lowbrooks, Maidenhead, third. There were five competitors in this class.

Messrs. D. Prior & Sons were first in the class for twenty-four trebles with a grand exhibit of fresh blooms. Madame Verdier, Ulrich Brunner, Suzanne Marie Rodocanachi, Duke of Edinburgh, La France, Prince Arthur, Baroness Rothschild, Earl of Pembroke, Her Majesty, La Rosière, Heinrich Schultheis, Fisher Holmes, Margaret Dickson, A. K. Williams, Mrs. J. Laing, Victor Hugo, Duchesse de Morny, Horace Vernet, Merveille de Lyon, Reynolds Hole, Alfred Colomb, Marie Baumann, Gustave Piganeau, and Lady Mary Fitzwilliam were the varieties shown. Messrs. G. Cooling & Sons, Bath, were a good second. There was no third prize awarded, although eight growers competed.

AMATEURS' CLASSES.

In the amateurs' trophy class Dr. S. P. Budd, 8, Gay Street, Bath, was first with a very fine stand of blooms. These were Alfred Colomb, Madame Gabriel Luizet, J. S. Mill, Alba Rosea, Le Havre, Her Majesty, Camille Bernardin, Mons. Noman, Prince Arthur, Margaret Boudet, Abel Carrière, Jean Ducher, Souvenir de Thérèse Levet, Star of Waltham, Victor Hugo, Souvenir de S. A. Prince, Comte Raimbaud, Duchesse de Morny, Harrison Weir, Etienne Levet, A. K. Williams, Earl Dufferin, Maréchal Niel, Marie Baumann, Louis Van Houtte, Mrs. J. Laing, Anna Ollivier, Jeanie Dickson, Merveille de Lyon, Sir Garnet Wolseley, Comtesse Panisse, François Michelin, Duke of Wellington, Marie Verdier, Xavier Olibo, Madame de Watteville, Reynolds Hole, La France, E. Y. Teas, Edith Gifford, Ulrich Brunner, Innocente Pirola, Dupuy Jamain, Baroness Rothschild, Suzanne Marie Rodocanachi, Fisher Holmes, Dr. Andry, and Francisca Kruger. Mr. W. Drew, Uplands, Ledbury, was a good second, and the Rev. J. H. Pemberton, Havering-atte-Bower, Romford, was third. There four competitors.

Mr. C. J. Salter, gardener to T. B. Haywood, Esq., Woodhatch Lodge, Reigate, was first in the class for thirty-six single trusses. This exhibitor had good blooms of Ulrich Brunner, Duchesse de Morny, Général Jacqueminot, Madame B. Joubert, Beauty of Waltham, Duchesse de

Vallombrosa, Pride of Reigate, Mrs. J. Laing, Duke of Teck, Madame Gabriel Luizet, Merveille de Lyon, A. K. Williams, Exposition de Brie, Louis Van Houtte, J. S. Mill, Captain Christy, Camille Bernardin, Baroness Rothschild, Henri Ledechaux, Violette Bouyer, Earl of Dufferin, Gustave Piganeau, Duke of Edinburgh, Horace Vernet, Her Majesty, Etienne Levet, La France, Madame Prosper Laugier, Margaret Dickson, Marie Baumann, Chas. Lefebvre, François Michelin, Xavier Olibo, Alfred Colomb, Duke of Wellington, and Suzanne Marie Rodocanachi. The second and third prizes were taken by Dr. S. P. Budd and the Rev. J. H. Pemberton as named.

For twenty-four distinct single trusses, Mr. Thos. Hobbs, St. Mark's Road, Easton, Bristol, was first with Louis Van Houtte, Her Majesty, Xavier Olibo, Marie Verdier, Dr. Andry, Merveille de Lyon, Ulrich Brunner, Mrs. J. Laing, Alfred Colomb, Duchesse de Vallombrosa, Marie Baumann, Mons. Noman, Gustave Piganeau, Lady Mary Fitzwilliam, Earl Dufferin, Madame Gabriel Luizet, Horace Vernet, Camille Bernardin, Crown Prince, Margaret Dickson, Sir R. Hill, Violette Bouyer, Victor Hugo, and Le Havre. Miss F. T. Baker, Holmfels, Reigate, was a very close second, and the Rev. A. Foster-Melliar, Sproughton Rectory, Norwich, third. There were four competitors.

In the class for twelve distinct Roses, three blooms of each, Dr. S. P. Budd was accorded the premier award with fresh examples of Her Majesty, Earl of Dufferin, Mrs. J. Laing, Prince Arthur, A. K. Williams, François Michelin, Marie Baumann, Merveille de Lyon, Ulrich Brunner, Louis Van Houtte, Star of Waltham, and Alfred Colomb. Mr. W. Drew was second, and Mr. C. J. Salter third. There were eight competitors, all the blooms staged being of merit. Mr. Salter was first for twelve Roses, any one Hybrid Perpetual or Hybrid Tea, with splendid examples of Her Majesty; J. Gurney Fowler, Esq., Glebelands, South Woodford, second with Marie Finger, and Mr. W. Drew third with Suzanne Marie Rodocanachi. There were seven competitors. In the class for nine blooms of any Hybrid Perpetual or Hybrid Tea the Rev. Hugh A. Berners, Harkstead Rectory, Ipswich, was first with Merveille de Lyon in fine form; Mr. E. Mawley, Rosebank, Berkhamsted, second with La France, and Mr. R. E. West, Reigate, third with Suzanne Marie Rodocanachi.

The four classes that follow were open only to growers of less than 2000 plants. For twenty-four distinct Roses, one bloom of each, and with the first prize of which went the Turner Memorial plate, the Rev. H. A. Berners, was a splendid first out of the four competitors. The premier stand comprised Le Havre, Madame Caroline Kuster, Victor Hugo, Madame Hoste, Beauty of Waltham, The Bride, Lady Sheffield, La France, Marie Baumann, Hon. Edith Gifford, François Michelin, Violette Bouyer, Louis Van Houtte, Duchesse de Vallombrosa, Suzanne Marie Rodocanachi, Mrs. John Laing, Duke of Teck, Baroness Rothschild, Ulrich Brunner, Merveille de Lyon, Her Majesty, Fisher Holmes, Prince Arthur and Marie Rady. Mr. A. Slaughter was a good second, and Mr. E. M. Bethune, Denne Park, Horsham, third.

In the class for eighteen, distinct, single trusses, Mr. R. E. West was a fine first, staging in good condition Viscountess Folkestone, Madame Victor Verdier, Merveille de Lyon, Gustave Piganeau, Prince Arthur, Ulrich Brunner, Duchesse de Vallombrosa, A. K. Williams, Captain Christy, Annie Wood, Suzanne Marie Rodocanachi, Xavier Olibo, Baroness Rothschild, Thomas Mills, Marquise de Castellane, Chas. Lefebvre, Violette Bouyer and E. Y. Teas. Mr. Jas. Parker, Oakfield, Hitchin, was second with highly creditable blooms, and Mr. H. Wallis, Northend, Warley, Brentwood, a fair third. The Rev. H. A. Berners was a splendid first in the class for eight distinct Roses, three blooms of each, staging Her Majesty, Earl of Dufferin, Violette Bouyer, Ulrich Brunner, Le Havre, Madame Gabriel Luizet, Lady Sheffield and Alfred Colomb. Mr. R. G. West was a fair second, and Mr. A. Slaughter, Jarvis Villa, Steyning, third.

There were thirteen exhibitors in the class for twelve distinct, single trusses, the Harkness cup going with the first prize. This class was open only to growers of less than 1000 or 500 plants. The leading award and cup were secured by Mr. Osmond G. Orpen, who staged a stand of grand blooms. The varieties were Ulrich Brunner, Souvenir d'Elise Vardon, Maréchal Niel, Suzanne Marie Rodocanachi, Madame de Watteville, Mrs. J. Laing, Ernest Metz, Duke of Teck, Madame Cusin, Madame Hoste, Jean Liabaud, and Souvenir de S. A. Prince. Mr. H. Foster, Ashford, was second with good blooms; Mr. Conway Jones third, and Dr. Tucker fourth. Twelve competed in the class for nine distinct, single trusses, and the first prize was won by the Rev. H. Biron, Lympne Vicarage, Hythe, with a fine stand. The best kinds were A. K. Williams, Mrs. J. Laing, and Alfred Colomb. Mr. O. G. Orpen was second, showing neat and well finished blooms; Mr. J. Bateman being third, and Mr. A. F. Perkins fourth. Mr. O. G. Orpen was first for six trebles reserved to growers of less than 1000 plants, with excellent flowers. Suzanne Marie Rodocanachi, Francisca Krüger, and Madame Cusin were in excellent condition; Mr. A. Evans was second, Mr. James Parker third, and Dr. Tucker fourth, all staging well.

The classes reserved to growers of less than 500 plants were well filled. In that for nine distinct, single trusses, there were twelve competitors. Mr. Henry Tate, Ashford, Kent, proved the winner with a box of grand blooms, these being Horace Vernet, Marie Baumann, Marquise de Castellane, Madame Gabriel Luizet, Marguerite de Brassac, Merveille de Lyon, Abel Carrière, Mrs. J. Laing, and Sultan of Zanzibar. Mr. F. O. Devereux, High Knoll, Steyning, was second, the flowers being neat and fresh. Mr. E. Horne, Reigate, was a good third; and Mr. S. J. Crofts, Reigate, fourth. The blooms in all the stands were above the average in quality. The Rev. G. E. Jeans was first with six

distinct, single trusses, staging excellent flowers of Madame G. Luizet, Mrs. J. Laing, and Prince of Wales amongst others. Mr. H. P. Landon was second; Mr. E. S. Francis third; and Mr. A. Bryan, Foot's Cray, fourth. Mr. W. D. Freshfield was first in the class for four distinct, three trusses of each, showing excellent flowers. Mr. A. F. Grace, Chantry Green House, Plymouth, second; and Mr. A. Bryan, third.

In the extra classes provided for amateurs some fine blooms were staged. Mr. A. F. Grace won with six blooms of Mrs. J. Laing in the class for half a dozen trusses of any Hybrid Perpetual. Mr. J. Bateman was second with Marchioness of Londonderry; Mr. C. J. Grahame third with Mrs. J. Laing; and Mr. Conway Jones fourth with the same variety. Mr. E. R. Smith, Muswell Hill, was first in the class open to

Marchioness of Downshire, and Margaret Dickson. Mr. W. Drew was second; and Mr. J. Bateman third. Lord Penzance, Eashing Park, Godalming, showed some grand seedling Roses, the best in this stand being Henry Gow, Columbine, Laure, and Esther, varieties about which we shall probably hear something in the future.

TEAS AND NOISETTES.

The class for twenty-four Teas or Noisettes, open to nurserymen, was not very well filled, there being only three competitors. Mr. G. Prince, Oxford, secured the premier award, showing a stand of good blooms, but hardly so fine as he had at the Windsor exhibition. The varieties were Comtesse de Nadaillac, Souvenir de S. A. Prince, Madame Cusin, The



FIG. 6.—CLEMATIS COUNTESS OF ONSLOW. (See page 30.)

amateurs who had never won a prize at an N.R.S. show. This exhibitor had a fine stand, Mrs. J. Laing, Beauty of Waltham, and A. K. Williams being unusually good. Mr. F. W. Bush, Sandridge, St. Albans, was second; Mr. L. E. G. Parry third; and Mr. Heppel H. Gifford fourth. Mr. A. F. Perkins was first, Mr. M. J. Tulke, Sutton, second, and Mr. Honeyball third in the class for six blooms, open only to members who had joined the Society since the previous Crystal Palace show.

For six distinct blooms grown within eight miles Mr. R. H. Langton, Roymead, Hendon, gained first prize, a piece of plate, in this class, showing Her Majesty, Ulrich Brunner, Margaret Dickson, Abel Carrière, Souvenir de S. A. Prince, and Louis Van Houtte in excellent style. Mr. J. Bateman was second, and Mr. E. A. Smith third. For twelve distinct, single trusses, grown within eleven miles of Charing Cross, Lieut.-Col. J. de la Mare, Church Road, Croydon, was first with a neat stand of blooms. Mr. Geo. Trebble, gardener to M. Hodgson, Esq., Shirley, Croydon, was second; and the Rev. T. N. Rowsell, Eltham, third.

The class for six "new Roses" in this section brought ont a fairly good competition. The Rev. J. H. Pemberton was first with good blooms of Caroline Testout, Marchioness of Londonderry, Duke of Fife, Spenser,

Bride (medal Rose), Princess Beatrice, Madame Elise Lambert, Madame de Watteville, Maréchal Niel, Alba Rosea, Souvenir d'Elise Vardon, Etoile de Lyon, La Princess Vera, Golden Gate, Miss Ethel Brownlow, Rubens, Princess of Wales, La Boule d'Or, Souvenir d'un Ami, Madame la Jacquier, Madame Hoste, Niphetos, Marie Van Houtte, Ernest Metz, and Hon. E. Gifford. Messrs. D. Prior & Sons, Colchester, were a close second, staging neat blooms, the best of which were The Bride, Madame Cusin, Catherine Mermet, Comtesse de Nadaillac, and Jules Finger. Mr. Frank Cant was a good third.

There were six exhibitors in the class for eighteen Teas or Noisettes, single trusses, distinct, and the competition was consequently keen. Mr. J. Mattock, New Headington, Oxford, secured the first prize with a stand of clear but rather small blooms. The varieties shown were Comtesse de Nadaillac, The Bride, Souvenir d'un Ami, Rubens, Catherine Mermet, Souvenir de S. A. Prince, Souvenir d'Elise Vardon, Madame Cusin, Amazone, Ernest Metz, Alba Rosea, Marie Van Houtte, Princess Beatrice, Hon. E. Gifford, Miss E. Brownlow, Madame Hoste, Madame de Watteville, and Anna Ollivier. Messrs. J. Burrell & Co., Howe House Nurseries, Cambridge, were second with a fine stand. Mr. G. Mount, Canterbury, gaining the third prize.

Only two competitors staged blooms in the class for eighteen Teas or Noisettes, three trusses of each, these being Mr. G. Prince and Messrs. D. Prior & Sons, to whom the first and second prizes were awarded respectively. Mr. Prince's blooms were very fine, the varieties being Comtesse de Nadaillac, Souvenir de S. A. Prince, Madame Cusin, The Bride, Princess of Wales, Souvenir d'Elise Vardon, Souvenir d'un Ami, Maréchal Niel, Madame de Watteville, Alba Rosea, Miss E. Brownlow, Hon. E. Gifford, Catherine Mermet, Madame Hoste, Le Boule d'Or, Innocente Pirola, Marie Van Houtte, and Rubens. Messrs. D. Prior and Sons' flowers were very fine, Madame Cusin and Miss E. Brownlow being particularly well coloured.

Amateurs.—Only four exhibitors were forthcoming in the trophy class for eighteen distinct, single trusses, and the competition was not particularly keen, as the Rev. Hugh A. Berners had by far the best stand of blooms. These were exceedingly fine and very fresh. The varieties were Catherine Mermet, The Bride, Jean Ducher, Comtesse de Nadaillac, Madame Hoste, Hon. E. Gifford, Madame Bravy, Anna Ollivier, Miss Ethel Brownlow, Souvenir de S. A. Prince, Souvenir d'un Ami, Madame Cusin, Marie Van Houtte, Mrs. J. Wilson, Niphotos, Princess of Wales, Etoile de Lyon, and Souvenir d'Elise Vardon. Mr. A. Hill Gray, Newbridge, Bath, was second with a good stand, the best flowers being Catherine Mermet, Jules Finger, Anna Ollivier, The Bride, and Caroline Kuster. The Rev. F. R. Burnside, Birch Vicarage, Hereford, was third with a stand of creditable blooms.

The Rev. A. Foster Melliar, Sproughton Rectory, gained the first prize in the class for twelve Teas or Noisettes. These flowers were good, and comprised Souvenir d'Elise (medal Rose), Madame de Watteville, Maréchal Niel, Souvenir de Gabriel Drevet, Comtesse de Nadaillac, Madame Hoste, Ernest Metz, Marie Van Houtte, Hon. E. Gifford, Francisca Krüger, Innocente Pirola, and Miss Ethel Brownlow. The Rev. Hugh Berners was a very close second, and Dr. S. P. Budd, Bath, was third. There were seven competitors in this class.

In the class for twelve Teas or Noisettes, three trusses of each, there were four exhibitors, and the competition was keen. The Rev. Hugh A. Berners, Harkstead Rectory, Ipswich, secured the first prize—a piece of plate, with a stand of excellent flowers. These were Hon. Edith Gifford, Souvenir d'un Ami, Catherine Mermet, Rubens, Madame Bravy, Etoile de Lyon, The Bride, Marie Van Houtte, Francisca Krüger, Madame Hoste, Mrs. James Wilson, and The Bride. Mr. A. Hill Gray, Beaulieu, Newbridge, Bath, followed with smaller but fairly good flowers; the third prize going to Rev. A. Foster-Melliar, Sproughton Rectory, Ipswich. The first prize in the class for twelve single trusses of any Tea Roses went to Rev. H. A. Berners with splendid examples of Madame Hoste; the Rev. A. Foster-Melliar being second with Hon. Edith Gifford; and Mr. E. M. Bethune third with the same variety.

Seven growers competed in the class for twelve distinct blooms, open to growers of less than 500 varieties, and Mr. O. G. Orpen, West Bergholt, Colchester, was awarded the first prize. The flowers shown were good, the best being Madame Hoste, Souvenir de S. A. Prince, Madame Cusin, and Francisca Krüger. Mr. F. O. Devereux was a close second with a stand of excellent blooms; the Rev. J. H. Pemberton, Havering-atte-Bower, was third; and Mr. A. Slaughter fourth. Mr. Conway Jones, Hucclecote, Gloucester, had the best box of nine Teas or Noisettes, distinct, in this section. These flowers were neat and clean, especially Catherine Mermet, Souvenir d'Elise Vardon, and Devoniensis. Miss F. F. Baker, Reigate, was second; Mr. A. Tate third; and Mr. Rivers H. Langton, Raymead, Hendon, fourth. There were four exhibitors in the class for six distinct, three trusses of each, and Mr. O. G. Orpen was adjudged the first prize. The flowers were rather small but fresh, Comtesse de Panisse, Hon. E. Gifford, Marie Van Houtte, Innocente Pirola, F. Kerner, and Souvenir de S. A. Prince being the varieties shown. Mr. T. O. Devereux was second, Mr. James Parker third, and Mr. Slaughter fourth.

The Rev. J. R. Buchanan, Herne Vicarage, Canterbury, won in this class for nine distinct trusses, open to growers of less than 200 plants, showing rather an irregular stand. Mr. S. J. Crofts, gardener to W. D. Freshfield, Esq., Reigate, was second, and Dr. Tucker, Swanley Junction, Kent, third. The class for six trusses was a very strong one, ten competing. Mr. Henry Foster, Ashford, won with a neat stand. The Rev. G. E. Jeans, Shorwell Vicarage, Isle of Wight, being second. Mr. H. P. Landon, The Lodge, Shenfield, Brentwood, third, and Mr. R. E. West, Reigate, fourth. The flowers in all the plants were small but fresh.

In some extra classes Mr. O. G. Orpen was first for six single trusses of any Tea or Noisette, with excellent blooms of Madame Hoste. Mr. E. Horne was second with Madame Bravy. Mr. E. Mawley third with Souvenir d'un Ami, and Mr. A. Evans, Marston, Oxford, fourth with Catherine Mermet. Mr. G. W. Cook, New Southgate, was first with good blooms in a class for six trusses, Mr. R. E. West being second, and Mr. A. F. Perkins, Oakdeane, Holmwood, Surrey, third. For half a dozen blooms, from within eight miles of Charing Cross, Mr. Rivers H. Langton was first with stand of good flowers, Ernest Metz, Cleopatra, and Innocente Pirola, very good. Mr. J. Bateman, Highgate, was second.

OPEN CLASSES.

Mr. F. Cant was the only exhibitor in the class for twelve distinct, single trusses, of any Hybrid Teas, and the flowers staged were not very good, hence the second prize was only awarded. This to a great extent proves that there is but little need of a separate class for Hybrid Teas. In the class for twelve single trusses and any yellow Rose except

Maréchal Niel, there were seven exhibitors, Mr. J. Mattock securing the premier position with a dozen excellent flowers of Jean Ducher. Mr. G. Prince, Oxford, was a close second with Marie Van Houtte, and Messrs. D. Prior & Sons, Colchester, third with the same variety.

The class for twelve single trusses of any white Rose was very strongly contested, there being no less than twenty exhibitors. Mr. G. Prince secured the leading prize with magnificent blooms of Souvenir de S. A. Prince, Messrs. A. Dickson & Sons, Newtownards, Co. Down, being second with grand flowers of Margaret Dickson, and Mr. Frank Cant third with Souvenir de S. A. Prince. Mr. B. R. Cant was placed first in the class for twelve single trusses of any crimson Rose, showing Marie Baumann in very fine condition. Messrs. Perkins & Sons, Coventry, were second with Alfred Colomb, and Dr. S. P. Budd third with the same variety. This was a very strong class, and the competition was exceedingly keen. Messrs. W. & H. Burch, Peterborough, were first for twelve blooms of any dark velvety crimson Rose, showing grand examples of Earl Dufferin. Mr. F. Cant was second with Reynolds Hoie, and Mr. B. R. Cant third with Fisher Holmes. There were seventeen exhibitors in the class for twelve trusses of any light Rose, white varieties not being admissible. Mr. F. Cant, however, succeeded in gaining the first prize with a dozen magnificent flowers of Mrs. J. Laing. Messrs. A. Dickson & Sons were second with La France, the third prize going to Dr. S. P. Budd for Her Majesty. Messrs. J. Townsend & Sons, Worcester, secured the first prize in the class for twelve blooms of any Hybrid Perpetual or Hybrid Tea with a stand of Mrs. J. Laing. Mr. B. R. Cant was second with Alfred Colomb, and Messrs. D. Prior & Sons third with Horace Vernet. Mr. J. Mattock was first with twelve blooms of any Tea or Noisette, showing splendid flowers of Souvenir d'Elise Vardon. Messrs. J. Townsend & Sons were second, and Mr. F. Cant third, the latter showing fine blooms of Miss E. Brownlow. Messrs. D. Prior & Sons won in the class for twelve trusses of Maréchal Niel, Mr. A. Hill Gray being second, and Mr. G. Mount third.

There was a good display of "new Roses." For twelve single trusses of any new Rose Messrs. A. Dickson & Sons first, Marchioness of Downshire; Mr. Frank Cant second, Marchioness of Londonderry; and Mr. J. Mattock third, with Margaret Dickson. Mr. Frank Cant had the best twelve new Roses, single trusses, in the open class, showing Duke of Fife, Marchioness of Londonderry, Caroline Testout, Margaret Dickson, Spenser, Kaiserine de Victor, Mamman Cochet, Violet Queen, Madame E. Nuchal, Medea, Charles Gater, and Mrs. Harkness. Messrs. G. Cooling & Sons, Bath, were second with a good stand. Messrs. Alex. Dickson & Sons secured the gold medal for three trusses of any new seedling Roses or distinct sport with Marchioness of Downshire. This is a Hybrid Perpetual of charming pink shade. Mr. A. Hill Gray gained a card of commendation for Allister Stella Gray, a new variety after the manner of W. A. Richardson.

THE PREMIER BLOOMS.

Mr. B. R. Cant won the silver medal for the best Hybrid Perpetual bloom staged by a nurseryman, it being a superb Marie Baumann. The silver medal Hybrid Perpetual staged by an amateur was a perfect example of Margaret Dickson, staged by Dr. S. P. Budd. The premier Tea in the nurserymen's section was a splendid bloom of The Bride, shown by Mr. G. Prince, Oxford, in his stand of twenty-four blooms. The Rev. Foster-Melliar, Sproughton Rectory, Ipswich, secured the medal for the best amateurs' Tea, this being a magnificent bloom of Souvenir d'Elise Vardon.

GARDEN ROSES.

These made a very fine display. Messrs. Paul & Son, Cheshunt, secured the first prize for thirty-six bunches, distinct varieties, showing some grand flowers. A few of the best were W. A. Richardson, Cheshunt Hybrid, L'Idéal, White Provence, Rosa Mundi, Moss, Perle d'Or, and Caméens. Messrs. G. Cooling & Son, Bath, second. Mr. C. Turner, Slough, was first for eighteen bunches of garden Roses, amongst which Crimson Rambler, Madame Falcot, and Spong were conspicuous. Messrs. W. & M. Croll, Dundee, were second.

Mr. O. G. Orpen, West Bergholt, Colchester, was a good first in the amateurs' class for eighteen bunches of garden Roses in distinct varieties with Clare Jacquier, Ma Capucine, Gloire de Polyantha, Crimson Rambler, Maiden's Blush, Ma Paquerette, L'Idéal, Rêve d'Or, William A. Richardson, Gustave Regis, York and Lancaster, Marie Pavie, Madame Cecile Brunner, Anna Marie de Montravel, Crimson China, Mignonette, Bardon Job, and Perle d'Or. Mr. C. E. Cuthell, Dorking, was second; and Alfred Tate, Esq., Downside, Leatherhead, third. Mr. J. Mallender, Hodsock Priory, Worksop, was a good first in the class for twelve bunches in distinct varieties with Aimée Vibert, Common Moss, Perle d'Or, Crimson Rambler, China, Bengal, Florida, Gloire de Polyantha, William Allen Richardson, and Homer. The Right Hon. Lord Penzance, Eashing Park, Godalming, was second; and Sir B. V. S. Brodie, Bart., Brockham Warren, Betchworth, Sussex, third.

Mr. J. Mattock was first in the class for twelve bunches of Roses suitable for buttonholes, showing charming flowers. The best varieties were Madame de Watteville, Anna Ollivier, W. A. Richardson, L'Idéal, Rubens, and Marie Van Houtte. Mr. F. Cant was second, and Mr. A. Evans third. Mr. C. E. Cuthell, Chapel Croft, West Humble, near Dorking, gained the first prize for nine bunches of single-flowered varieties; Lord Penzance being second, and Messrs. Paul & Son third. Mr. E. Cuthell, Dorking, was first for a display of Roses, Mr. G. Mount second, and Mr. J. Mattock third.

MISCELLANEOUS.

Mr. Chas. Turner, Royal Nurseries, Slough, sent a charming collection of laced Pinks, including a number of the leading varieties. Messrs. Geo. Jackman & Son, Woking, staged an excellent and diversified collection of cut Roses, while Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, arranged an interesting group of hardy flowers, including Roses, Violas, Gaillardias, Centaureas, Poppies, and many others. Cut Roses were extensively and beautifully shown by Messrs. Wm. Paul & Son, Waltham Cross, as also were they by Mr. William Rumsey, Joynings Nurseries, Waltham Cross. Messrs. Harkness and Sons, Bedale, Yorks, staged hardy flowers, including Delphiniums, Gaillardias, Poppies, and others. From the Rt. Hon. Lord Penzance came an interesting box of Old Gallica Roses. Messrs. Keynes, Williams and Co., Salisbury, sent a fine collection of the hybrid Sweet Briars raised by Lord Penzance, and which, it is said, will be distributed during the ensuing autumn.

FARNINGHAM.—JULY 3RD.

FARNINGHAM, on July 3rd, was favoured with a perfect day and a magnificent display of Roses. For thirty-six blooms in the open class there were five competitors, and the boxes were really grand. Mr. G. Mount, Canterbury, was first with the following flowers, very good indeed—E. Y. Teas, Mrs. J. Laing, Dr. Andry, Ulrich Brunner, Duchess of Bedford, Prince Arthur, Marie Baumann (magnificent), Le Havre, Alfred Colomb, A. K. Williams, Eugène Furst, S. M. Rodocanachi, Chas. Lefebvre, Lady M. Fitzwilliam, and Horace Vernet. Mr. B. R. Cant was a good second with grand flowers of Her Majesty, Mad. C. Joigneaux, Mrs. J. Laing, Ulrich Brunner, Suzanne Marie Rodocanachi (a superlative bloom), Caroline Testout (good), Merveille de Lyon, and Duke of Teck. Mr. F. Cant was third with a box of Roses which in an ordinary show would have been an easy first. He had grand flowers of Marie Baumann, Madame G. Paul, Marguerite Boudet (very clean and bright), La France, Dupuy Jamain, Mons. Noman, and Souvenir d'Elise Vardon. Mr. G. Paul was fourth with good blooms.

For eighteen Teas and Noisettes Mr. F. Cant was a good first with The Bride (a superb bloom), Ethel Brownlow, Etoile de Lyon, Marie Van Houtte (very good), Catherine Mermet, and Cleopatra being the best of a fine stand. Mr. B. R. Cant was second with a box of great merit, Mr. G. Prince third, and Mr. G. Mount fourth. For twelve trebles of Teas Mr. Prince was first, Mr. Frank Cant second, and Mr. B. R. Cant third.

For twenty-four blooms, Col. Pitt was first, showing Her Majesty, Ulrich Brunner, A. K. Williams, and Merveille de Lyon in great beauty. Major Knight was second, his box containing a superb bloom of Chas. Lefebvre, which gained the National Society's medal, though it was closely run by a grand bloom of La France in Mr. Shea's box.

For twelve Teas, the Rev. F. Burnside was first, Major Knight second, and Col. Pitt third. For six trebles of Teas, the Rev. F. Burnside and Col. Pitt were first and second.

In the local classes Mr. Shea, Dr. Ashurst, and Miss Dalton were the chief prizetakers. A good bloom of Général Jacqueminot in Mr. Shea's box winning the National Society's bronze medal.

DISS.—JULY 3RD.

THIS annual show was held in the grounds of Hall Hills, the residence of Mrs. Downton, and was favoured for once in a way with a really fine day and a good attendance. The previous day had been very hot and unfavourable to Roses, the thermometer approaching 90° in the shade, and during the afternoon, which looked very thundery, a remarkable hailstorm occurred in the neighbourhood; it was of very short duration, and covered but a small area, but there were rumours of considerable damage having been done. As to the truth of them this deponent cannot answer, but he did see several hailstones, which were handed about in a pot on the morning of the show, and which were alleged to have been gathered that morning, after having lain on the ground twelve or fifteen hours during that very hot night, and they were then as big as average Cherries! Professional Roses were good, but Hybrid Perpetuals in the amateur divisions were considerably below par.

In the open class for thirty-six Roses Mr. Frank Cant was first, his best blooms being Horace Vernet, Mrs. George Paul (an old red Rose, not to be confounded with Mrs. Paul, H.P.), Caroline Testout, Gabriel Luizet, and Marchioness of Londonderry. This last Rose is certainly very large and stout, and very fine in such dry hot weather, but the colour (if Mr. Dickson will forgive me) is shocking—I call it ghastly. I have seen several specimens, and it seems to me rather greyish white than ivory white. Mr. B. R. Cant was second, his best blooms being Ulrich Brunner, S. M. Rodocanachi, and Mrs. John Laing. Messrs. Prior & Sons were third, showing Heinrich Schultheis, S. M. Rodocanachi, and Gustave Piganeau well.

In the amateurs' class of twenty-four for the Frere Memorial challenge cup there were three exhibitors, but Roses were lacking in size and substance throughout. Mr. Orpen, Colchester, was first, showing a good Cleopatra (which gained the medal for the best Tea) and fair specimens of Merveille de Lyon, Marie Baumann, and Marie Van Houtte. Rev. H. A. Berners, Harkstead Rectory, was second, showing a good bloom of Suzanne M. Rodocanachi, which gained the medal as best H.P., and a neat Le Havre. Rev. A. Foster-Melliar, Sproughton, was third, showing Souvenir d'Elise, The Bride, and Caroline Testout in good condition. The challenge cup then left his hands for the first time since it was offered four years ago. In the class for twelve Teas (amateurs)

some fine stands are generally shown at Diss, and a good average standard of quality was maintained. Mr. Berners was first, his best blooms being Madame Hoste and Souvenir d'Elise, and the Judges were unable to separate the exhibits of Messrs. Orpen and Foster-Melliar, and awarded them equal seconds. The former showed Madame Hoste well, and the latter had good examples of Ernest Metz and Souvenir d'Elise.

For twelve Roses Rev. F. Page-Roberts' was the only entry, containing a good specimen of Viscountess Folkestone. The winner in the local class of twelve Roses, whose name was not on his box, showed Ulrich Brunner and Mrs. John Laing well.

HARDY FLOWERS.

At the Society's show, held on Tuesday, July 3rd, the six classes arranged for hardy garden flowers brought together a very large number of exhibitors and a greater number of exhibits than on any former occasion. The staging round the largest tent was entirely devoted to them, and yet was insufficient to hold all. Though some of the rarer and choicer kinds showed evident signs of the burning heat of the few previous days, yet owing to the favourable weather during April and May, the growth was such as has been rarely staged.

The class for thirty-six bunches, produced six competitors, the best exhibit being that of Mr. M. Prichard, Christchurch, Hants, who carried off the first of the special prizes offered by Mr. E. Mann. His enormous bunches of flowers, of every kind and colour, were the admiration of all visitors. Amongst them were noticed splendid groups of Sea Hollies, the Eryngium Olivereanum var. amethystinum being more deeply tinted than usual with that exquisite hue of metallic blue which makes it such a favourite plant in our gardens, also E. giganteum, with its ivory-white petals and stalks. Mr. Prichard also brought to notice two Potentillas, P. formosa and P. Hopwoodiana. The former is of course a well-known kind, but not so much grown as it ought to be; the latter, though exhibited previously at this show by an amateur, having been discovered by him in the gardens of Redgrave Hall, was not known to the public, and barely to the trade. It is very delicate in colour, buff shading to salmon pink on the outside of the petals. As it does not seed is given to overflowing itself. The price is prohibitive, and some years must elapse ere it can become general in our gardens. In the bunch of Scabiosa caucasica the size and colour of the flowers showed that they had been cut from plants of a good strain and well worthy of cultivation. Polemonium Richardsoni alba, a great acquisition, as it is finer than the common variety, and if a plant be broken up in the growing stage the stock of it can be easily increased. There was also a pink Phlox, called "Le Soleil," an English Iris, "Ajax," and an enormous bunch of Hemerocallis Thunbergii.

Mr. G. H. Sage, Richmond took the second prize, and in this exhibit also the size of the bunches, the variety of the flowers, and the freshness of the colour were all particularly noticeable. It included many examples of well-known favourites, and of these the blooms of Clematis erecta and Centaurea macrocephala were especially fine. Mr. Sage also exhibited a small blue Campanula, which was much admired, and seemed to be an unknown variety. It was very much like the common Harebell (C. rotundifolia), only very much finer in form. The third prize was won by Mr. C. Jacobi, Henley Road, Ipswich. Here again were enormous masses of flowers, the colours of which were particularly bright and fresh, but all too much crowded, some of the bunches being almost hidden, and in every case the growth and beauty of form utterly lost to view. Amongst them a sulphur coloured variety of the common Centaurea montana, a very fine Helenium, much like H. Bolanderi, also Veronica maritima alba, which seemed to be a small but very pretty V. spicata alba, and a fine white English Iris, "Mont Blanc" were noted. The other exhibits in this class were from Mr. C. H. Scriven, Norwich, and the Rev. E. Farrer, Reckingham. The former showed Astragalus onobrychis, a showy species, Sainfoin-like in form, Sedum glaucum, and Matricaria inodora; and the latter had fine specimens of Morina longifolia, the pretty pink Astartia carniolica, and Gillenia trifoliata.

The class for twenty-four bunches, was also a fine display, there being four exhibitors, that of the Rev. F. Page-Roberts, the worthy secretary of the Society, gaining first prize. His flowers were certainly better staged than any others in the show. The bunches were all quite as massive as those exhibited by the professional growers, only far more elegant in shape, and formed a hank of bloom, the tins in which the flowers were placed being hidden from view. There were some magnificent Pæonies, and a wonderful bunch of Gladiolus "The Bride." Mr. J. Tudor Frere was second in this class, and his collection contained some very choice specimens, Cypripedium spectabile being much admired, Stachys coccinea with flowers of a peculiar soft tint of red, and an unique bunch of Lychnis flos-cuculi alba plena. Miss Taylor, Starston, near Harleston, was third, and staged, among others, a Lily which she called L. Martagon, but which was in reality a fine red variety of L. Thunbergianum. In this class Mr. D. C. Warner, Eyc, showed among his lot a charming specimen of Lilium umbellatum immaculatum.

For eighteen bunches Mr. Orpen, Colchester, was first with flowers exceedingly well grown, and all fresh and bright.

The class only open to those who do not employ paid assistance of any kind in the culture of their flowers, was well patronised, Mr. T. C. Collins being the most successful, showing Dianthus Cyclops, a free-growing Pink of a very vivid red colour, and Iris hispanica "Venus." Mr. C. S. Alger was second, and Mr. Vickery third. In the box of the former was a most conspicuous Alströmmeria aurantiaca, which probably gained him the higher prize, and the latter showed well

Heuchera sanguinea, *Lychnis vespertina* fl. pl., and *Veronica maritima* alba.

The class for specimens, was not so well patronised as on former occasions. The Diss Society is the only one about here which gives to growers an opportunity of displaying the choice products of their gardens without making up large bunches. Visitors have thus a chance of learning not only what can be grown but seeing what would otherwise perhaps remain unknown to them; this, it is hoped, will induce the Society to allow this class to remain on their schedule. Mr. T. C. Collins secured the first prize, the number of beautiful examples exhibited by him being too large to enumerate, but *Alströméria lutea* and *Gypsophila Steveni*, a most useful flower for decorative purposes, quite different in appearance from the well-known *G. paniculata*, also a bloom of *Calochortus luteus* may be named. The Rev. E. Farrer, who took the second prize, showed a pretty little flower, known as *Antirrhinum siculum*, possibly a *Linaria*, which will perhaps one day be a favourite.

The class for border flowers must not be forgotten. There were four competitors, all having exhibits worthy of merit. The Rev. F. Page-Roberts was first, and Mr. Chettleburgh, of Worstead, near Norwich, second. This class ought to be much encouraged, as it not only admits flowering shrubs but is effective, the delicate colouring of such annuals as *Nemesia* and *Shirley Poppy* blending and harmonising with the more sober tints of their perennial neighbours. Altogether the exhibition was grand, and the largest ever seen in the eastern counties; it seemed to awaken an interest in the apathetic mind of the general visitor, and was, of course, very fascinating to those who make a hobby of cultivating herbaceous flowers.

IPSWICH.—JULY 4TH.

THE Committee of this Society, alarmed at the financial results of wet days on several years, decided on this occasion to hold the Rose Show under cover in the Skating Rink; but, according to the natural perversity of things, the day proved cloudless, and the attendance, I fear, was small. Professional Roses were even better than on the preceding day at Diss, but no improvement was to be found in the amateur ranks.

In the open class for thirty-six Roses Mr. B. R. Cant was first, showing Victor Hugo (very fine), Captain Hayward, and A. K. Williams (good). Mr. Frank Cant was second, his most noteworthy blooms being *Gustave Piganeau* and *Marchioness of Londonderry* (another "dead man's face"). Messrs. Prior were third, showing *Gustave Piganeau* well.

In twelve trebles Mr. B. R. Cant was again first, Marie Baumann, Mrs. John Laing and Her Majesty being among his best exhibits. A very close contest occurred here between Mr. Frank Cant and Messrs. Prior for the second place, the pointing being equal. A considerable superiority in size carried the day for the former exhibitor against somewhat greater cleanness in Messrs. Prior's stand. Mr. Frank Cant had a good treble of *Comtesse de Ludre* (which he has been showing well lately), one of Mrs. John Laing, and a bad one of *Kaiserin Augusta Victoria*. Messrs. Prior showed a very good clean bright treble of *Merveille de Lyon*, and a neat one of A. K. Williams.

In the open class of twelve Teas Messrs. Prior were first with neat but not large blooms, the best being *Maréchal Niel*. Mr. Frank Cant was second, his flowers not being very perfect. In East Anglia, at least, the Tea classes are often quite as well represented by the amateurs.

In the amateur ranks the mixed classes were of poor quality. Rev. H. A. Berners was first for thirty-six, showing a good bloom of Her Majesty. Rev. A. Foster-Melliar, the only other exhibitor, was second, his best blooms being *Marie Verdier* and *Souvenir d'Elise*. In the class for twenty-four Roses Mr. Orpen was first, his best blooms being Ulrich Brunner and Madame Hoste; with Mr. Parsons, Woodbridge, second. In twelve blooms Mr. Orpen was again first, Mr. Berners second, and Mr. Parsons third. Three pretty good stands of Teas were exhibited by the East Anglian amateurs, Mr. Berners being first with a good even box, Mr. Foster-Melliar second (showing a good *Madame de Watteville*), and Mr. Orpen third. For any six Roses of a sort Mr. Foster-Melliar was first with *Souvenir d'Elise*, large, but not very good; Mr. Berners second with Her Majesty, and a gentleman, whose name I am sorry to say I have lost, third with *La France*.

In ballroom bouquets Mrs. Orpen was first, but her exhibit, consisting principally of buds of *Madame de Watteville*, was heavier than usual, and she was very closely followed by Miss Gilbert with Sweet Peas and Pinks. In bridal bouquets Mrs. Orpen was first, but a large Lily was a little out of place. Miss Gilbert, who was second, would have taken her place but for the introduction of white ostrich feathers. Miss Gilbert third, had packed her flowers too closely. Buttonhole bouquets were poor, and the class for wild flower decoration showed no striking features, but in the class for tasteful arrangement of a basket of cut flowers, a somewhat daring exhibit by Miss B. Ridley of orange and yellow Poppies with Ferns in a green basket, beat Mrs. Orpen, whose basket of lighter and more neutral shades looked weak beside it.

TUNBRIDGE WELLS.—JULY 4TH.

THIS was the thirty-sixth annual exhibition of the Tunbridge Wells Horticultural Society, and although not quite up to the high standard usually found, was still an excellent meeting. One of the chief features of this show is the groups of plants arranged for effect, no less than eleven competitors trying conclusions. All were good, but the first three could scarcely be improved in any way. Unfortunately, Mr. Mason, who had been awarded second prize, was disqualified later on.

He had supplemented his group by the addition of a few Orchid sprays. We quite believe this was a misreading of the schedule only, as Mr. Mason is far too able and honest an exhibitor to wilfully make such a mistake. Mr. J. Howcs, gardener to W. Cobb, Esq., was first, closely followed by Mr. L. Dupond and Mr. S. Pope.

Mr. T. Portnell, gardener to Sir A. Lamb, Bart., Battle, was the premier exhibitor of stove and greenhouse plants; followed by Mr. J. Mason, gardener to H. J. Wood, Esq., Southborough. Mr. S. Pope, gardener to J. J. Barrow, Esq., Tunbridge Wells, had the best foliage plants and exotic Ferns.

For twenty-four bunches of herbaceous cut flowers Mr. J. Charlton won with a magnificent collection. Second, Mr. H. Ware. For three pieces of table decorations, first Mrs. A. Hatton, Sevenoaks. Second, Mr. S. Cook. For one epergne, Mrs. Hatton was again in front; Miss Eva Simpson beating Mr. Cook for second place. The class for eighteen varieties of cut flowers (stove and greenhouse), found Mr. T. Portnell ahead again. For wreaths Mr. J. Charlton beat Mr. Newman, but the latter was a good first for wedding and hand bouquets, also for sprays.

Mr. Mount, Canterbury, had the best stand of forty-eight Roses, the finest flowers being Mrs. J. Laing (medal bloom), Victor Hugo, Xavier Olibo, Marie Baumann, Abel Carrière, Thomas Mills, and Fisher Holmes. Mr. T. Durrant Young, Eastbourne, was a close second. The same order prevailed for twelve Teas or Noisettes. For twenty-four varieties, Mr. Foster, Ashford, was well in front; F. Freeman-Thomas, Esq., Eastbourne, being second.

In the fruit class Mr. Earl was first for three bunches of Black Hamburgh Grapes, also for one bunch of black, not Hamburgh. Mr. W. Harvey beat Mr. Earl for three bunches of white Grapes. Mr. Earl was very successful for Pines, Strawberries, and Cherries; also first for a fine collection of fruit. Vegetables: nine kinds, open, Mr. A. Henderson, first. Mr. Booth won Messrs. Sutton & Sons' first prize, and Mr. Charlton's first went to Mr. J. Friend.

Among trade exhibits, not for competition, Messrs. Cutbush & Son had a stand of "Malmaison" Carnations; but the most taking of all was a 30 feet staging of herbaceous flowers from Mr. Charlton, Tunbridge Wells. A more representative stand is rarely seen, and never in better condition.

NORWICH.—JULY 5TH.

THE Rose show of this very flourishing Society was held in brilliant weather in the gardens of the Bishop's Palace—an excellent situation, not only from its being in the heart of the city and within easy reach of the station, with no hills to climb, but also because of the fine trees, under the shade of which the Rose tent was pitched, so that it was cooler to set up in the tent than outside. The competition in the Rose classes was not strong, and this is not to be wondered at in the amateurs' classes, for showing three days in succession is too much for exhibitors and their Roses.

In the open class for thirty-six Mr. B. R. Cant was first, his best blooms being *Horace Vernet*, John Stuart Mill (fine), *Comtesse de Ludre*, and *Gustave Piganeau*. Mr. Frank Cant was second, showing *Comtesse de Camando*, Fisher Holmes, and *Horace Vernet* well. In eighteen trebles the positions were reversed, Mr. Frank Cant being first, having good triplets of *Horace Vernet*, *Caroline Testout*, and Ulrich Brunner; and Mr. B. R. Cant second with good examples of S. M. Rodocanachi and Her Majesty.

In the amateurs' classes Rev. A. Foster-Melliar, Sproughton, near Ipswich, had it pretty well all his own way, his Roses being a little better, and his rivals, Messrs. Berners and Orpen, taking a day's rest or showing elsewhere. He was easily first for thirty-six, among which were the two medal Roses, *Suzanne Marie Rodocanachi* and *Souvenir d'Elise*, and good specimens of *Gustave Piganeau* and *Général Jacqueminot*. Rev. A. L. Fellowes, Beighton, who won last year, was second with inferior flowers, the best being *Comtesse de Nadaillac*. Miss Penrice, Whitton, was third. It is worthy of notice that in this, the most valuable prize in East Anglia, the present winner gained it three years in succession, and then lost it four years running, by a very small margin each time. For twenty-four Roses Mr. Foster-Melliar was again first with poorer flowers, but good specimens of *Marie Verdier* and *Suzanne Marie Rodocanachi* were noticed. Mr. T. C. Blofield was second, and Rev. A. L. Fellowes third. In twelve blooms Mr. Blofield was first, Mr. D. Warnes second, Rev. F. Page-Roberts third, and Rev. A. L. Fellowes fourth. In twelve Teas Mr. Foster-Melliar was first, Mr. D. Warnes second, and Rev. A. L. Fellowes third, there being no noteworthy blooms.

In twelve Hybrid Perpetuals of a sort Rev. A. L. Fellowes was first, as he has been for several years, with *La France*, one being a capital bloom, and reserve for the medal. Miss Penrice second, and Mr. Fletcher third, all showing the same variety. In six H.P.'s of a sort Rev. C. Fellowes, Shotesham, was first with Ulrich Brunner; Mr. D. Warnes second with Mrs. John Laing; and Mr. Page Roberts third with Jeanie Dickson. This was not a good class. In six Teas of a sort Mr. Page Roberts was first with The Bride; Mr. C. Fellowes, Shotesham, second with *Comtesse de Nadaillac*; Mr. Foster-Melliar third with *Maréchal Niel*. For twelve trebles Mr. Foster-Melliar was first, showing prominently *Gustave Piganeau*, Edith Giffard, and *Maréchal Niel*. Miss Penrice was second; and Rev. A. L. Fellowes third.

Nothing could tempt the scribe to go into any other tent, but he was forced to admire Mr. Page Roberts' wonderful stand of thirty-six herbaceous flowers, which gained the first prize in the principal class. Most noteworthy were *Orchis foliosa*, *Linaria dalmatica*, and *Iris ochroleuca*, but it was altogether a beautiful exhibit, and must have taken a good deal of time to cut and arrange.

FARNHAM.—JULY 4TH.

THE twenty-fourth exhibition of the Farnham Rose Association was held on Wednesday, July 4th, and was a great success as to the merit of the flowers, the number of competitors, and the gate money. The gardens of Farnham Castle have generally been the spot where the exhibitions have taken place, and the people like to have it there, so much so that when it became impossible there were prophets who foretold the downfall and decay of the Association.

It involves no slight sacrifice to place several tents on the lawn of a garden like that of Farnham Castle, and in the event of wet weather (and Farnham Rose shows have so often been held in wet weather) to have planks laid down at the risk of destruction to the turf. Accordingly the Committee had to seek a spot elsewhere, and they found it in the park of Waverley Abbey, and adjoining the gardens there, and so successful has the necessary experiments proved that in future years it will be, no doubt, repeated either at Waverley Abbey, if possible, or at some other place near Farnham. It was rightly thought, when twenty-four years ago the Association came into existence, that if Farnham can grow Hops it can grow Roses too.

For twelve years the show succeeded and flourished, and when a new secretary had to take office it succeeded still more, and developed into the important exhibition of Roses, flowers, and fruits that it now is, with its 100 members, its open classes, and its tempting money prizes, which repeatedly have attracted to Farnham some of the largest and best known growers.

The names of those who were successful competitors were these:—Mrs. Anderson, Mrs. Knight, Sir William Rose, Bart., Colonel Windham, Rev. O. C. S. Lang, Lieutenant-Colonel Fitzroy, Mr. William Taylor, Mr. Bide, Mr. S. G. Sloman, jun., Major Crofton, Mr. R. H. Combe, Miss Loe, Mr. Arkwright, Miss Ida Mason, Miss B. Longhurst, Miss S. Parker, Admiral Sir Thomas Brandreth, K.C.B., Miss Kennedy, Major Newcom, Mr. James Stevens, General Marsack, Mr. A. W. Chapman, Mrs. Marshall, Mr. Coldham Knight (Hon. Sec.), Miss Stevens, and Miss Parker.

The prizes were either money or money's value, and the gardeners of the different houses (notably Mr. Butler, gardener of Charles Hill; Mr. Turner, at Pierrepont; Mr. Poole, at Elsiad Lodge; Mr. Gaymer, at Waverley Abbey; Mr. Edwards, of Leigh House; and Mr. Cresswell, at Aldershot Park), seemed to come off exceedingly well when again and again they received sums varying from £3 to 2s. 6d. won by their employers.

The "value prizes" were selected from a stall supplied with good taste and judgment by Messrs. Tiley of Farnham, and all prizes thus selected, being ticketed, were distributed at five o'clock to the recipients by Mrs. Anderson, in presence of the very large number of visitors who attended the show. As the list of prizewinners would probably not be of sufficient interest to the general readers of the Journal, it may suffice to note the particular features of the exhibition.

1, There was a very large number of well-grown fresh Roses, which were as a rule well staged, but some of the flowers were pressed deeply into the moss, and could not be rightly judged.

2, People should always study their schedule. The box that would have probably won first prize for the twenty-four H.P.'s was properly disqualified because two Teas were introduced. Mrs. Knight's (first) and Mrs. Anderson's (second) boxes were worthy of their reputation, and Mr. Bide, of Alma Nurseries, came in a very good third.

3, The silver challenge cup was saved. Mrs. Anderson wrested it this year, for a fine box of twelve. The competition for this cup was exceedingly keen and good.

4, The Teas were not up to the mark. The best Tea was Etoile de Lyon, shown by Mrs. Anderson. The best Rose in the show was Marie Baumann (Mrs. Knight, of Leigh House). The best Rose (open to members only) was Ulrich Brunner (Mrs. Anderson).

5, Very few dark Roses were shown, and only a slight repetition of the same Rose in the many boxes.

6, The Zonal Pelargoniums were not up to those shown of old. Those of Mrs. Anderson, Sir William Rose, and Mr. Combe were all fairly good.

7, The arrangement of flowers for table decorations was distinctly good. Miss Loe's basket and Miss Arkwright's vase of white Gladioli and other white flowers with silver leaves were above the average. The wild flower arrangements were also good, and here again Miss Loe was *facile princeps*.

8, There were some very large Tomatoes shown. Exhibitors should take notice that judges examine the under sides of Tomatoes as well as the top sides, and "cracks" are not only a disfigurement but a hindrance to success. Sir Thomas Brandreth's six Sutton's Perfections, Miss Kennedy's Climax, and Rev. O. C. S. Lang's Early Favourite were as good as you would wish to see on any table.

The Strawberries were but indifferent. Mr. Arkwright's were very good, however. There were some fine Peas and early Potatoes. The blooms of herbaceous and other plants were rather feeble. One very small bloom by itself makes the whole collection appear insignificant. There was a good collection of botanically named wild flowers, judged by Rev. H. Edge, the prizes being won by Miss Stevens, Miss Parker, and Miss Arkwright.

There were six really good groups of various plants, 4 feet in radius. Mrs. Marshall's (first prize) was excellent in every way, containing choice Orchids, Amaryllises, and Palms most elegantly and artistically arranged. Mr. Bide's (second) followed at a respectful distance and showed much taste, but it lacked the brightness and finish of

Mrs. Marshall's. General Marsack won the third prize for a group that would have been but little inferior to the others if only it had been somewhat less flat.

The members of the Committee, of whom Mr. Coldham Knight is the Hon. Sec., displayed very great and praiseworthy energy, and are to be congratulated on having secured a show that was in every way successful. The judges were Mr. Charles Gater, foreman to Messrs. Paul & Sons, of the Old Nurseries, and the writer of this article.—A. B. ALEXANDER, *Shedfield Vicarage*.

CHERTSEY, WALTON, AND WEYBRIDGE.—JULY 5TH.

THE twenty-ninth exhibition held in Ashley Park was the best of the long series in every respect. Competition was keen, the exhibits more than filling three large tents, while the quality was fully up to the average. Much credit is due to Mr. Rawlings for so long and so well managing this fine summer show.

Groups of miscellaneous plants arranged for effect had a tent set apart for themselves. Two classes were provided, and there were eight entries. The principal class was that for a group measuring 14 feet by 7 feet. Three competed—Mr. Cook, gardener to J. S. Sassoon, Esq., Ashley Park, Walton; Mr. Carpenter, gardener to Major Collis Browne, The Oaks, Byfleet; and Mr. Jacques, gardener to Miss Denny, The Almers, Chertsey, the prizes going in the order named. The arrangement in the first prize group being all that could be desired, a groundwork of Maidenhair Fern from which rose well-grown Palms, Crotons, Carnations, Gloxinias, Liliun Harrisii, and Rhodanthes—an excellent combination. The smaller class was limited to 10 feet by 5 feet, and produced five competitors. Mr. Hopkins, gardener to Mrs. Wodderspoon, Walton, was distinctly first with an elegant arrangement of suitable plants. Mr. A. Millican, gardener to H. Cobbett, Esq., Addlestone, was second; and Mr. Pagram, gardener to A. F. Hobhouse, Esq., The Whem, Weybridge, third.

Stove and greenhouse plants were contributed in large numbers, and being arranged on the grass in a large tent made an effective display. The principal class was that for eight specimens, not less than four to be in flower, the remainder foliage. Mr. Cheeseman, gardener to P. Riddell, Esq., Walton, won rather easily with handsome specimens of *Dendrobium thyrsiflorum*, having thirty racemes of bloom; *Oncidium sphacelatum*, *Stephanotis floribunda*, and a healthy plant of *Latania borbonica*. Mr. Cook was second. For six specimens Mr. Hopkins won easily with *Stephanotis floribunda*, *Bougainvillea glabra*, and *Gloriosa superba*. Mr. Gardner, gardener to R. H. Turner, Esq., Walton, second. Mr. Cook was the most successful in the class for four specimens, as also was he for six foliage plants, in both classes exhibiting well, Mr. Cheeseman following closely in the first-named class. Mr. Thorne, gardener to A. C. Flood, Esq., The Bush, Walton, was second in the last-named class. Mr. Jacques staged a well-flowered specimen of *Clerodendron Balfourianum*, and won the premier award for a single specimen flowering plant. Mr. Millican second.

Ferns were extensively shown. For six exotic specimens Mr. Hopkins was well to the fore with healthy examples of popular kinds; Mr. Carpenter second. Mr. Cook won for four specimens. Hardy Ferns were well represented by Mr. Millican in the class for four specimens. Mr. Cheeseman had the best Fuchsias, pyramids 4 to 5 feet high, freely flowered examples of popular kinds. Mr. Thorne was second. Caladiums were well shown by Mr. Cook and Mr. Thorne. Mr. Cheeseman had the best Celosias, and Mr. Carpenter staged excellent Gloxinias. Begonias were not so well shown, but Achimenes were above the average.

Roses were best staged by Mr. Will Taylor, Osborn Nursery, Hampton, Middlesex, in twenty-four single blooms, distinct, having medium sized fresh examples of leading kinds. Mr. G. Carpenter had the best dozen, distinct, in the class set apart for gardeners only. The last named also showed the best stand of trebles. Mr. Jacques was the first prizewinner for a stand of twelve varieties of stove and greenhouse blooms with a choice collection. Mr. Pagram occupied a similar position in the class for twelve varieties herbaceous flowers.

Non-competitive exhibits added considerably to the attraction of the show. Messrs. J. Veitch & Sons, Chelsea, arranged a handsome group of six dozen pots *Liliun Harrisii*, and ten dozen dwarf Roses in pots, carrying magnificent blooms of leading varieties. Messrs. J. Laing and Sons, Forest Hill, staged a splendid assortment of their double and single Begonias, interspersed with Carnations, Orchids, Ericas, Ferns, and *Hydrangea paniculata* with enormous flower heads. Messrs. G. Jackman & Son, Woking, beside boxes of Roses had a choice collection of cut hardy flowers. Messrs. Spooner & Son, Hounslow Nurseries, Middlesex, had Roses, and Messrs. John Peed & Sons, Roupell Park Nurseries, Norwood, arranged a bank of Caladiums.

Fruit and vegetables were also well shown in the respective classes, but want of space forbids further mention of the various exhibits.

DUBLIN.—JULY 5TH.

FAVOURÉD by a perfect summer's day, the Royal Horticultural Society of Ireland held their Rose exhibition in the beautiful grounds of Lord Iveagh's Dublin residence on the above date. To the surprise of many persons this show was *par excellence* one of, if not the finest yet seen in Dublin. Competition was keen for the 24 guinea cup, presented by the horticultural seed trade of Dublin. For this eight entries of thirty-six, in not less than eighteen varieties, were staged and Mr. Coghan, gardener to F. A. Millar, Esq., carried off the trophy

Second, Captain Riall. Third, Lord Ashtown. In the minor classes Mr. Coghan was very strong.

In the nurserymen's class of forty-eight blooms in twelve distinct varieties, four blooms of each, Messrs. Alex. Dicksons were first. This stand included their beautiful new Hybrid Perpetual Helen Kellair, for which the Judges recommended a certificate. Doubtless this variety will make its mark in the Rose world, possessing as it does all the qualities of form, substance, and colour (a satiny rose), to which add that robust and vigorous growth characterises the introductions of the famous Irish rosarians from their nurseries at Newtownards, Co. Down. Very conspicuous was Marchioness of Downshire, of perfect outline and great substance; Mrs. S. Crawford, Margaret Dickson, Gustave Piganeau, were also shown in Messrs. Dicksons' stand. For a stand of forty-eight, each different, Messrs. Dickson also took premier honours.

Apart from Roses, much interest surrounded the fine piece of plate, valued at 21 guineas, presented by Hamilton Drummond, Esq., the Honorary Secretary, for the best stand of cut blooms of tuberous, or bulbous-rooted, hardy plants in twenty-four varieties. In this competition gardeners find a hard nut to crack. For the third time, Mr. Porter, gardener to Lord Ashtown, cracked the nut and carried off the kernel for good and all. Mrs. Robertson was second. Other classes were perhaps hardly so well filled as usual.

The class for three dishes, distinct, of Strawberries, found no entry, and this tells its own tale as to how we stand in Ireland. It is not that they are over, but that they have not arrived, and probably, owing to that memorable frost, are postponed to another year.

Nursery groups, which do so much to assist our shows, largely helped, but plants for competition from private gardens were conspicuous by their absence. Glasnevin, as usual, staged a group rich and rare. Public attendance was fairly good; gardeners mustered in strong force, and enjoyed that social reunion for which show day gives facility.—E. K., *Dublin*.

BEDFORD.—JULY 5TH.

It cannot be reported of this show that it was altogether an unqualified success. The weather was perfect, and the attendance of visitors during the early part of the afternoon good, but there was scarcely enough for them to see. If the Bedford fixture is to rank as first-class, and there is no reason why it should not, the prize schedule must be re-arranged, more classes be provided, especially with a view to attracting exhibitors from a distance.

The best prizes for cut Roses were offered for forty-eight blooms, distinct, and with these there were five competitors, all staging admirably. Mr. J. Mattock, Oxford, was awarded the first prize for a generally excellent stand, consisting of Star of Waltham, Her Majesty, Thomas Mills, Captain Christy, Gustave Piganeau, Mrs. John Laing, Mons. E. Y. Teas, Marquise de St. Amand, Madame Gabriel Luizet, Ulrich Brunner, Duchesse de Vallombrosa, Marie Rady, Mons. Noman, Général Jacqueminot, La France of '89, Souvenir d'un Ami, Reynolds Hole, Heinrich Schultheis, La France, Hon. Edith Gifford, Miss Ethel Brownlow, Xavier Olibo, Rubens, Madame Bravy, Marie Baumann, Innocente Pirola, Lady Mary Fitzwilliam, John S. Mill, Souvenir de Paul Neyron, Marquise de Castellane, The Bride, François Michelon, Comtesse de Nadaillac, Madame Margottin, Catherine Mermet, Suzanne Rodocanachi, Margaret Dickson, Horace Vernet, Souvenir de Thérèse Levet, Jeanne d'Arc, Abel Carrière, A. K. Williams, Marie Van Houtte, Duchess of Bedford, Duke of Teck, Jean Ducher, Victor Hugo, and Edward Morren. Mr. H. Merryweather, Nottingham, was a close second, or only about five points behind, and was followed by Mr. F. Cant, Colchester, Messrs. Paul & Son being very highly commended. Both of the two last exhibitors had several grand blooms in their stands, and also several very poor ones.

With eighteen Teas and Noisettes, distinct, Mr. Mattock was well first, the second prize going to Mr. F. Cant, and the third to Dr. King, Bedford, all staging most creditably. Mr. Mattock's varieties were Souvenir d'un Ami, Edith Gifford, Catherine Mermet, Rubens, Jean Ducher, The Bride, Innocente Pirola, Comtesse de Nadaillac, Madame Bravy, Ethel Brownlow, Souvenir d'Elise Vardon, François Krüger, Adam, Souvenir de S. A. Prince, Anna Ollivier, Cornelia Kock, Madame Cusin and Marie Van Houtte. The foregoing were the only classes open to nurserymen.

For twenty-four cut Roses, distinct, J. Parker, Esq., was a good first. His best blooms were of Star of Waltham, Madame Gabriel Luizet, Ulrich Brunner, Madame Hippolyte Jamain, Camille Bernardin, Captain Christy, Elie Morel, Marie Baumann, Violette Bouyer, Horace Vernet, Mrs. John Laing, and Duke of Connaught. The Rev. H. Jackson, Stagden Vicarage, Bedford, was a good second. Mr. H. V. Machin was third. With twelve distinct varieties Dr. King was first, having Etienne Levet, La France, and Victor Verdier particularly good. The second prize was well won by Mr. W. Kingston, and the third by Mr. E. Ellis. Dr. King was also a good first for twelve Teas. The Rev. H. Jackson was a good second. In his stand was an exceptionally fine bloom of Countess of Nadaillac and Souvenir de S. A. Prince was also noteworthy. Mr. H. V. Machin was third. Messrs. W. Kingston, J. Johnston, and J. Parker were the most successful in other classes for Roses, while the Rev. H. Jackson was an easy first with a bowl of Roses with Rose foliage.

Valuable prizes were offered for thirty-six bunches of cut hardy, herbaceous, or bulbous-rooted flowers, distinct, but with these there were fewer competitors than usual. Messrs. Laxton Brothers, Bedford, were awarded the first prize for a grand collection in massive bunches

and effectively grouped. The Rev. W. Crouch was second, his exhibit being remarkable for freshness and good selection of varieties. Messrs. Paul & Son had to be content with third place, want of freshness largely militating against this otherwise perfect collection. Prizes were also offered for Carnations and Picotees, but the competition with these was poor.

Only two competed with "groups of plants, foliage and flowering." There was no limit to the size of these, and nothing said about arranging for effect. Mr. W. J. Empson, gardener to Mrs. Wingfield, had a fairly artistic arrangement, which might have been considerably improved by the addition of a few taller graceful plants, and was placed equal first with Mr. Ellis, who adopted the old plan of packing a general mixture of showy flowers as closely together as possible. Half circles, with nothing to hide boxes, pots, and such like used to raise some of the back plants, are sadly out of place in the centre of a tent. Midway between these two competing groups Messrs. Laxton Bros. made an effective display, a grand memorial cross planted, by a large basket of *Scabiosa caucasica*, with *Thalictrum* foliage interspersed, and a basket of Roses with trailers, showing up well among Palms and Ferns. This was not for competition.

There was only a small display of fruit. Mr. W. J. Empson had first for both black and white Grapes, staging Black Hamburg, very good in every way, and highly creditable Foster's Seedling respectively. This exhibitor was also most successful in the various classes for vegetables, other prizewinners being Messrs. J. Bragley, W. Kingston, and W. J. Goodson. Ladies made only a moderately good display in the classes for table decoration, bouquets of wild flowers, and such like.

HEREFORD AND WEST OF ENGLAND.—JULY 5TH.

THIS time-honoured exhibition was held last Thursday, July 5th, in the beautiful grounds of the Castle Green, and favoured by superb weather drew together a large attendance. The competition was very much smaller than usual. The writer, who founded the Society nearly three decades ago, and for years held the reins, when over £200 in prizes and many challenge cups were the order of the day, may be excused a little pardonable egotism if in the rôle of a *laudator temporis acti* he begs permission to ask why a society which has done so much for Rose showing and Rose growing by filling up a gap in Rose exhibitions (notably about the critical period between the old and revised N.R. Society), should receive this year not a single exhibit from the leading Rose nurserymen? It is, of course, easy to answer that several shows, all better centres of advertisement, are fixed for the same day, that Hereford is hard to reach while the prize list is small. Still your reporter can remember when all these obstacles existed in the good old days of yore, and Messrs. George Paul, Benjamin Cant, Charles Turner or John Keynes seldom failed to put in an appearance mostly in *propria persona*, or chivalrously despatched their foreman in answer to a wire at the last moment, if, for any unforeseen reason, any of their *confrères* were kept away from waging a good upstanding battle with Mr. John Cranston, thus practically showing their sense of gratitude to the old Western Society. Well, *Tempora mutantur et nos mutamur in illis*. This year not one of the big nurserymen put in an appearance, though not one of them could accuse the Hon. Sec., Rev. F. R. Burnside, of lack of energy or popularity.

Still, those of the public who came to the Hereford show must have seen the object of such societies thoroughly carried out, as both the smaller nurserymen and the amateurs in the open classes staged excellent blooms, very well coloured, and the quality quite up to the average. It must have taken a very fine collection to deprive the Cranston Company of their pride of place; all the more unfortunate, then, that so fresh and really excellent a collection should have met with no competition—a disappointment to the winner and loss to the public. Mr. Townsend of Worcester, a new exhibitor at Hereford, staged several admirable collections. His thirty-six varieties, singles, were especially fine, smooth, (certainly not a feature of the present season), fresh, and well staged. Among amateurs Mr. Drew of Ledbury was easily first in thirty-six varieties, singles; and, as might be expected, Rev. F. R. Burnside carried all before him in the Tea and Noisette class. Some blooms, however, as in most of the collections, showed signs of the rough weather they met with in the earlier part of the season.

All rosarians must have been glad to see the veteran Mr. George Prince so far from home, and looking almost himself again. His first prize collection of yellow Roses, as represented by Comtesse de Nadaillac when developed later on in the evening, was a glorious sight, and worthy of the celebrated Oxford Nurseries. The class for the collection of herbaceous plants, grouped for effect, was distinctly good and numerously contested, well arranged, and contained many novel and interesting varieties. Miss Watkins, Rev. C. Lee, Mrs. Davenport, and Mrs. Harris Lea were the principal winners.

By far the leading novelty in the exhibition were the two boxes of Lord Penzance's hybrid Sweet Briars (his Lordship has been at his hobby fifteen years, it is said, with marvellous success, as may be seen) to be offered to the public next November by Messrs. Keynes, Williams and Co., in whose hands they have been placed. All of these charming hybrids are so charming and so sweet that it is really difficult to particularise; but the most distinct varieties seem to be Lady Penzance × Austrian Briar, and showing clear evidence of its parentage in its dusky hne; Meg Merrilies × H.P. Dr. Sewell, bright crimson, a bold flower, very thorny and rampant growth; Amy Robsart, deep rose, anthers very prominent, apparently an immense bloomer;

and Lord Penzance, delicate fawn, changing to pale yellow. Subjoined is a list of the chief collections:—

Nurserymen, seventy-two varieties, Messrs. J. Cranston & Co. Back row: H.P. Marchioness of Dufferin, Duke of Edinburgh, Marguerite Dickson (fine), Magna Charta, La France (superb), Gustave Piganeau, Merveille de Lyon, Monsieur Noman (magnificent), Boileau, Marie Cointet, A. K. Williams, Violette Bouyer, Ulrich Brunner, Mrs. Paul, Heinrich Schultheis (grand), Alfred Colomb, Clemence Joigneau, Suzanne Marie Rodocanachi, Madame Eugène Verdier, Alphonse Soupert (magnificent), White Lady (splendid), Jeannie Dickson, Annie Laxton, Earl Dufferin. Middle row: H.P. Marie Baumann, Duchesse de Valambrosa, Duchess of Marlborough (good), Elie Morel, Louis Van Houtte, Mrs. John Laing, Countess of Oxford (fine), Tea Princess of Wales, Madame Montet (grand), E. Y. Teas (small), Tea Edith Gifford, Duke of Teck, Captain Christie, Madame Gabriel Luizet, Tea Perle des Jardins, Madame de Rothschild, Lady Mary Fitzwilliam (fine), Pride of Waltham, Duchess of Bedford, Tea Souvenir de Paul Neron, Madame Caroline Testout (new and very promising), Earl of Pembroke, Tea Jean Ducher, Auguste Rigotard. Front row: Tea Souvenir d'Elise, J. S. Mill, Tea Rubens (grand), Victor Hugo, Tea Madame Hoste, Beauty of Waltham, Madame Lacharme, Duke of Wellington, Tea Innocente Pirola (fine), Jules Finger, Le Havre, Tea Marie Van Houtte, Duchess of Bedford (good), Tea Madame Bravy, Reynolds Hole, Tea Madame de Watteville (splendid), Tea The Bride, Duchesse de Morny, Tea Madame Margottin, Dupuy Jamain (fine), Tea Devoniensis, Mr. H. Turner, Tea Caroline Kuster, and Marie Finger.

Nurserymen, thirty-six varieties.—First prize, Messrs. J. Townsend and Sons, Worcester; second prize, Mr. S. Treseder, Cardiff. Twenty-four varieties, three of each.—First prize, Messrs. Cranston & Co.; second prize, Messrs. J. Townsend & Sons. Twelve varieties.—First prize, Mr. S. Treseder; second prize, Messrs. Jeffrey & Sons.

Division 2, thirty-six varieties, amateurs.—Mr. Drew, Ledbury, first. Back row: Lady Mary Fitzwilliam (grand), Prince C. de Rohan, Tea Devoniensis, Victor Verdier, Merveille de Lyon (magnificent), Mrs. John Laing, Maréchal Niel, Reynolds Hole, Tea Rubens, Duchesse de Morny, La France, Marquise de Castellane. Middle row: Dupuy Jamain, Tea Catherine Mermet, Duke of Wellington, Viscountess Folkestone (grand), Prince Arthur, Tea Niphetos, Dr. Andry, Marie Cointet, Gustave Piganeau (splendid), Tea Jean Ducher (good), Ulrich Brunner, Tea Madame de Watteville. Front row: Heinrich Schultheis (grand), Général Jacqueminot (superb), Tea Anna Ollivier, Marguerite de St. Amand, Tea The Bride, A. K. Williams, Tea Marie Van Houtte, Alfred Colomb (fine), Marie Cointet, Abel Carrière, Souvenir de la Malmaison, and Charles Lefebvre. Second prize, Dr. S. P. Budd, Bath.

Twenty-four varieties.—First prize Mr. Conway Jones. Varieties chiefly noticeable were Abel Carrière (grand in colour), Ulrich Brunner, Louis Van Houtte, Reine Nathalie de Lerne (new, fine, very high centre), and Earl of Dufferin. Twelve varieties, three of each.—First, Dr. S. P. Budd; second, Mr. W. Drew.

Tea and Noisettes (nurserymen, eighteen varieties).—First prize, Mr. George Prince, Oxford. Comtesse de Nadaillac (grand), Alba Rosea, Princess of Wales, Souvenir de S. A. Prince (fine), Madame de Watteville, Madame Lambard, Rubens, Madame Cusin, Cleopatra, Ernest Metz, Niphetos, Souvenir d'un Ami (superb), The Bride, Etoile de Lyon, Golden Gate, Marie Van Houtte, Bridesmaid, Marie Armand. Second prize, Mr. S. Treseder.

Twelve varieties.—First prize, Messrs. J. Jeffreys & Sons; second, Mr. J. Townsend, and Messrs. Cranston & Co. third.

In the amateurs' section for eighteen varieties.—First prize, Rev. F. R. Burnside. Most conspicuous in a good and well-staged collection were Princess of Wales, Souvenir d'Elise, Madame Bravy, and Anna Ollivier; second, Mr. W. Drew. In Division 3, for Herefordshire amateurs, for eighteen varieties.—First prize (N.R.S. medal), Mr. J. Ough won. Second, Mr. Rankin, M.P.; third, Mr. J. H. Arkwright.

In the open classes for any light Rose, the first prize was taken by Mr. J. Townsend with twelve grand blooms of Mrs. John Laing. The second prize went to Mr. Drew with equally fine blooms of Margaret Dickson. It was a somewhat general opinion the relative positions should have been reversed. Third prize by Rev. F. R. Burnside with Tea Edith Gifford.

The N.R.S. silver medals were won as follows: Best H.P., Mr. W. Drew with Charles Lefebvre; best Tea, Rubens; and best Rose by Herefordshire amateur, by Rev. G. E. Ashley for Tea Souvenir d'un Ami. The first prize for any dark Rose was taken by Messrs. J. Townsend & Sons with H.P. Duke of Wellington. Second prize, Dr. Budd with Ulrich Brunner.

The first prize for yellow Roses was taken by Mr. Prince for Tea Comtesse de Nadaillac. Second, Rev. F. R. Burnside, with Tea Marie Van Houtte. Third to Messrs. Cranston & Co. for Marie Van Houtte.

For garden Roses the prizes fell in the order named to Messrs. J. Townsend & Sons, J. Ough, and Rev. Sir George Cornwall. The Judges were the Rev. C. H. Bulmer, Rev. F. R. Burnside and Mr. W. Drew.—HEREFORDSHIRE INCUMBENT.

WOLVERHAMPTON FLORAL FÊTE.—JULY 10TH.

A GREAT show opened at Wolverhampton on Tuesday last, the exhibits needing five marquees, each nearly 200 feet long, for their accommodation. The show was good in all sections, specimen plants, groups, Roses and other cut flowers, fruit and vegetables. Specimen plants made a grand display. In the class for sixteen there were four competitors, Mr. James Cypher being first; Mr. Finch, gardener to

J. Marriott, Esq., second; Mr. Mould, Pewsey, third; and Mr. W. H. Dyer, gardener to Mrs. Marigold, Birmingham, fourth. Messrs. Cypher and Finch were successful with six flowering, also in the class for six fine-foliage plants.

Seven groups were arranged in competition for the excellent prizes of £20, £15, £10, and £5. The contest for supremacy rested with Mr. Cypher and Mr. J. Edmunds, Bestwood, Notts, Mr. Cypher winning. The Cheltenham group contained several Orchids on mounds with Ferns surmounted with Palms, and perhaps too many other flowers, such as white Lilliums and yellow Marguerites. The Bestwood collection was composed almost exclusively of ornamental foliaged plants admirably arranged, and the group was well finished. Mr. W. Finch was third with a neat and pleasing arrangement, and Mr. H. Dyer fourth. Several groups were arranged in the local classes, Mr. R. Sharpe, gardener to Henry Lovatt, Esq., Wolverhampton, having much the best.

Fruit was well represented, but several Grapes not quite finished. Seven collections were staged. First, Mr. H. Goodacre, Elvaston, with a good Pine, excellent Black Hamburg and Foster's Seedling Grapes, also fine Cherries, Peaches, Nectarines, Figs, Strawberries, and a Melon. Second, Mr. Bannerman, Rugeley Gardens, with clean good fruit. Third, Mr. McIndoe, Hutton Hall, very close; Mr. Gilman, Ingestrie Gardens, a good fourth.

In the class for four varieties of Grapes Mr. J. Goodacre was first with fine Black Hamburg, good Muscat Hamburg, Foster's Seedling, and a not quite ripe bunch of Muscat of Alexandria. Second, Mr. C. Frowd, gardener to Canon Coventry, Worcester, with heavier bunches. Third, Mr. Bannerman, his Duke of Buccleuch and Black Hamburg being extremely fine. In the class for two bunches of white Grapes—first, Mr. J. McIndoe with well finished Muscats; second, Mr. Frowd with larger bunches; third, Mr. J. Carter, gardener to the Hon. P. Stanhope, Wimborne, with very large Foster's Seedling. In the corresponding competition with black Grapes—first, Mr. J. Goodacre; second, Mr. J. Wilkes, gardener to Mrs. Meakin, Stafford, but with excellently finished Black Hamburgs; third, Mr. Frowd.

In the open class for a collection of vegetables Mr. Waite was defeated by Mr. Wilkins, both staging admirably, for an excellent prize offered by Messrs. Sutton & Sons. There was excellent competition for Messrs. Webb's prizes; also in the local classes.

There was a great and good display of Roses. There were four competitors in the class for seventy-two varieties. First, Mr. B. R. Cant, with superb blooms, including Caroline Testout, Alfred Dumesnil, Sultan of Zanzibar, Louis Van Houtte, Victor Hugo, Ulrich Brunner, Pride of Waltham, Dr. Sewell, Her Majesty, Gustave Piganeau, Horace Vernet, Mrs. Harkness, Captain Hayward, and Reynolds Hole, all very fine. Second, Mr. Frank Cant; third, Messrs. Perkins & Sons, Coventry; and fourth, Mr. Mount, Canterbury.

Forty-eight Roses, distinct.—First, Messrs. Prior & Sons, Colchester, who staged Mrs. Paul, Her Majesty, Gustave Piganeau, Horace Vernet, Madame de Watteville, Reynolds Hole, Duke of Connaught, Mrs. John Laing, and Xavier Olibo amongst others. Second, Mr. B. R. Cant, Colchester; third, Messrs. Perkins & Sons, Coventry; fourth, Mr. F. Cant; extra, Mr. Mount.

With thirty-six Roses, distinct, there were seven exhibitors. First, Rev. Mr. Pemberton, Caroline Testout, Prince Arthur, Etienne Levet, Ulrich Brunner, Horace Vernet, Queen of Queens, and Salamander, all fine. Second, Mr. B. R. Cant; third, Mr. Frank Cant; fourth, Messrs. Prior & Sons; extra, Messrs. Perkins & Son. For twenty-four Roses, distinct varieties, the awards were—first, Mr. B. R. Cant; second, Messrs. Townsend & Son, Worcester; third, Mr. F. Cant; extra, Messrs. Prior & Son.

For twelve blooms of dark Rose, one variety, the prizewinners were:—First, Mr. B. R. Cant with Alfred Colomb; second, Mr. F. Cant with Reynolds Hole; third, Mr. Mount with Fisher Holmes; extra, Messrs. Prior & Sons with Prince Arthur. Twelve blooms of a light variety.—First, Messrs. Townsend & Sons; second, Mr. B. R. Cant; third, Messrs. Prior & Sons, all with Mrs. J. Laing.

Twelve Tea Roses, distinct.—First, Messrs. Prior & Sons; second, Mr. Frank Cant; third, Messrs. Townsend & Sons.

In the amateurs' class for thirty-six Roses distinct.—First, Rev. Mr. Pemberton with a good stand; second, Mr. W. Robbins, Wolverhampton. Class 18, twenty-four Roses, distinct.—First, Mr. R. Dawes, Knowle; second, Mr. H. Robbins; third, Hon. P. Stanhope, M.P. Class 19, twelve Teas.—First, Rev. J. H. Pemberton with charming blooms; second, Mr. Robbins.

For the finest display of Pansies and Violas a handsome gold medal, given by Mr. Paul Lutz, Wolverhampton, as first prize, was well won by Mr. Septimus Page, florist, Garstang. Second, Mr. Lister, florist, Rothesay, with an extensive display, also of exceptional merit. In the class for a smaller collection, Mr. M. Campell, florist, Blantyre, N.B., was first with an admirably arranged exhibit.

There was also a wonderfully fine display of Pinks. For twelve blooms, dissimilar.—First, Mr. A. R. Brown, Handsworth, Birmingham; second, Mr. C. F. Thurstans, Wolverhampton; third, Messrs. Thomson and Co., Birmingham. For twelve Pinks, six varieties.—First, Mr. Brown; second, Mr. C. F. Thurstans; third, Mr. R. Sydenham; fourth, Messrs. Thomson & Co. For six Pinks.—First, Mr. C. F. Thurstans; second, Mr. A. R. Brown; third, W. R. Sydenham; fourth, Messrs. Thomsons. All the other classes were well filled, and some fine seedlings were exhibited, and certificates awarded. A full report of the Pinks will be given in a future issue.

Medals were awarded to Messrs. T. S. Ware, B. S. Williams, W. & J. Birkenhead, J. H. White, Charlesworth, Shuttleworth & Co, Thomson & Co., Clibran & Son, Webb & Son, Hewett, Bason, and Eckford for meritorious exhibits; a medal was also granted to Mr. J. Tonry for ornamental vases, window boxes, and other articles in cheap sheet metal.

Certificates were awarded to Mr. White for Emily Henderson, white Sweet Pea; also to Mr. Eckford for Lady Harlech and Triumph, the former white tinted lavender, the latter rosy carmine and white. Similar marks of recognition were granted to Mr. White for Petunia Brilliant, rosy red; Mr. Turner for Crimson Rambler Rose; and Messrs. Cutbush & Son for Carnation Uriah Pike. Unusual pressure on our space compels this severely condensed report of an extensive and varied exhibition, admirably managed by Messrs. Green & Son and willing coadjutors. The Mayor presided at a public luncheon in honour of the event.

HITCHIN.—JULY 11TH.

THE fourth annual exhibition of the Hitchin and District Horticultural Society was held on the above date, and can only be termed an unqualified success. Roses were somewhat extensively shown, and in magnificent condition, especially in the classes devoted to Hybrid Perpetuals, the Teas and Noisettes not being up to the standard. It was regrettable that Mr. E. B. Lindsell was not able, owing to the May frosts, to stage in his usual high form. Appended is a list of the prize-winners in the principal Rose classes.

In the open class for forty-eight distinct Roses there were five competitors, and some grand blooms were shown in every instance. The first prize stand, staged by Mr. B. R. Cant, Colchester, was almost perfect. It comprised, amongst others, Marie Baumann, Suzanne Marie Rodocanachi, Marie Verdier, Mrs. J. Laing, Xavier Olibo, Captain Hayward, Général Jacqueminot, John S. Mill, Ulrich Brunner, François Michelin, and Caroline Testout in exceptional form. The second position was accorded to Messrs. Paul & Sons, Old Nurseries, Cheshunt, with an admirable exhibit containing some splendid examples; Messrs. Harkness & Sons, Bedale, Yorks, being a fair third.

For twelve dark Roses, any variety, Mr. B. R. Cant was again first with a grand box of Marie Baumann, Messrs. Paul & Sons being second with Victor Hugo, and Messrs. Harkness & Sons third with Alfred Colomb. For twelve light Roses, any variety, a superb stand of Mrs. J. Laing gained Mr. B. R. Cant the first prize. The Rev. W. H. Jackson, Stagsden Vicarage, Bedford, was second with fine blooms of La France, and Messrs. Harkness & Sons third with Mrs. John Laing.

There were six competitors in the class for twenty-four distinct Roses, one truss of each, and open only to members of the Hitchin Society. E. Mawley, Esq., Rosebank, Berkhamsted, was a good first. Amongst the best of his blooms were Marie Baumann, Suzanne Marie Rodocanachi, Prince Arthur, François Michelin, Mrs. J. Laing, Gustave Piganeau, and Countess of Oxford. E. B. Lindsell, Esq., Bearton, Hitchin, was a close second with fresh, well-coloured blooms, and Mr. Jas. Parker was third.

Mr. Jas. Parker, Oakfield, Hitchin, was first in the class for twelve Teas or Noisettes, distinct, staging highly creditable blooms, amongst the best of which were Madame Hoste, Jean Ducher, and Rubens. The Rev. W. H. Jackson was second with a charming stand, and E. B. Lindsell, Esq., was a fair third. In the class for twelve single trusses, open only to growers of less than 1000 plants, Mr. George Moules, Hitchin, was first with a fair stand, in which Maréchal Niel, Her Majesty, and Exposition de Brie were noticeable. Mr. W. O. Times, Hitchin, was second; and Mr. J. H. Take, Hitchin, third. The first prize in this class carried with it the National Rose Society's silver medal.

A. W. Lines, Esq., Hitchin, was first in the class for nine distinct Roses with a stand comprising Heinrich Schultheis, Ulrich Brunner, and Dupuy Jamain amongst others. Mr. A. F. Albon was second. W. Hill, Esq., Hitchin, was third; and Mr. George Harwood, The Cemetery, Hitchin, fourth. In the class for six Teas or Noisettes, distinct, W. Kingston, Esq., Bedford, was first with highly creditable blooms, comprising Souvenir d'un Ami, Louis Van Houtte, Souvenir de S. A. Prince, Princess of Wales, Jean Ducher, and The Bride. Colonel Tyler, Arlesey Bury, Hitchin, was second; and Mr. A. W. Lines third.

The first prize for six Roses, open only to growers of less than 300 plants, and with which went the N.R.S. bronze medal, W. Knighton, Esq., was first with fine examples; Col. Tyler being a close second; and F. Macmillan, Esq., Bedford, a good third. E. B. Lindsell, Esq., was an easy first in the class for six blooms of any Hybrid Perpetual with Mrs. J. Laing; E. Mawley, Esq., being second with the same variety; and the Rev. W. H. Jackson was third with Ulrich Brunner. The last-named exhibitor was first in the class for six trusses of any Tea or Noisette with charming blooms of Marie Van Houtte; Mr. J. Parker being second with Rubens; and E. B. Lindsell, Esq., third with Jean Ducher.

Mr. Parker secured the N.R.S. bronze medal for the best Hybrid Perpetual with a beautiful example of Horace Vernet, the Rev. W. H. Jackson taking a like honour for the best Tea or Noisette with Catherine Mermet in perfect condition. It is worthy of note that this same bloom received Mr. Chas. J. Grahame's medal for the best Rose in the show, and thoroughly deserved the position.

The class for thirty-six bunches of hardy perennials, distinct varieties, brought four competitors. Messrs. Burrell & Co., Howe House Nurseries, Cambridge, were a splendid first. The flowers staged were in almost all cases grandly coloured and quite fresh. *Heuchera san-*

guinea, *Alstromeria aurantiaca*, *Morina longifolia*, *Gladiolus ramosus* *Ne Plus Ultra*, *Coreopsis lanceolata* major, and *Galega officinalis alba* were amongst the best. Messrs. Paul & Sons were second with some handsome bunches; Messrs. Harkness & Sons being a fair third. An extra prize was recommended in this class for the exhibit arranged by Mr. W. Springham, Hitchin, whose stand was very creditable.

The classes for plants in and out of flower brought a fair number of competitors and some keen competition. Mr. Shepherd, gardener to W. F. Lucas, Esq., Foxhole, Hitchin, was the only exhibitor in the class for six greenhouse plants, and thoroughly deserved the premier award given to it. Exotic Ferns were also grandly shown by the same grower, and were placed first.

Miscellaneous exhibits were not very numerous, and included a group of foliage and flowering plants from Messrs. Wm. Cutbush and Sons, Highgate, N., and Cactaceous plants and Begonias from Mr. A. Young, Holmesdale Nurseries, Stevenage, Herts.



FRUIT FORCING.

Peaches and Nectarines.—Early Houses.—The fruit being cleared off, syringe forcibly to eject red spider. This will be facilitated or rendered more effectual by cutting away all the shoots that have borne fruit except extensions, and taking care not to leave more growths than will be required for next year's fruiting. If this be attended to now but little winter pruning will be required. If the roof lights are not moveable, ventilate to the fullest possible extent, and give the inside borders thorough waterings or where weak with liquid manure, which will help the trees to swell their buds. If the roof lights are moveable, take them off about the middle of the month. Rain has a peculiarly invigorating effect on forced trees, and the borders become thoroughly moistened in the autumn. The roof lights must not be taken off until the trees have been inured by free ventilation and the buds advanced in plumping.

Succession Houses.—With the fruit taking the last swelling, syringe twice a day to keep down red spider, it being important to have the trees quite clean when the fruit commences to ripen, as syringing then spoils its appearance and flavour. Supply liquid manure abundantly to inside borders, unless the trees are gross, when it will only aggravate the evil. Mulch the inside and outside borders, keeping the material moist, so as to have the roots active near the surface. This, however, will not be any use unless the soil beneath is kept properly watered: Ventilate a little constantly and increasingly with the advancing sun. Maintain the day temperature at 80° to 85° with sun, and close sufficiently early for a rise to 90° or 95°, admitting a little air before night. As the fruit approaches ripening ventilate more freely, and do not allow so great a range of temperature, 60° to 65° at night and 70° to 75° by day being sufficient. Keep water from the fruit, but damp the house, especially on hot days. Tie and regulate the growths, having the fruits well exposed to the sun. Stop laterals to one or two joints of growth and avoid overcrowding.

Later Houses.—Where rains have not fallen so as to moisten the soil thoroughly down to the drainage a thorough watering should be given outside borders as well as the inside, affording liquid manure to trees carrying full crops. The shoots should be tied down as they advance, not crowding them, but allowing each space for development, as without full exposure to light and air the foliage cannot perform its functions. Stop the laterals at the first joint, and to each succeeding one as made cut back gross shoots, or remove them altogether. Ventilate early and freely, and close early, with plenty of moisture in the house, admitting a little air at the top before nightfall, so as to allow the pent-up moisture to escape, and permit the atmosphere to gradually cool, so as to give the trees rest. Syringe forcibly twice a day, but not in dull weather, as it is necessary the foliage be fairly dry by nightfall, and not kept constantly dripping with moisture. If needful apply an insecticide, as under no circumstances must red spider, thrips, or aphides be allowed to make headway. Mulch the borders with some partially decayed manure, but not more than an inch or two thick, and lumpy rather than such as when wet will form a soapy mass.

Cherry House.—After the fruit is gathered the chief object is to secure the swelling or development of the buds by keeping the foliage clear of every description of insect pest, syringing abundantly, and if necessary applying an insecticide. Although less moisture is needful than when the fruit is swelling, yet there should be sufficient moisture at the roots to maintain the trees in a healthy condition. Trees in pots from which the fruits are gathered may be placed outdoors in the full sun, plunging the pots in ashes. Water as required to keep the soil moist, and syringe in the evening of hot days.

Vines.—Early Houses.—When the Grapes are cut the Vines should be well syringed to free them of dust and such insects as red spider and thrip. If scale or mealy bug has obtained a footing some approved insecticide should be used against them, or they may be syringed with petroleum, using a wineglassful to 4 gallons of water, one person syringing into the vessel so as to keep it well mixed whilst another

individual applies it evenly to the Vines, it being important that they and every part of the house be well, but not excessively, wetted, for without that the eradication of the pests will only be partial. The application should be repeated two or three times at intervals of three or four days. Keep the borders sufficiently moist to preserve the foliage in good condition, it being better to mulch them lightly with partially decayed manure than to have supply heavy waterings at frequent intervals to keep the soil from cracking. Allow a little extension of the laterals, as this tends to keep the roots active and to preserve the principal leaves in health, or if these fall, prevents the starting of their corresponding buds.

Late Houses.—Late Grapes intended to hang all the winter should have a final thinning, removing the smallest berries, and where too crowded allow every retained berry full space for development. Late Grapes should be more severely thinned than early and midseason ones, yet leaving sufficient berries to form symmetrical bunches, such as will retain their shape when dished, and have a good appearance. Inside borders must be kept well supplied with water, afterwards following with liquid manure or a top-dressing of some approved chemical manure, and wash in moderately. A light mulching of partially decayed lumpy manure will lessen the necessity for watering less frequent, attract the roots to the surface, and nourish them. Outside borders must have attention for watering, feeding, and mulching as circumstances require. Regulate the young growths as needed, adopting the extension rather than the restrictive system where there is room for it without crowding, keeping all gross laterals stopped, so as to cause an equal flow of the sap throughout the Vines. As the period when scalding occurs is at hand it will be necessary to guard against it by increased night temperature, or 65° to 70°, and abundant ventilation, so as to reduce the atmospheric moisture or prevent the air heating more rapidly from sun heat than the berries. After the berries commence colouring danger from scalding is past, then the fire heat may be economised by reducing the ventilation early, so that the sun may raise the temperature to 90° or 95° on fine afternoons.

Young Vines.—Those of this season's planting should, provided the light is not too much obstructed, be allowed to grow unchecked, it being presumed that they are to be cut back to the bottom of the trellis or to three buds at that at the winter pruning; but the laterals must not be allowed to interfere with the leaves that feed the buds at their base expected to fruit next season. Supernumeraries intended for next year's fruiting may be regularly stopped at a length of 7 or 8 feet, pinching the laterals to one leaf as made, except those from the upper part of the canes, which at the first stopping should be allowed a little more latitude. When growth is completed the laterals ought to be gradually removed, taking care not to start the main buds, so as to insure the thorough ripening of the wood. Afford water liberally, mulching and keeping the border moist, so as to encourage surface roots. Maintain a moist atmosphere by frequent sprinkling of available surfaces, and syringe the Vines on fine afternoons, closing early to attain a heat of 90° to 95°. Ventilate freely through the early part of the day to insure a short-jointed thoroughly solidified growth.

Vines in Pots for Early Forcing.—Cut-back Vines that were started early will have completed their growth, and will need to have the supplies of moisture lessened, discontinuing syringing and moderating the supply of water at the roots. Admit air freely, and afford all the light practicable to the principal foliage. If the canes do not ripen well keep through the day at 85° to 95° by moderating the ventilation and admit air freely at night.

Cucumbers.—By husbanding the sun heat and early closing the night temperature may be prevented falling below 65° at night, when fire heat may be dispensed with. The plants should be gone over twice a week for stopping and thinning the growths, well thinning the old and training young shoots in their place, avoiding crowding and over-cropping as great evils. Apply liquid manure copiously twice a week, and occasional top-dressings of lumpy loam, with a few sweetened horse droppings, being careful not to overdo the latter, or the foliage will be injured. Syringe on clear days in the afternoon only, but maintain a good moisture by damping surfaces in the house as they become dry. Morning syringing is often a cause of much injury to the foliage, and if practised must be early. Shade only to prevent flagging, and be careful to provide it promptly on bright weather succeeding a dull period. Ventilate early, but avoid cold draughts, never admitting air in such a volume as to lower the temperature. Keep it through the day at 75° to 90°, as the force of the solar heat dictates. In bright weather between 80° and 90° should prevail in the house between 8 A.M. and 6 P.M. Close early, so as to increase to 90° to 95°, and admit a little air before nightfall, as a safeguard against condensed moisture, increasing it from seven to eight o'clock on fine mornings.

Pits and Frames.—Night coverings will hardly be necessary now, but if put on it should not be until the sun leaves the frames, and they should be withdrawn early in the morning. Ventilate at 75°, and increase with the sun's elevation, keeping through the day at 80° to 90°, closing at 3 to 4 P.M., then syringe, and after being closed for an hour or two admit a little air at the back of the lights to allow of any pent-up moisture escaping. Supply liquid manure occasionally, but keep it from the foliage and fruit, and let it be weak and tepid. Remove unhealthy leaves as well as exhausted growths, thinning the shoots once a week, and stopping the young growths one or two joints beyond the fruit. When the plants are enfeebled by bearing top-dress with lumpy loam, and layer some of the younger growths at a joint, from which fresh roots will be emitted and strengthen the succeeding growths.

A few seeds may now be sown for late summer and early autumn supply of fruit. They will germinate, and the seedlings be fit to plant out in about a month. The plants succeed admirably in frames with bottom heat and with linings as the weather becomes cold and night coverings, they will supply good fruit until November or later.

Pines.—*Potting Suckers from Early Fruited Plants.*—Early sorts started at the beginning of the year for fruiting will now have ripened their fruits, and the late varieties will be so advanced as to admit of their being removed to a vinery or other house rather cool and dry, which will prolong the season and admit of the successional plants being afforded more room and light to induce a sturdy habit. The suckers from the early forced plants should be taken off without delay, potting them in fibrous loam, rammed firmly into the pots and around the base of the suckers, watering at once if the soil be dry, having in readiness a bed of fermenting materials, at a temperature of about 90°, at the base of the pots to plunge them in. They root most satisfactorily in a close moist pit, shading until that is effected. In plunging bring the material over the surface of the pots, so as to prevent the soil becoming dry near the top, the soil then having sufficient moisture until the suckers have rooted, especially if properly shaded from bright sun, and ventilated moderately at 85°. Do not subject the suckers to over-strong bottom heat. Beds that had a supply of fresh material in the spring will not require any now. They may, however, with advantage be turned to a depth of 20 to 24 inches, but those that had not a renewal of the material in spring should have an addition of about a foot of new tan mixed with the old to a depth of 18 inches, avoiding if possible the making of new beds; but if it be necessary, 24 inches in depth of new tan will afford all the heat required for the suckers.

THE FLOWER GARDEN.

Watering and Mulching.—After a showery month there ought to be sufficient moisture left in well-cultivated ground to meet all the requirements of Zonal Pelargoniums, Petunias, Ageratums, Iresines, and such like, and to be constantly drenching these with cold water would be a mistake. Tuberous Begonias, Violas, Verbenas, Calceolarias, and Dahlias, however, are essentially moisture-loving plants, and these pay well for being kept moist at the roots. In these cases again there is no necessity to very frequently water them. The better plan would be to give a good watering some evening before the ground becomes quite dry, or else to water for two evenings in succession, afterwards stirring the surface of the soil with a Dutch hoe, and then mulching with either fine well-decayed manure, leaf soil, cocoa-nut fibre, or even grass from the mowing machine.

Staking Flowering Plants.—Where stakes are necessary these ought always to be given before the flower stems are far advanced, and before the plants have a chance of falling about the ground. If staking is long delayed it is scarcely possible to support the plants in a manner to avoid a bundled-up appearance, whereas every stem should be early supported, and the branches, if any, be allowed to spread out naturally. There ought to be no making a single stake, and one, or at the most two, strips of raffia answer for a mass of growths, more especially in the case of herbaceous plants; but there should be divisions made, and three or more stakes used, and in any case avoid drawing the stems together, only to bulge out above and below. See that the ties do not prevent the flower spikes of Gladioli growing up straightly, and let the Dahlia stakes be both tall enough and stout enough to do good service.

Sub-tropical Plants.—Where there are considerable numbers of large Palms, Cordylines, Phormiums, and such like in the conservatories some at least of them might well be utilised for the beautification of the pleasure grounds. In the houses they would be scarcely noticed at this time of the year, whereas if a few well grown specimens were plunged singly in various shady sheltered nooks they would prove very effective, and, if properly supplied with water, sustain no injury. It is not a bank grouped greenhouse fashion that is wanted, but rather something lighter and more natural. Flowering plants might also be used, notably Fuchsias, Heliotropes, Erythras, Agapanthus, and large Zonal Pelargoniums, only in this case the positions assigned them must not be too shady. Any of these look well plunged in the turf, but they must be kept well supplied with water and liquid manure.

Antirrhinums.—These are remarkably fine this season, and will be gay for some time longer. The dwarf bedding varieties, notably the pure white form, should have all flower spikes cut off directly they become shabby, allowing the seed to mature being a sure way to prevent the side shoots flowering. Keep all seed pods gathered or cut off, and a succession, probably a profusion, of flowers will be given till severe frosts intervene. The white bedding form comes quite true and is best from seed, but those who prefer to save their own seed must keep the plants that are to produce it well away from any coloured varieties.

Anemones.—Most of the tuberous-rooted species are best raised from seed, and it is not yet too late to sow. Make the surface soil quite fine, open shallow drills 6 inches apart, gently moisten, then sow the seed thinly, and cover with a little fine sandy soil. Weeds must be kept down, and all the further trouble that need be taken is to thin out the seedlings to 6 inches or rather less apart. Anemone seed does not germinate very quickly.

Campanulas.—Any or all of the perennial varieties may yet be sown. The seeds are more likely to germinate quickly and strongly if sown in boxes, pans, or hand-lights set in a somewhat shady position and well looked after. Failing these conveniences sow on a light well-

prepared border. Duly pricked out and lightly protected during the winter, the plants should flower well next spring or summer.

Herbaceous Lobelias.—Properly grown these are grand bedding plants. The foliage of strong young plants nearly rivals the Iresine in colour, while, later on, handsome spikes of rich scarlet flowers are produced during the summer. They can be raised from seeds, and now is a good time to sow with a view to having strong young plants for the beds next summer. Sow in pans, place these in a cold frame, cover each with a square of glass, and keep close, moist, and shaded till the seedlings appear, afterwards admitting more light and air. Either place singly in 2-inch pots, or prick out in pans or boxes, wintering the plants in a cold frame or pit.

Myosotises.—These may still be raised in boxes as advised in the case of Campanulas. When large enough prick out on a well-prepared border, shade lightly, and freshen up with water on the evenings of hot days. In this way good plants will be prepared for the beds and borders next autumn.

Polyanthuses and Primroses.—Seedlings raised in February or March and kept steadily growing, first in the seed pans, and then more thinly in boxes, and further prepared in cool kitchen garden borders, should make grand plants for flowering in beds next spring. Where so many err is in keeping the seedlings too long thickly in pans, and in giving them a poor dry position after they are turned out. They like rich soil, partial shade, and abundance of moisture.

THE BEE-KEEPER.

APIARIAN NOTES.

INGATHERING OF HONEY.

WE have had a week of fairly fine weather, although it has not been the best for bees. On the 29th ult. the test hive, previously referred to, gained 3 lbs., but lost $\frac{3}{4}$ lb. during the night; 5 lbs. were gained on the 30th, but 1 lb. lost at night. On the 1st of July it again rose 5 lbs., losing 1 at night, the same occurring on the 2nd. That ended the honey gathering for a time, none being gathered up till the 6th. So far as these recorded experiments have been made, it is observed that immediately after heavy rains the liquid gathered by bees may be sweet, but contain no honey. As the heat continues the yield increases, but as a rule it takes about a week after heavy rains before honey becomes plentiful. The hive in question could, had there been a good honey flow, gathered easily 10 lbs. or more daily. At this date it has gathered 12 lbs. only, and it was the 3rd of July before I saw a single sealed cell in any of my hives.

I had my first and only swarm on the 1st of the month. The bees being Carniolans will form the contents of the stock hive into nuclei for 1895 stock hives. I have supered part of them only. All of these took to the supers at once, but I cannot obtain honey to store in them. Most of my bees are in full-sized hives, and these are the most advanced, being in much better condition than the few in smaller hives. One experiment, valuable to bee-keepers, was made and fully tested. In May, when stores were in most cases exhausted, I fed part of the bees liberally, then discontinued. The others I fed in driblets, after the "stimulative" fashion. The latter in most cases made no progress—indeed, went back; while the former are in first-class condition, just as I presumed they would be.

The Clover is blooming, and with eight or more fine days a surplus will be had from good hives. Punic bees are making a fine show whenever they have an opportunity, but when honey is not to be had they lose themselves flying in search of it, and are the first to appear at any spoliation. Their prolificacy is wonderful. If the weather settles every hive will be supered, and if any throw a swarm it will be placed in its permanent hive immediately, and the supers transferred from the stock hive to it at the same time. In most cases I may unite two prime swarms, and eight days having expired I shall prevent after swarms by excising all queen cells less one good one. If the after swarms come sooner than that I shall place the first one into a separate hive, then by degrees give it the combs and bees of the original hive. In cases where bee-keepers wish an increase, after swarms are the best to preserve.

DISEASED BEES.

Since writing on the disease, termed by me chloric dropsical fever, I have had a number of inquiries relative to it with samples of bees. None of the bees sent me are affected with the above disease, but with an affliction nearly as bad, the result of improper management. In every instance the bees were gorged with pollen, that in times of scarcity of honey they appear to consume, which they cannot assimilate nor discharge.

Pollen is very abundant in the bottom of cells containing Heather honey, especially in those in the body of the hive. Hives

so conditioned are in the best of order for breeding; but when the pure honey becomes exhausted the bees take to honey and pollen for brood, hence the fatality of so many bees this year. The past winter was abnormally mild; bees were almost daily on the wing, breeding went on briskly, and stores went down proportionately rapid. The unsuspecting bee-keeper accustomed to 15 or 20 lbs. of honey bringing through strong stocks in ordinary years, was taken by surprise, and the bees died, owing to their master lacking knowledge.

For many years I have been reminding bee-keepers to feed liberally with sugar syrup all Heather hives. So conscious were our forefathers of this that they made it a rule never to take a hive to the Heather intended as a stock hive, although they knew well that Heather hives were the best breeders in the spring if they passed the winter ordeal unscathed. Many cases of the so-called dysenteric hives during winter are but the result of bees eating pollen in scantily honeyed hives.

Bees affected with chloric dropsical fever have no pollen in their intestines, and the disease is comparatively local.—A LANARKSHIRE BEE-KEEPER.



*All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Tomatoes not Ripening (J. W. B.).—The box of fruit arrived too late to be examined for the purpose of giving a reply this week. The matter shall be attended to, and your questions answered in our next issue.

Diseased Tomatoes (J. E. O. and Cross).—The Tomatoes sent are attacked by *Cladosporium lycopersici*, a disease which was described and illustrated on page 23 of our last issue. Follow the instructions there given as regards removing and burning the worst infested leaves and fruit, also spray the plants with the Bordeaux mixture as recommended.

Boiling Lime and Sulphur together in Water (T. C. C.).—When lime and sulphur are boiled together in water, the sulphur dissolves and unites with the lime (base), forming bi-sulphide of calcium. It is not likely you will kill the *Peronospora sparsa* by a few dressings of the Bordeaux mixture, as the tissues of the Rose leaves were permeated by the mycelium of the fungus, and from that outgrowths will push for some time. By continuing the treatment, and if need arise, increasing the strength of the mixture, but taking care to only do so to a safe extent, the parasite will be successfully overcome. It is necessary to collect all fallen leaves, and cut away dead or dying growths and burn them. The fungus, so far as we are aware, has not been described and illustrated in a similar manner as Mr. W. G. Smith's on Rose mildew was some time ago in this Journal.

Culture of Nertera depressa (H. B.).—The following note regarding the culture of this plant is doubtless the one to which you refer:—"The plants were kept in a greenhouse until the berries died away, when some plants were started for the succeeding year. This would be in autumn, about the end of August. Pans about a foot in diameter were well drained and filled up with soil, the soil being put in firmly and slightly raised above the level of the pots, small pieces of the Nertera being pricked in like seedling plants or cuttings. The pans were then set on a shady shelf in a stove, keeping the plants moist at the root, and syringing the tops. After the plants had filled the pans they were removed to a cool vinery, only supplying sufficient water to keep the plants moist and in a fresh condition. The soil used was similar to what young Cinerarias will thrive in—a mixture of loam, leaf mould, decayed manure, and sand. In spring to start the plants into growth they were put on a shelf near the glass of a Peach house, and watered overhead sometimes three or four times a day, according to the weather. On this shelf the pans remained until the berries began to colour, when they were removed to the greenhouse. With this treatment as fine specimens were produced as could be desired, and they were particularly noticed by visitors."

Calceolarias Diseased (G. F.).—The plants are "diseased," as you conclude, and it is one of those ailments which have not been satisfactorily elucidated. It consists of the destruction of the bark, and

commences at the root, destroys the stem-bark, and the plants collapse suddenly. There is nothing in the specimen submitted but the mycelium of a fungus, but as there are no "fruits" it cannot be identified. Its appearance is that of a Pythium. The only way to overcome the disease is to procure cuttings from quite healthy plants, and not grow them twice on the same ground without a change of plant between—that is, not use them year after year in the same bed. The plant, "like Tares," is *Vicia narbonensis*, and all such plants have originated from seeds of their own kind in the soil, and are not the result of any degeneration of the Sweet Peas amongst which they grow.

Orobis hirsutus (H. B. T.).—You have been correctly informed. *Orobis hirsutus* is a charming member of the Bitter Vetch family with much brighter flowers than is usual amongst its relatives. They are also produced in short racemes on rather long peduncles, and are consequently well suited for cutting. The colour is a pleasing shade of



FIG. 7.—OROBIS HIRSUTUS.

blue, the standard darker and inclined to purple with deeper veins, the wings a light bright shade, and keel nearly white. The plant is found in several countries of the Levant, and appears to have been known in Holland a considerable time before it was introduced to this country. In 1835 Don said it was "cultivated in Dutch gardens in the early part of the last century, but is of recent introduction to our own country, and is still rarely seen except in botanical collections." A coloured sketch which accompanies these remarks in "Sweet's British Flower Garden" had been prepared from a plant in the Chelsea Botanic Garden. It is now found in several nurseries where hardy perennials are made a specialty. Almost any ordinary garden soil suits this *Orobis*; it grows and flowers freely, and produces seed abundantly in favourable seasons. It may be added that Don thought *O. hirsutus* was too much like *O. laxiflorus* of Desfontaines to be ranked as distinct, although De Candolle preserves the two names. The illustration (fig. 7) will give you an idea as to the character of the flowers.

Tomato Fruits not Setting (F. W.).—The flowers are perfect in the pistillate, but the staminate organs are deficient of pollen. Ventilate freely, leaving a little air on at night so as to prevent the deposition of moisture on the flowers. About midday fertilise every expanded blossom with a camel's-hair brush charged with pollen from the varieties that set freely, or from those affording it freely, letting some of the yellow farina come into contact with the stigma of each flower. To facilitate the operation you may remove the staminate portion of the flower or part of it, but do not injure the pistillate or ovary portion. The effect of cross-fertilisation is usually very satisfactory, and though troublesome well repays the labour, but it must be persisted in to be successful. If the flowers contain pollen a sharp rap of the footstalk may be sufficient, but is not so effective as artificial and cross-fertilisation.

Figs not Ripening (H. W. N.).—The Figs are attacked by "spot" fungus (*Glæosporium læticolor*) which is unusually prevalent this season. There is nothing the matter with the fruits internally, the flowering having been satisfactorily effected, and they are in other respects quite normal and healthy. No application at the roots will do any good, but you may use lime, say a good handful of freshly slaked and cool per square yard, and it will tend to harden the epidermal tissues, which with more air, a circulation constantly, may aid any fruit not affected. Those "spotted" should be carefully removed and burned, as they swarm with spores, and falling on other fruits may spread the disease. If there are hot-water pipes in the house heat them to 180° or between that and boiling point, and coat them thinly while hot with a thin cream formed of skim milk and flowers of sulphur. The house should be closed, and the pipes kept hot for about an hour, when they may be allowed to cool. The best preventive is to spray early with permanganate of potassium or Bordeaux mixture, the latter preferably, but it must not be used after the fruit has flowered. Condy's fluid may be employed a little later, a 50 per cent. solution not being too strong

in fact, it may be used as a fine spray at full strength—that is, from the bottle, but it is always safest to try it weak enough, and then increase to a safe strength.

Soot Water (Novice).—Gardeners make this by tying soot in an old sack or a piece of rough canvas and suspend it in a tub of water, with the aid of a stone at first if the soot does not sink so quickly as they wish. The water soon becomes discoloured, and is dark or light according to the relative proportions of the soot and the water. Usually about a peck of soot is placed in a 40 or 50 gallon tub, and as the liquid is taken out more water is added, until the virtues of the soot are extracted, the bag being eventually shaken or squeezed to aid the extraction if necessary. Soot water should be perfectly clear, and may be clarified by adding some lumps of lime, stirring well, then allowing all particles to settle at the bottom, and scum to form on the surface, and this skimmed off the soot water is clear. We have often used it much diluted for syringing purposes beneficially, and it has left no sediment. As a liquid manure it should be diluted to about the colour of pale ale, for syringing it should be paler still. Insects do not like it, while it is beneficial to many plants and trees.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (Rogers).—1, *Fuchsia procumbens*; 2, *Portugal Laurel*; 3, *Spiræa filipendula* (Dropwort); 4, *Mertensia virginica*; 5, *Oenothera Fraseri*; 6, *Festuca ovina cærulea*. (D. B.).—1, A good form of *Odontoglossum crispum*; 2, *Masdevallia Harryana*. (Amateur).—*Perilla nankinensis*. (York).—1, *Phlomis tuberosa*; 2, *Phlox Drummondii*. (W. C. & Sons).—1, *Zephyranthes Atamasco*. 2, Probably a *Gnaphalium*, but the specimen sent was too decayed to identify species. (Castle).—1, *Spiræa filipendula*; 2, *Lychnis chalcidonica*; 3, *Campanula glomerata*; 4, *Sedum rupestre*; 5, *Galega officinalis alba*; 6, *Centranthus ruber*.

COVENT GARDEN MARKET.—JULY 11TH.

A FAIR supply of outdoor fruit reaching us considering the light crops, forecasting a short and sharp season.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Cherries.. .. .	3	0	5	6	Lemons, case	10	0	15	0
Currants, Black, half sieve	4	6	5	0	Peaches, per doz. ..	1	0	8	0
" Red,	3	0	4	0	St. Michael Pines, each	2	0	6	0
Grapes, per lb.	1	0	2	0	Strawberries per lb. ..	0	6	1	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Asparagus, per bundle ..	1	6	to	3	6	Mushrooms, punnet	0	9	to	1	0
Beans, Kidney, per lb. ..	0	6	0	9	Mustard and Cress, punnet	0	2	0	0		
Beet, Red, dozen	1	0	0	0	Onions, bushel	3	6	4	0		
Carrots, bunch	0	3	0	4	Parsley, dozen bunches ..	2	0	3	0		
„ new, bunch	0	9	1	0	Parsnips, dozen	1	0	0	0		
Cauliflowers, dozen	1	6	3	0	Potatoes, per cwt.	2	0	4	8		
Celery, bundle	1	0	1	3	Salsafy, bundle	1	0	1	5		
Coleworts, dozen bunches	2	0	4	0	Scorzonera, bundle	1	6	0	0		
Cucumbers, dozen	1	6	3	0	Shallots, per lb.	0	3	0	0		
Endive, dozen	1	3	1	6	Spinach, bushel	1	6	3	0		
Herbs, bunch	0	3	0	0	Tomatoes, per lb.	0	4	0	8		
Leeks, bunch	0	2	0	0	Turnips, bunch	0	3	0	4		
Lettuce, dozen	0	9	1	0	„ new, bunch.. ..	0	8	0	10		

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.

Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.	
Arum Lilies, 12 blooms ..	1	6	to	3	0	Mignonette, 12 bunches ..	3	0	6	0
Asters (French) per bunch	0	9	1	0	Orchids, per dozen blooms.	1	0	to	9	0
Bouvardias, bunch	0	6	1	0	Pæonies, dozen bunches ..	9	0	12	0	
Carnations, 12 blooms ..	0	9	1	6	Pansies, dozen bunches ..	1	0	2	0	
" doz. bunches..	2	0	4	0	Pelargoniums, 12 bunches	6	0	9	0	
Cornflowers, doz. bunches	1	0	2	0	Pelargoniums, scarlet, doz.					
Eucharis, dozen	2	0	4	0	bunches	3	0	6	0	
Gardenias, per dozen ..	1	0	4	0	Pinks, various, doz. bunchs.	1	0	3	0	
Gladiolus, dozen bunches..	1	6	5	0	Poppies, various, doz. bchs.	0	9	2	0	
Lilac (French) per bunch	3	0	5	0	Primula (double), dozen					
Lily of Valley, doz. sprays	1	0	1	6	sprays	0	6	1	0	
Lilium candidum, dozen					Pyrethrum, dozen bunches	3	0	6	0	
bunches.. . . .	12	0	18	0	Roses (indoor), dozen ..	0	6	1	0	
Ditto dozen blooms ..	0	4	0	6	" (outdoor), doz. bunchs.	3	0	8	0	
Lilium longiflorum, per doz.	2	0	4	0	" Tea, white, dozen ..	1	0	2	0	
Maidenhair Fern, doz. bchs.	4	0	6	0	" Yellow, dozen .. .	2	0	4	0	
Marguerites, 12 bunches ..	1	6	4	0	" Safrano (English), doz.	1	0	2	0	
Moss Roses (English), doz.					" Maréchal Niel, doz. ..	1	6	5	0	
bunches	6	0	12	0	Stephanotis, dozen sprays	1	0	2	0	
Myosotis or Forget-me-					Stocks, dozen bunches ..	2	0	4	0	
nots. dozen bunches ..	1	6	0		Tuberose, 12 blooms..	0	4	0	6	

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.	
Arbor Vitæ (golden) dozen	6	0	to	12	0	Hydrangea, per dozen ..	9	0	to 18	0
Arum Lilies, per dozen ..	6	0	12	0	Ivy Geraniums	4	0	6	0	
Aspidistra, per dozen ..	18	0	36	0	Lilium Harrisii, per dozen	12	0	24	0	
Aspidistra, specimen plant	5	0	10	6	Lobelia, per dozen	3	0	4	0	
Calceolarias, dozen pots ..	3	0	6	0	Lycopodiums, per dozen ..	3	0	4	0	
Dracæna terminalis, per					Marguerite Daisy, dozen ..	6	0	12	0	
dozen.. ..	18	0	42	0	" yellow, doz. pots	6	0	18	0	
Dracæna viridis, dozen ..	9	0	24	0	Mignonette, per doz. ..	4	0	8	0	
Ericas, per dozen	9	0	24	0	Musk, per dozen	2	0	4	0	
Euonymus, var., dozen ..	6	0	18	0	Myrtles, dozen	6	0	9	0	
Evergreens, in var., dozen	6	0	24	0	Nasturtiums, per dozen ..	1	6	6	0	
Ferns, in variety, dozen ..	4	0	12	0	Palms, in var., each ..	1	0	15	0	
" (small) per hundred	4	0	8	0	" (specimens)	21	0	63	0	
Ficus elastica, each	1	0	7	6	Pelargoniums, per dozen..	6	0	12	0	
Foliage plants, var., each	2	0	10	0	" scarlet, per doz. ..	3	0	6	0	
Fuchsia, per dozen	4	0	8	0	Spiræas, per dozen	6	0	12	0	
Heliotrope, per dozen ..	5	0	8	0						

Roots in variety for planting out in boxes or by the dozen.



RENT ABATEMENT.

ANOTHER rent audit is over, leaving behind it much food for thought as to the relations of landlord and tenant, the ability of tenants to grapple with the difficulties of hard times, the possibility of beneficial change in farm management, individual peculiarities, and many kindred matters. Much thought had been given to the question of abatement, and though a liberal concession was made not all the tenants were able to pay even the reduced amount of their Lady Day rent. That this was owing very much to the great drought of last year is certain. A short hay crop—in many an instance an almost total failure of the hay crop; cows so underfed all last summer that the milk yield was proportionately low, the heavy outlay upon fodder last winter, the poor condition of cows and store cattle in spring has all told. As we write this in a midland farmhouse some yearling beasts, visible from the windows, are still in such wretched plight that the mere sight of them brings a feeling akin to despair as to the possibility of ever seeing them as sleek and healthy as they ought to be now.

This suffering among animals and the poverty of farmers from the effects of a single bad season shows clearly such a lack of staying power that it serves to confirm our opinion that very many farmers have too much land. A farm of moderate size well within the scope of the tenant's means must not only prove profitable generally in all ordinary seasons, but also in extraordinary seasons of drought or excessive wet, of abnormal cold or heat, if only the management is sound, sensible and elastic. It is this conviction that gives rise to the question, Is it fair upon a landlord to ask him for rent abatements for tenants whose difficulties are very much owing to ignorance, carelessness, and a want of business capacity? Clearly it is not, but then there are the tenants, such as they are; if they are not helped they may fail outright, so the only thing to do is to make the best of it. In the new order of things the change to tenants having a sound agricultural education, reading as well as acting men, well posted in the world's doings, in the wants of the people and how to supply them, we may look for the exercise of more discretion in the hiring of farms, more thoroughness in everything. Then indeed will landlord and tenant combine for their mutual benefit, and if abatements are ever required they will be cheerfully accorded, and as cheerfully repaid.

Perhaps the most difficult matter to grapple with is rent arrears. When once a tenant falls into arrears the difficulties of his position are so accentuated that his load of debt is like an incubus, which cripples his efforts, robs him of hope, often renders him careless, helpless, and despondent. At the next audit he finds he cannot keep faith; he pays what he can, with a vague promise of the balance, and so frequently goes on from bad to worse. It is curious how some men continue to struggle on, hoping against hope. We have one tenant to whom, when he first fell into arrears, we offered a smaller farm as calculated to afford him a chance to do better. He declined upon the score that he was confident of pulling round if only he had time. At each subsequent audit he went deeper into the mire of debt, his farm is understocked, he has no means to purchase more, his land is so poor that his crops are inferior, his outlook is gloomy in the extreme. In fairness to the landlord there must be a limit to the forbearance shown him. The only question for decision in connection with the continuance of his tenancy is a permanent reduction of rent. This is a

matter requiring most delicate handling, in this instance resolving itself into a question of what the land is capable of, what profit is possible under good management, and if the produce is under fair conditions, calculated to obtain a good market. On many dairy farms we hold that much improvement is possible; this must not be forgotten in its relation to rent values. Permanent pasture under really good cultivation is a very different thing to poor neglected pasture. Then, too, there are the few acres of arable land for the home supply of corn, straw, roots, and green crops. We know some such farms which answer perfectly to our ideal, the tenants of which are as thriving and prosperous as they richly deserve to be.

WORK ON THE HOME FARM.

On the arable land much good work has been done among root and green crops and foul land generally. The hot, dry weather has been most favourable to all such work. It was necessary to be prompt in using the horse hoes, as growth has gone on with such rapidity that the early Mangold and Swede plant is fast spreading across the space between the rows. Cabbage and Kale have also grown to a large size, so quickly that we have seen some Cabbages planted so thickly that the growth had met before the weeds were got under. If only the land is as rich in fertility as it ought to be for such crops we hold with ample space between the plant to admit of a free use of horse hoes while it is necessary. The Cabbages are much finer, and more weight of crop per acre is had from the larger growth. A well-developed Drumhead Cabbage of 30 or 40 lbs. weight is entirely possible under good cultivation, and is most wholesome, nutritious food. This crop had so good a start this spring, and was so well established early in the soil that a really fine, useful crop is a certainty in all good soil.

The advantage of early sowing of fodder and root crops was never more apparent than it is now. All the early crops are thriving, but late sown Swedes and white Turnips have suffered fearfully from fly in the recent hot, dry weather. Pasture, too, is suffering from drought, brown patches being visible, and with the hay secured in good order rain will be welcomed. Very much of the hay crop has been saved in prime condition, meadow Grass, seeds, and Clover being alike good in quality and abundant in quantity.

Among live stock sheep and lambs have been much troubled by flies, a close daily watch having to be kept, and prompt treatment applied. No sheep-dip can be depended upon to keep off such attacks in sultry weather. Calves have to be kept shut in their hovels during the heat of the day and let out in the paddocks early in the evening till next morning. Some Lucerne or Tares is given them in the hovel rack, they have access to water, and are thus kept from the worry of flies.

OUR LETTER BOX.

Poor Pasture (H. P.).—Your only chance for this season is to procure enough nitrate of soda to afford a dressing of a hundredweight per acre, and to sow it broadcast over the pasture in showery weather. It would then be dissolved and washed into the soil sufficiently to induce growth. Next February apply a dressing of chemical manure, consisting per acre of 1 cwt. nitrate of soda, half-cwt. muriate of potash, half-cwt. mineral superphosphate, and half-cwt. steamed bone flour.

METEOROLOGICAL OBSERVATIONS.

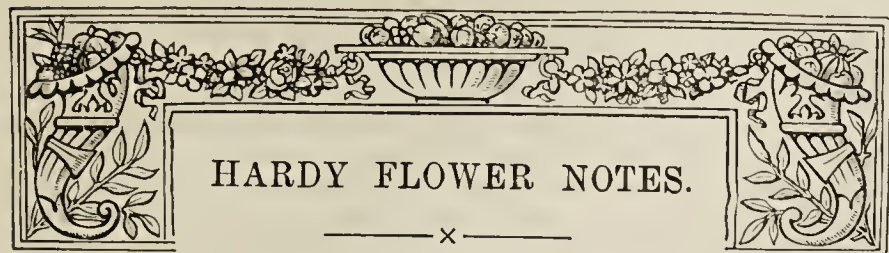
CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.	
1894. July.	Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature			
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.		
Sunday ..	1	Inchs. 30.294	deg. 71.5	deg. 63.8	N.E.	deg. 64.8	deg. 84.4	deg. 55.0	deg. 121.2	deg. 50.4	—
Monday ..	2	30.165	71.3	64.7	S.W.	65.8	81.9	59.6	126.6	52.9	0.06
Tuesday ..	3	30.121	66.1	59.6	N.	65.3	73.1	60.0	119.0	55.8	—
Wednesday	4	30.184	65.2	56.6	N.	64.0	78.0	49.9	123.1	43.6	—
Thursday ..	5	30.176	66.9	59.1	E.	64.0	81.3	54.0	122.3	46.2	—
Friday ..	6	30.023	73.9	64.0	E.	64.6	88.2	56.6	128.2	48.0	0.164
Saturday ..	7	30.017	65.1	55.3	S.W.	65.0	72.6	57.3	123.4	53.4	0.028
		30.140	68.6	60.4		64.8	79.9	56.1	123.4	50.0	0.252

REMARKS.

- 1st.—Hot sun and cool breeze throughout.
 - 2nd.—Overcast morning, with occasional gleams of sun; generally sunny afternoon.
 - 3rd.—Generally overcast, with gleams of sun in morning; fair afternoon, sunny at times.
 - 4th.—Sunny and pleasant, but detached cloud obscuring the sun at times.
 - 5th.—Sunny throughout.
 - 6th.—Sunny and hot till 3 P.M., then gradually clouded over; two peals of thunder at 5.30 P.M., and rain from 5.45 to 6.30 P.M.; rain again and distant thunder and lightning from 8.30 P.M. to 10.30 P.M.
 - 7th.—Sunny at times in morning; generally overcast in afternoon; slight showers in evening.
- A decidedly hot fine week, with thunderstorm (but not much rain) on Friday evening.—G. J. SYMONS.



FAIR and beautiful seem the flowers that delight in the summer sun which floods the garden with light. Various, too, is their style of beauty, some being of lowly stature, creeping close to mother earth, while others tower aloft as if to draw nearer to that source of light and heat in whose beams they bask. Each season has its charms in the garden of hardy flowers, and as one's collection increases it becomes hard to say which of the spring or summer months yields most pleasure. With graceful beauty the Feather Grass (*Stipa pennata*) floats in the wind in pleasing contrast to the stately beauty of the Delphiniums, whose brilliant spikes are still in beauty. As I write, the sweetly perfumed Pinks will soon give place to the ever welcome Carnations and Picotees, which are favourites with nearly everyone. The beautiful *Spiraea Aruncus* is very attractive with its graceful creamy white flowers, and near by the variegated form of *Hoteia japonica* brightens a rather dull corner. On the rockeries and on my "roof garden" the singular flowers of the various *Sempervivums* show well beside many *Sedums* or *Stonecrops* in flower. Few persons seem to know the usefulness of these succulent plants for many purposes. They will stand and thrive in positions where other plants would be shrivelled up by the drought. In my garden at the back of one of the rockeries there is a low wall about 50 feet long, which is being gradually converted as opportunity offers into a home for these succulents. Such a position is an admirable one for the *Houseleeks*, especially those belonging to the section covered with cobweb-like tomentum. In this perpendicular position such species as *Sempervivum arachnoideum* seem happier than anywhere else. The merest particle of stiffish soil jammed into the crevice in which the *Houseleeks* are planted will serve to support them until they are established, when they appear to derive their sustenance from the atmosphere or from the mortar in the wall. In such a place it is surprising how soon a single rosette will increase into a considerable number, and how much interest they will give to a wall otherwise without a pleasing feature save the lichens which colour it.

A pretty white *Campanula* in the border is *C. alliariæfolia*, which is of rather distinct appearance, with its spikes of drooping flowers and roughish leaves. I have seen this Bellflower named *C. digitaloides*, a name by no means inappropriate (although I fancy of no authority) on account of the Foxglove-like appearance of the spike and flowers. It is of the easiest culture in the border or on rockwork. It is understood to have been introduced from the Caucasus in 1803, and there is said to be a blue variety, which seems to be scarce, as I have never met with it. *C. alliariæfolia* grows to about 20 inches in height, and has the advantage of requiring no staking here.

In bloom on one of the rockeries is an effective and curious alpine plant, which is deserving of some mention. This is *Edraianthus tenuifolius*, now known to botanists as *Wahlenbergia*, unless the "Index Kewensis" has again given it another name. I received it as *E. caudatus*, but this is, I understand, only a synonym. It is very pretty with its linear leaves, which have their margins covered with bristle-like hairs, and its clusters of violet-blue bell-shaped flowers, which are whitish at the base. The habit of the plant is extremely neat, the centre being composed of the leaves, the flower heads radiating from the centre, and projecting beyond the

dense tuft of foliage. There are from six to ten flowers in a cluster, and these are flat on the surface of the soil. My plant is grown on a rockery facing west, and is planted in sandy peat and grit. The plant was raised from seed, and jammed between two pieces of sandstone placed in the shape of a V. Another feature of this *Edraianthus* is the leaves, which project from the cluster of flowers. I find that this plant requires an abundant supply of water in spring and summer, receiving, however, ample drainage. It is said to have been introduced from Dalmatia in 1879, and to have the additional synonym of *Wahlenbergia dalmatica*. It is one of the most pleasing plants on the rockery early in July.

In the wealth of floral beauty in summer the *Alliums* are apt to be overlooked, their unpleasant odour being by no means a passport to our gardens. One rather uncommon species has been in bloom here for some time, and its pale pink flowers, if not in the first rank of beauty, are at least pretty, and make it worthy of inclusion in a collection of bulbs. This is *A. biceptrum*, which is, I believe, an American species, and has been hardy with me for about three years. It grows about 13 inches high, and the foliage dies before the flowers are expanded. The leaves are rather effective, and fold over each other at the base. I do not know who is the authority for the name of this *Allium*, which seems somewhat rare. It is rather paler in colour than the better known *A. acuminatum*, but is of dwarfer habit. The odour of the flowers is not very pronounced, but there is still sufficient to make them undesirable for cutting.

There are few more beautiful flowers than the various species and varieties of *Dianthus*, and I do not know any of the dwarfer species which will surpass, or even equal, the charming *Dianthus alpinus*. In some gardens it does exceedingly well, in others only indifferently, and in others again it is a complete failure. It is not a simple matter to suggest a method of treatment which will prove satisfactory in every case. It must be largely a matter of experiment. I have seen this beautiful alpine Pink in several gardens lately, and by far the finest and most healthy specimen was one in the garden of Mr. James Davidson of Summerville, Dumfries. It was over a foot in diameter, and so covered with flowers that the foliage was only seen round the outside of the plant. It was growing in a low rock bed but slightly raised above the level, and seemed to be planted in good loam and grit. I have noticed the thriving condition of this plant for some years, but this season it has surpassed all former ones, and was a charming feature of the garden. The rock bed was at the base of the wall of a conservatory, and had a south exposure. Those who know *D. alpinus* can well realise the beauty of a plant over a foot in diameter and covered with the delightful deep rose flowers with crimson spots.

In writing to thank Dr. Wallace for his information regarding *Irises tectorum* and *tomilophæ*, knowing that he was interested in the *Calochorti*, I mentioned that I had seen *Calochortus Gunnisoni* at Kew a few days before, but that I did not admire it much. A day or two afterwards Dr. Wallace very kindly sent me flowers, cut from the open, of some exquisite varieties. So beautiful were they that one cannot help thinking that they are worthy of some care and of being tried in many gardens. They were grown in a raised bed, and beyond a covering of reeds in severe weather needed no further protection. I believe the *Calochorti* have been grown with success in the garden of Mr. G. F. Wilson at Wisley, and as even the *Ixia* is, with a little protection in winter, hardy as far north as Dumfries, which has, however, a milder climate than many places in the midlands and north of England, they are worth trying in mild localities. The species and varieties sent included *C. splendens*, which has large flowers of a colour I should call pale lilac, with beautifully fine silky hairs in the inside of the flower; *C. s. atroviolaceus*, brighter lilac with a black spot, with a violet mark surrounding it at the base of each petal; *C. luteus*, bright yellow prettily spotted with brown, and an orange brown horseshoe shaped mark near the base of each petal, and three varieties of

C. venustus. The latter were the most beautiful of all. *C. v. citrinus*, having bright yellow flowers spotted with brown, and a brown blotch rather more than half way down each petal. This was very fine. *C. v. oculatus* was also a charming flower, so marked and coloured that it is impossible to describe. My note of it is as follows: "Fine white and purple rose, marked with brown, yellow, and lilac; fine deep brown blotch margined with yellow on each petal; very beautiful." *C. v. roseus* I thought scarcely so good, but it had many points of beauty. It is white tinged with rose, marked with brown, rose, and a little yellow, and with two brown spots on each petal, the upper one being of a red brown. The markings of this become much deeper towards the base of the petals. With the flowers came stems to show the growth. These were over 2 feet high, while the blooms of the largest were fully 3 inches in diameter. If these Mariposa Lilies or Butterfly Tulips can only be grown successfully in our gardens a new charm will be given them. There are several others readily obtainable, and I hope to test their value for my garden next season. The *Calochorti* are generally grown in frames, but a bed in the open carpeted with some dwarf plants would be of great beauty. *C. Gunnisoni*, which I saw in the open at Kew, is pale lilac in colour, and seemed to me ineffective. No doubt it would have looked better if grown among herbaceous plants or carpeted with a low-growing evergreen herb.

At this season there is not the superabundance of yellow flowers which may be seen as autumn advances. It is true there is no scarcity of these, but the pretty yellow flowers of some of the Evening Primroses are ever welcome. Very interesting and beautiful are the nocturnal bloomers, but those which are open in broad daylight are attractive also. One which may be recommended with every confidence is one grown in gardens under the name of *Oenothera Youngi*. This is an erect growing plant with fair sized yellow flowers, and growing here to about 3 feet high. It is easily grown in the border, and looks well beside *Campanula persicifolia coronata* and *Lychnis vespertina fl.-pl.*

With these and many other flowers July teaches us that she, too, yields not a confession that her blossoms are less fair than those of the months which have gone before, and that we may reap much true pleasure from the garden in these long summer days.—S. ARNOTT, *Dumfries*.

RIPENED WOOD.

"KEEP your duty straight before you, lad, and get your wood well ripened." This was the parting advice given to the writer when exchanging bothy life for the more onerous position of head gardener—plain counsel in a brief text on an admittedly important subject.

He who thus advised held a high position in the gardening world, and was not prone to verbosity with his young men, hence the remark carried additional weight, which subsequent experience has proved the wisdom of. The allusion was to Vines. Probably the speaker had mentally connected this phase of culture with the straight path of duty, and possibly, as he had previously tripped to Ireland (where he was now sending the "lad"), his keen observation had noted in the "Land o'Green," that due consideration was not always paid to this important subject.

Having since at various times personally noticed the same defect, but repressed from motives of delicacy from then and there giving tongue to the matter, I venture through the medium of these pages to relieve my mind of these pent up thoughts. The Fates forbid that I should trail them aggressively before the giants of "grapedom." They rather apply to those gardens limited to one or two vineries, and the advice may be worthy of passing on—I think it is—to other "lads" who are leaving the friendly ægis of a chief to run alone upon the path of duty.

With one vinery more than ordinary anxiety is evinced to obtain, and maintain annually, a maximum amount of fruit from a minimum of space. That desirable margin which larger places afford is in the lesser ones not permissible. The small grower is apt to defeat his object by overcrowding. Too often does he spare the rod and further handicap himself by clapping on all spurs obtainable in order to win heavy crops. Feeding and watering the fruit-carrier may be conscientiously attended to, but any relaxation

of the bearing-rein, in the way of stopping the shoots and removal of laterals, results in immature wood. That constant finger-and-thumb work so peculiarly necessary in this instance is not always maintained. This step in the path of duty is relegated to a rainy day, when some barrowloads of the Vine's wasted energy are wheeled to the rubbish heap. Light, air, and sunshine (if there be any) are again admitted to the Vines, but our short summers make no allowance for the waste of time, and the Nemesis of unripened wood awaits the grower with all the attendant penalties accompanying. There is not, I think, any more pleasing picture to the critical eye than that nut-brown hue of the wood of Vines previous to or contemporaneous with the ripening of their fruit. It is the time when the sappy conditions of free growth, nurtured in the more humid stage of early treatment, are by a kind of ossification converted into that bony wood so pregnant with future capabilities.

The text is capable of varied application, so in leaving the Vines I may be permitted, secondly, to touch on the important bearing it has on all fruit trees generally, and particularly on our wall trees. Some prominence must be given to these by reason of the position they hold in a garden. They are also freely exposed to the critical eye of interested visitors, though this is no reason they should have extra attention paid to them solely on that account, nor is it that they should have less. With these, the wood-ripening process is more directly under the controlling hand of the gardener. Trees and bushes can have timely attention to prevent overcrowding, but on our walls we can trap those fugitive sunbeams so essential for prospective as well as present crops. As with the Vines, so with these, how often is that wasted energy trundled out in the form of breastwood? and how many barrowloads of that blessed sunshine goes with it? Any way, this superfluous growth has been an effectual barrier to those rays so necessary to future crops. One can hardly over-estimate the benefits of timely and unremitting attention to secure the important object of well-ripened wood.

As a text is often divided under three Leads, I will thirdly, and in conclusion, submit a thought bearing on Flora, twin sister of Pomona. Her votaries who select an object, say Roses or Chrysanthemums for special devotion, well know the evils attendant on overcrowding. Mr. Molyneux modestly attributed some of his high success in the "mum" department to the local influences of sunny Hampshire, but as not any of us can pick and choose the spot for our battle with Nature's forces, it behoves us under less favourable circumstances to utilise by every means in our power those precious sunbeams. Trap them. Hold them in suspension to form in Nature's laboratory the luscious fruit or perfect flower. Examples from sunnier climes, too, point the moral. It was my pleasing duty, nigh on twenty years ago, of handling a portion of the first consignment of *Dendrobium Wardianum* Lowi from Burmah, and well do I recollect those short fat pseudo-bulbs bearing on each node the relics of departed glory.

In these days of advanced thought, and its practical results so much in evidence, it may appear *de trop* to many persons in giving but a brief homily on this subject, but in the "Land o' Green," where the "lad" has been ripening for some years, there are special difficulties in the way of rampant growth and superabundant foliage, tempting these few remarks, more suggestive than exhaustive.—E. K., *Dublin*.

GREAT HERBS AT KEW.

THE present will be found a favourable time to visit the herbaceous ground at the Royal Gardens. Some of the greater species are unusually fine this season, and although the arrangement is necessarily formal, rigid, with little regard to surroundings, a good idea may be obtained of their suitability to more favoured localities. The imagination readily transports these grand plants to broken glades or openings in woods, or as clothing the sides of dells, showing their brilliant flowers and massive foliage on the banks of running water or against the heavy leafage of shrubbery or wood. Their great proportions demand a setting in which spaciousness is an important element; given room to grow and distance from which to view them, with fitting surroundings of wood, rock, and stream, and little grander in the way of vegetable growths can be conceived than some of these monster herbs.

The *Heracleums* are past their best, and the huge umbels are setting their fruit, while the leaves are yellowing and dropping from the vigorous lines which they took in their prime. *H. barbatum*, *H. pubescens*, and *H. gummiferum* are each of them grand plants. *H. panaces* is the noblest of them all, with enormous leaves at least 7 feet long; the whole plant cannot be less than 30 feet round by about 8 feet high.

The Senecios, with their bright yellow cymes, take the eye on entering the ground before most of the other species. *S. macrophyllus* has large erect undivided leaves, 3 feet in height, which strongly recall the foliage of the Water Dock, *Rumex Hydro-lapathum*. Above these are the great compound spikes, which look like a sheaf of rockets arrested in their flight, or giant yellow Kniphofias. A compact yellow cone, with a looser arrangement below, 6 or 7 feet high, composed of ragged heads of flowers, their irregularity is blended into the harmony of the general effect. *S. Kämpferi* has the same though looser rocket-like growth of the inflorescence, but the stalks are more numerous, the individual heads are larger, and the colour darker and not so pure and striking. The heart-shaped leaves cluster at the base into tufts, from which the inflorescence spring, and are each about 1 foot across. *Senecio Hualtata*, from the Argentine Republic, has florets of a creamy-white colour, with a yellow disc. It, too, has erect leaves of simple undivided type. The flowers grow on stout peduncles, and look able to resist gusts of wind. A fine plant is to be seen in front of No. 1 Museum.

Lactuca hastata, from India, is a most striking Composite with lofty cymes of lilac-blue flower heads, loosely arranged but very effective through the size of each compound flower. Larger and more of a purple-blue than the Succory, it has heads of the same strap-shaped florets. The leaves are in dense masses at the base and running up the stems, with milky juice, in shape and colour like the Sow Thistles. It grows 7 feet in height. *L. alpina* does not attain by 2 feet the height of the previous species. It is more sturdy in growth, with larger leaves, and flower of a more purple tone. *L. virosa* is a slender and taller species, growing to 10 feet in height, with smaller yellow flower heads. *L. undulata* is a great mass of slender, intricately branched flower stems, studded with golden yellow flower heads, the whole compacted into a hemispherical mass $4\frac{1}{2}$ feet high. The plant seems fairly to twinkle as the flowers catch the sun's rays.

Anchusa italica is in strong contrast with the above, both in colour and habit. Of a full but light ultramarine blue, it throws out scorpioid cymes from all points till it attains a height of 7 feet.

Verbascum Chaixi, *V. sinuatum*, and *V. malocophyllum*, are all striking species of this showy genus, growing from 5 to 7 feet high. Among the Thistles *Cnicus serrulatus*, *C. setosum*, and *C. horridus* are remarkable, some attaining a height of 12 feet. *Onopordon acanthium* shows well its handsome foliage.

The taller *Thalictrums* rear their feathery tufts of creamy flowers to heights varying from 4 to 7 feet, have much of the charin of our Meadow Sweet. *T. angustifolium* grows to 5 feet, its variety *nigricante* 2 feet higher. *T. glaucum* and *T. flavum* grow side by side with them.

While in the grounds *Centaurea macrocephala* is worth notice, with large yellow masses of florets surmounting, like those of the genus generally, great balls of purple bracts. It is inferior in height to the plants mentioned above, but for foreground purposes is extremely effective. *Scabiosa caucasica* var. *amœna* is another large-flowered though dwarfer species. Its heads, 4 inches across, of *Campanula* blue florets assert themselves strongly. The two circular beds filled with that most showy and effective *Lychnis viscaria splendens plena*, are unfortunately past their prime, but two other beds of *Erigeron speciosum* and *splendidum* are a sheet of steely blue flowers, the tender stalks too weak to bear up, however, the mass of flowers crowning them.—J. A.

THE NUTRITION OF ROOTS.

I AM very much obliged to those correspondents who have written on this subject, and regret that in this busy time I cannot answer them so fully as I could wish. I am sorry Mr. Gilmour thinks I write loosely, and that I must repeat I do not think he can have read all I have written.

My original communication was on page 388, *Journal of Horticulture*, May 17th, and the following week there was a short letter from me (page 409) withdrawing the first statement in the original letter, that roots only fed on vaporous moisture. I at first said this statement was not mine. It came from the late editor of a well-known science periodical, and perhaps there was some misunderstanding, but I believe the theory is also to be found in Dr. Masters' principal work. I should doubt, however, if Mr. Gilmour (page 2, July 5th) is correct in saying or implying that there is no intermediate state between vapour and water. What, for instance, of an ordinary atmosphere where there is of course almost always some vapour, and a wet Scotch mist, or the cloud wherein were formed those hailstones 4 inches across which fell lately in Norfolk? Of course Mr. Gilmour can "prefer to deal with my original question" weeks after I have withdrawn it, if he likes, but I do not feel called upon to answer him.

It is a sad matter to have to explain a joke, but I am afraid that my allusion to "Naillem's" (page 2) "well-known authority" and "valuable seal" was meant as a lame attempt at pleasantry upon his remarks on his own *nom de plume*. I will try once more to put what I wanted to bring out. I had stated (not in the *Journal*) that manure under the roots of plants, and not penetrated by them, would benefit those roots by the rising moisture carrying upwards some of the manurial elements. A certain good practical authority denied, or at least doubted this, and I wrote to put the question to the test, which seems to have been decided in my favour. Unfortunately as I was writing, that other point from another authority about the "vaporous moisture" came to me, and though I disclaimed it the next week, my disclaimer seems to have been unnoticed. "Litera scripta manet," but I do not want to have any more to do with that matter at present. Mr. Gilmour "prefers to deal with it," and I have much pleasure in leaving it in his hands.—W. R. RAILLEM.

FLORAL FACTS AND FANCIES—3.

WHEN the sunshine and showers change the aspect of our gardens and flowers are abundant, we may notice that amongst the earlier ones blue, or some tint approaching it, is a prevailing colour. Mention has been made of the blue or purplish Iris and Hyacinth. Another flower is very notable, lowly of growth indeed, but which some would rank second in importance to the Rose as a universal favourite and associated also with much of sentiment and legend, the blue Violet. Beside various cultivated varieties of the sweet Violet many other *Violas* are now introduced into gardens, flowers more showy if not fragrant, and all Pansies or Heart's-eases are, in fact, Violets too. There is no doubt that the Violet is the *Ion* of the Greeks, one of the few flowers the history of which runs back to a remote period. It is said to have been one of the floral offerings presented to Zeus by the maids of Ionia, hence the name; and this suggests that one of the meanings still attached to the flower is a very old one, and that it has long been symbolic of regard or love, probably also of youth, hence it was frequently associated with early and untimely death. A classical poet desired to see the Violet spring from the grave of a deceased friend, and a similar idea is expressed by Shakespeare, Milton, and Tennyson of our own land. The fact that in the Middle Ages one of the prizes awarded to a bard who excelled his companions in a rhythmical competition was a golden Violet may have led some to attach to the yellow Violet the significance of merit or "modest worth," and the white is symbolic of "purity." Again, the blue Violet tells not only of love but of "faithfulness" too. For this reason it was chosen by the Napoleons to represent their cause, which had vicissitudes very trying to its adherents' constancy. Another fact to be noted is that "Violet" was a name applied formerly to fragrant flowers of diverse families; thus there was the Water Violet, the Dame Violet, and to some folks even the Wallflower was the Wall Violet.

Coming to the Pansies or Heartseases, plants rich in varied colour and full of poetic memories, the history of which starts with the little species (*V. tricolor*) of our fields. The name of "Pansy" does probably point to the French *pensée*, and reminds us that the flower was offered as a love token, expressing the wish that the receiver would think of the giver. To hand back one of these flowers, in which the purple predominated, was to reply, "You occupy my thoughts." Though it has been argued that "Pansy" might have come from "panacea," alluding to the virtues of the plant; and "Heartsease" did certainly originate in a belief that it could benefit the heart—literally, not metaphorically. Shakespeare has, in well-known lines, referred to the presumed magical effect of the juice when dropped on the eyelids of a sleeper, and there he calls it "Love-in-idleness," seemingly a familiar name for the Pansy 300 years ago, which we interpret as "love in vain," a less hopeful meaning. "Three Faces under a Hood" and "Herb Trinity" were other old names, suggested by the triple blending of colours. The fancy of some Scotch people saw a resemblance in the corollas of Heartseases to an animal's face, hence arose the name of "Cat's-face." Poets have thought the Pansy a coquettish flower, one that, while it exhibits some shyness, appears to be looking out for admiration, and if we look at them along the borders we see how fond they are of the sunshine. The Pansy is one of the few flowers in which the primary colours of blue and yellow mingle; usually these run distinctly, even in blooms of many shades. We cannot, for instance, raise a Rose or Dahlia with any blue; these are of the cyanic, not the xanthic type.

Another blue flower sacred to love and friendship, though of low growth, the garden Forget-me-not, is a favourite both in England and France; but Germany is supposed to have given birth to the legend that explains its name. Much more prolific in

blossoms is our garden variety as compared with the wild species of streamlets and ponds; yet that may be occasionally seen to cover a little island amid a stream, and such a display of its starry clusters might once have tempted an adventurous knight to plunge into the water, seeking a floral gift for his lady on the bank. The German narrators still uphold the story, adding that the knight's failure to reach land with his fatal trophy is explained by his having body armour, which made him sink in water or mud. The scene has even been laid on a branch of the Danube; but Mr. Mills discovered a French legend to the effect that Henry of Lancaster, during his exile, was the first to give this flower its meaning of "Forget-me-not." He wore a bunch of them upon his collar in remembrance of his hostess the Duchess of Bretagne. The plant is frequently placed upon graves in our islands and on the Continent. Our ancestors saw two singular resemblances amongst the species of *Myosotis*. They fancied the leaves of some were in shape like a mouse's ear, and also noticing the way that the flower-heads curled themselves round while expanding they gave to several the name of "Scorpion Grass." Hence they were esteemed valuable remedies for the bites of scorpions and other venomous creatures.

Very commonly the blue *Lobelia* is a companion flower to the Forget-me-not in flower beds. This is a symbol of "ill-will" apparently, because, though the flowers of this and other *Lobelias* are beautiful, poisonous principles exist amongst them, though of medicinal value. Upon banks and rockeries the *Periwinkles* exhibit their blue or purple flowers, plants of classic fame, which tell of "sweet remembrance," loved by some as reminding them of the hillsides familiar in their youth, oft planted upon tombs for many centuries because they are sacred to early friendship. The name seems a puzzle, for it is one belonging also to a small shellfish; but we shall understand it better if we spell it thus—"perwinckle," the allusion being to the trailing habits of this plant, and its apparently binding the earth together by spreading its sprays over the soil.

During the Middle Ages we should hardly have found an English garden in which there was not growing a patch of *Vervain*, a curious precursor of the *Verbenas*, afterwards to become favourite flowers belonging to the same genus. Occasionally we see a self-sown plant in a cottage garden, and its inconspicuous spikes of pale blue flowers on the thin straggling branches gave it a weedy appearance. The Druids held the *Vervain* in esteem, and gathered it carefully just when *Sirius* the Dogstar was rising, but neither sun nor moon were to witness the act. Afterwards Christians ascribed its presumed valuable qualities to the fact that it grew on the scene of our Lord's crucifixion, and as a "herb of grace," it was to be crossed and blessed in the name of the Trinity. Even in the course of last century, little bags of dried *Vervain* were sold to be worn round the neck as a cure for many diseases. Though we have discarded the *Vervain* from our gardens, we are at one with our ancestors in admiring June Honeysuckles, the ordinary woodland species being the only kind they knew, but they praised it for its beauty and fragrance, putting it almost on a par with the Rose; they would have been still more charmed with the exotic *Loniceras*. Watching our Honeysuckle or Woodbine in its growth, the flexible, clinging boughs became a token of "affection's bond," what species could rival it as a screen for bowers where friends conversed? The monthly Honeysuckle is said to convey a caution, "Do not answer hastily." We have lost faith in the virtues once attributed to the leaves and berries of our common species. For instance, the old bee-keepers rubbed their hives with the juice, believing that this would prevent the bees deserting their home.—J. R. S. C.

GARDENERS ANCIENT AND MODERN.

SINCE the resources of Art triumphed over vagaries of climate by the adaptation of glass to horticultural pursuits gardening has undoubtedly advanced by leaps and bounds to its present important position. The concomitant advantages of modern invention bearing directly or indirectly upon gardeners and their work show also the enormous advance. True, in those dark ages prior to the introduction of glass, there have been men who by force of intellect and devotion to the art deserve to be held in remembrance. To some extent we may fail to realise the herculean tasks they undertook by reason of many of the difficulties besetting them having long since disappeared. In a vocation peculiarly demanding all capabilities of thought we now enjoy inestimable privileges that were denied to them, especially in the domain of literature. Some of olden times have indeed left valuable records of botanical research, not to speak of the giant minds who classified all vegetable growth under a system so perfect that the humblest herb of the field or fairest flower of the garden cannot fail to find there its

proper place; but much of the good work of the rank and file in practical horticulture had no medium for distribution and preservation.

We of to-day have received many gifts, and are fully cognisant they involve much responsibility. Amongst the refining influences of the gentle art is that generous spirit imbuing its disciples to record their experience for the common good; freely teaching, ever acquiring that education which a long life cannot complete. Few men, I think, are less content to take things as a matter of fact than are gardeners. Success prompts questioning. It is not enough to recognise the existence of a fact. We want to know, and ought to know, the cause of it.

Why is that Lettuce in the bed twice as large as its fellows? was the question asked of me by a worker, when with some pride he was showing to me his allotment garden, and the old head debated with the young head over the supernatural heart of that Lettuce, until we went to the root of the matter, and found it embedded in a piece of house flannel. This resulted in more debate and fresh thoughts, not perhaps of practical utility, for I will not say that ever after the Lettuces were set in house flannels, but by such apparently trivial matters is thought directed to the subtle things of Nature. The secret things are analysed, and perchance revealed; the gardener's work is vested with new interest; each revelation gives fresh food for thought, and we of the rank and file find the consolation prizes which make life worth living. Gardeners occupy a vantage ground a little aside from the hurry and rush of more exciting pursuits, so that it appears to me there is a good deal of philosophy in our lives, and some poetry too. Some may say "No" to this thought, but I think it is so, and well it is so, though I allude neither to rhyme making nor verse manufacturing, but to the training of the hand, the eye, the mind, to form, to see, to know the beautiful in Nature.

Our social standing in the world of workers should be a high one. *Apropos* of this is the matter lately reviewed in these pages re our style and title of domestic servants. There may have been good reasons for this classification by the ruling powers in days of yore, for many gardeners then had bed and board in the residence of their employers. But this reason no longer obtains. Yet, why are we rated on the books of our country as such? It may be that present day legislators do not quite know where to put us, so are fain to let the matter stay; or it may be for the very good reason they have never been asked. We are, I think, of all men the least contentious for precedence, and to many it may be a matter of indifference. It is seldom we are brought to face the fact of our social standing, but as a class, which has no indirect bearing on the peace and prosperity of the country, the designation is derogatory and unworthy, more especially to those members of it who have attained honour and distinction above their *confrères*. Could we through a sympathetic mouthpiece bring our little grievance before Parliament, doubtless the modest request would be complied with? Is there a gardener who would not if asked affix his name to a petition? And is there one named in the "Horticultural Directory" who would not, if supplied with a form, get it signed by the gardeners in his district? Parliament has so much to trouble it may be said. True, yet I venture to think that the Gardeners' Petition if presented to the Honourable House would there find patrons of our art who would take some pleasure in giving us a rise in the statute book.—A WORKER.



VANDA KIMBALLIANA.

A CORRESPONDENT sends us a bloom of this beautiful *Vanda*, and remarks that, "although small flowered, this variety is well worthy of notice and a place in Orchid collections. We think so too, and possibly others would do likewise after taking a glance at a well-blossomed plant. The flowers are about the size shown in the illustration (fig. 8), and their chief beauty consists in the contrast between the pure white sepals and petals and purplish violet lip. They are freely produced, and as they stand well prove useful for cutting, being charming for buttonholes.

DENDROBIUM CAMBRIDGEANUM.

WHEN well flowered this is a very beautiful species. As the blooms are produced on the current year's growth, they appear at a time when *Dendrobium* flowers are scarce. The foliage, too,

being retained shows off the blossoms to greater advantage. These are each $2\frac{1}{2}$ inches across, colour golden yellow with a dark maroon blotch on the lip. In the cultivation of this species the chief point is to consolidate the growth as it is made. This alone will induce it to produce its flowers with any degree of freedom. If the growths are not firm, and the leaves fairly thick and of a good colour, there will be but few flowers, and a large proportion of these will probably be malformed and abortive. A light position in the East Indian house with a slight shade at midday is required to grow this Orchid satisfactorily. After the flowers are past the plants should be hung up in a light airy Peach house or vinery. It is not advisable to dry the plants off too rapidly. Lessen the supply of water at the roots gradually as the leaves fall, for the longer the pseudo-bulbs are kept from shrivelling the stronger they break in the spring. As soon as the plants show signs of activity they must be top dressed or repotted if necessary, and returned at once to the warmest house.

LYCASTE AROMATICA.

The flowers of this species, although small, are so freely produced as sometimes to almost hide the plants on which they grow. As the specific name implies, they are of a powerful aromatic odour. Each flower is $2\frac{1}{2}$ inches across, and in colour bright yellow. It is very easily grown, either in the cool house or in summer in frames. It should be placed in well-drained pots large enough to allow of about an inch of compost around the bulbs. This should consist of equal parts of peat, loam, fibre, and chopped sphagnum, with a little charcoal or potsherds added. High potting or elevating the plants on a converse mound is not necessary for this Orchid. Abundance of water must be given the plants while growing, and during the winter they must not be allowed to get quite dry. *L. aromatica* is a useful Orchid for indoor decoration, as in cool rooms it lasts from five to six weeks in good condition, and does not suffer so much as many others from the effects of flowering in a dry atmosphere.

ONCIDIUM RUBIGENUM.

This free flowering and pretty little *Oncidium* is one of the varieties of *O. cucullatum*. It is quite distinct from the type, however, having a large, creamy white lip, wavy on the edge, and with several large purple spots under the column. *O. rubigenum* is said to grow naturally at a greater altitude than any other Orchid, hence it has been called the Orchid of the Clouds. A cool, moist, and well ventilated house is the best for this species, and it may be grown either in small pots or baskets in a mixture suitable for *Odontoglossums*. Other varieties of *O. cucullatum* are *macrochilum*, *purpureum*, and *flavidum*. *O. Phalaenopsis*, recently figured in the *Journal of Horticulture*, is also said to be a variety of this species.

CULTURE OF LÆLIA PURPURATA.

Lælias and their near allies, *Cattleyas*, are among the best exhibition Orchids we have, and *Lælia purpurata* is one of the grandest in the genus. This fine old species is probably the most gorgeous of all Brazilian Orchids, and when well cultivated never fails to excite admiration. A good deal of variation exists in the flowers, but though such varieties as *Williamsi*, *Schröderi*, and a few others are greatly superior to the type, yet the commonest kinds are sterling decorative Orchids. *L. purpurata* is moreover one of the easiest Orchids to establish, provided the plants are dormant when received, and bear a few healthy leaves. Such plants frequently flower on the first set of pseudo-bulbs produced under cultivation.

Newly imported plants that have large heavy pseudo-bulbs, as the species under notice, must be very carefully and firmly staked when placed in the pots. It is not enough to place a stake in the centre of each and loop the bulbs up to this. Each leading pseudo-bulb must have a separate stake, and one or more in the centre of the pot according to size. This will prevent all possibility of rocking, which is most important, as if this species is collected at the most suitable time—"i.e., just as the growths are matured," roots will be produced some time in advance of the new growth. According as these are encouraged to extend or checked by being snapped off or eaten by insects so will the growth be strong and healthy or the reverse. The plants should be kept well up in the pots, and a very light surfacing of rough open material is sufficient for the first year. A shady position in the warmest house is the most suitable, and frequent light dewings should be given on fine days.

Established plants thrive best in a temperature suitable for *Cattleyas*—viz., 70° to 75° by day in summer and 60° at night, while the minimum for the winter should be 50° . It will be found that all large, robust growing plants such as this *Lælia* do best in spacious structures. The atmospheric conditions as to heat and moisture are less liable to fluctuation than in smaller houses. The

plants, moreover, stand farther from the glass, which is an additional advantage, as less shading will be required.

The best time to repot or surface-dress this species is early in spring. This will ensure the young roots which are then annually produced from the newly matured pseudo-bulbs a fresh and sweet compost to run in. Three parts good peat and one of chopped sphagnum, with a free admixture of potsherds, will suit it admirably. For large plants it is not necessary to shake out all the earthy particles of the peat, simply breaking it up into lumps, varying in size according to the diameter of the pots used. If the leads are kept back as far as possible from the rims, once in three years is often enough to repot large specimens. Smaller plants may with advantage be repotted at least once in two years. Clean pots, thoroughly drained, must be used.

Before the flowers fade the new growths will usually be starting from the base. These will not as a rule be fully matured until the winter is well advanced, so that a long rest is impossible with this species. If it can, however, be induced to rest awhile after the pseudo-bulbs are matured, the ensuing growths will be stronger in consequence. With this as with all other Orchids



FIG. 8.—VANDA KIMBALLIANA.

the natural habit of the species must be studied, and a routine of growth and rest provided, conforming as nearly as possible to that the plants obtain in their own habitat.—H. R. R.

"THE ORCHID GROWERS' MANUAL."

LAST week we had the pleasure of briefly alluding to a masterly work on orchidaceous plants, and before the review appeared in print another important addition to the literature of Orchids came to hand. We refer to that well-known publication, "The Orchid Growers' Manual," by the late Mr. B. S. Williams. The seventh edition of this popular book has just been issued under the supervision of Mr. H. Williams, F.L.S., and in all respects eclipses its predecessors. The first edition was published several decades ago, and since that period marvellous progress has been made in regard to the cultivation of Orchids. In those days they were confined to a comparatively few specialists, but now they are the recognised plants of the million. Under these circumstances it is not a matter of surprise that the literature of Orchids has grown simultaneously, until at the present time their history and management are probably better known to many horticulturists than that of numerous other plants. For this general dissemination of a knowledge of the geographical distribution and the culture of Orchids growers are, of course, indebted in the first instance to the indefatigable collectors, and secondly to those who have laboured to give the public an accurate record of the development which has of late years been accomplished in this phase of gardening.

Like many other good books the seventh edition of "The Orchid Growers' Manual" has increased considerably in size, and we might add importance, inasmuch as for garden purposes it ranks as one of the most useful works that has ever been published. For many years the earlier issues of the book under notice enjoyed a high reputation among orchidologists, and it has been said that not a few growers attribute their success to the perusal of its pages. If such has been the case, and we have no reason to doubt it, many more persons are now likely to benefit by the publication of an enlarged and greatly improved edition. The volume before us is a handsome well-bound book of nearly 800 pages, and a cursory glance is sufficient to show that the revision has been of an exhaustive nature, and carried out in an efficient manner. For the most part the original method of

dealing with the various genera of Orchids is adhered to, and in that point can hardly be improved, but all the latest information on Orchids has been included, while the numerous species and varieties that have sprung into existence during the past ten years are described. Mr. H. Williams, in the preface, says, "We do not aim to instruct botanists, but to assist amateurs by placing before them plain and practical information on a sound scientific basis, so that for the time and pains bestowed on the cultivation of this charming class of plants they may be rewarded by the production of fine specimens, and as a consequence abundant and beautiful flowers." Such results cannot other than accrue if the cultural directions are put into practice, and there is no doubt orchidologists will appreciate the publication of this excellent work.

As in former editions the one before us contains chapters on the erection of Orchid houses, collecting and management of the plants, propagation, making baskets, Orchids for room decoration and exhibition, diseases of Orchids, and numerous other matters of interest to growers. References to figures in botanical and horticultural periodicals are also given, in addition to upwards of 300 illustrations which the book itself contains. A comprehensive index enhances the value of the work, which should be given a place in every horticultural library.

FRUIT REPORTS FROM THE LIVERPOOL DISTRICT.

IN the following notes I have endeavoured to select a few places where hardy fruit is extensively grown, and which will give a fair idea of fruit prospects.

RAINFORD HALL, ST. HELENS.

The earlier sorts of Apples, Lord Suffield in particular, are quite a failure. Some of the later sorts have a fair sprinkling; but they will be a very light crop. The earlier sorts of Pears, such as Doyenné d'Été, Louise Bonne of Jersey, Williams' Bon Chrétien, Jargonelle, and Hesse are well cropped; Marie Louise and others will be rather thin. Plums are fair, notably Victoria. Cherries, dessert kinds are fairly good, Morellos excellent. Gooseberries plentiful. The first blooms of early Strawberries were killed; but President and later sorts are affording good crops.

ALLERTON PRIORY.

Apples here are a thin crop. The best are Lord Suffield, Potts' Seedling, Cox's Orange Pippin, Stirling Castle, Sandringham, Claygate Pearmain, and Cellini. Pears are a moderate crop, the bitter easterly winds cutting them severely when in bloom; Jargonelle, Louise Bonne of Jersey, Durondeau, Beurré d'Amanlis, Beurré Clairgeau, and Clapp's Favourite being amongst the best. Plums have nearly all fallen, with exception of the local variety Halewood. Small fruits are generally satisfactory.

CLEVERLEY, ALLERTON.

Most of the Apples here are grown as bushes and pyramids on the Paradise stock are carrying good average crops. Lord Suffield, Warner's King, Alfriston, Beauty of Kent, and Worcester Pearmain are good. Pears are a full crop, the wall of cordons being the best I have met with this season. Plums on walls, which were carefully protected, are abundant, and there are good crops of small fruits generally. Blackberries are extensively grown here, trained over a long arch of iron trellising; one variety called "Taylor's" is worthy the attention of all lovers of this delicious fruit by reason of its earliness, being ready to gather when all other varieties are only colouring.

CALDERSTONES, AIGBURTH.

Mr. Tunnington nearly always takes a hopeful view of things even in the most adverse seasons. Peaches, Nectarines, and Cherries on open walls are a full crop. Plums are poor; Apricots fair. All the early Pears are a heavy crop; the later ones being in flower at the time of the cold winds and frost are almost failures. The same applies to Apples; but altogether the crop is light. Currants, Gooseberries, and Raspberries are good. Strawberries suffered from the May frosts.

BLACKLOW HOUSE, ROBY.

Apples, culinary varieties, are a very fair crop, such sorts as Beauty of Kent, Whorle Pippin, Hawthornden, Bedfordshire Foundling, Yorkshire and Northern Greenings, Keswick Codlin, and Warner's King being the most abundant. It is the only season I can remember of Lord Suffield carrying a thin crop. Dessert kinds are very light. Pears, with few exceptions, are very good crops, as are small fruits except Strawberries.

COURT HEY, BROAD GREEN.

A noted fruit grower, Mr. Elsworthy, finds Apples a poor crop. Pears, such as Jargonelle, Louise Bonne of Jersey, Beurré Diel, and Easter Beurré a grand crop; but late bloomers, including Marie Louise, are very sparse. Strawberries a fair crop only. Currants and Gooseberries abundant. Dessert Cherries poor, but Morellos above the average.—R. P. R.



ROSE SHOW FIXTURES.

July 19th (Thursday).—Halifax (N.R.S.), Halesworth, and Trentham.
 „ 21st (Saturday).—Manchester.
 „ 24th (Tuesday).—Tibshelf.
 „ 26th (Thursday).—Southwell.
 „ 28th (Saturday).—Bedale.
 Aug. 1st (Wednesday).—Chesterfield.

THE NATIONAL ROSE SOCIETY.

THE TROPHY CLASSES AND MULTIPLICITY OF EXHIBITS.

THE subjects with which I head this letter have been for some time occupying my attention. I have not, therefore, ventured to open a discussion on them and in the manner I do without due consideration, nor have I done so without reference to those most intimately concerned. I long since came to the conclusion that whoever may originally have been responsible for the introduction into the N.R.S. competitions of very large classes of distinct varieties had done nothing to benefit our Society, either in the beauty or in the real merit of the exhibits staged at our shows. It is possible that the original idea and intention was to benefit the professional growers, but if such were the idea some ten or fifteen years ago it does not now apply, as the very large amateur growers and exhibitors of recent years have more usually budded their own plants, and are by no means as useful patrons to the professional grower as the small growers with numbers under 1000, or even under 500 plants. The old Scotch proverb, "many a little makes a muckle," suits the position exactly, as it is the very large numbers of growers of small collections who are the real friends of the professionals.

Having now partially explained the relative beneficiary positions of big and small amateur growers to the trade, I proceed to my argument. For some time past I have been aware that the champion amateur trophy class of forty-eight varieties has been a great tax, I might really say a nuisance, to our great amateur growers—it has become a tax to such an extent that it seriously endangers the continuance of several of them as exhibitors at our N.R.S. meetings. The matter, however, does not hinge solely on the point that this monster class is a serious tax, there are other questions closely connected with it—for instance, is there any great beauty or advantage in an exhibit of forty-eight varieties? Does it not, in nine cases out of ten, mean that in such an exhibit there are twelve, eighteen, or twenty-four first-rate or good flowers, but that the "tail" is comprised merely of poor Roses? I speak with the knowledge acquired from an intimate acquaintance with and the personal friendship of several of our greatest amateur rosarians, when I state they one and all agree that it is most difficult even to cut forty-eight distinct varieties on any given day, and simply impossible to cut forty-eight good distinct Roses. Such being the undoubted fact, and it was very patent in the exhibits staged on July 7th at the Crystal Palace, the next question arises, For whose benefit is this unwieldy class of forty-eight varieties retained? Many big amateur growers do not care for it, and the professionals do not gain by it, why then retain it? The only answer which is at all possible is that it is in the position once ascribed—by *Punch*—to Marshal MacMahon when President of the French Republic, of "*J'y suis, J'y reste*," and if this be the only answer which those in authority can give, then the sooner the class is amended, or ended, the better it will be for the future of the N.R.S. as a progressive and going concern. If those who are most directly interested at present in the championship see no reason for the retention of a huge restrictive class, then there can be no *raison d'être* in its continuance in its present form.

Assuming that those most intimately concerned are satisfied, and I know that the majority of the big amateur growers are in agreement, the next question is, What number would best suit the competitors for the championship? This is a point which can be alone decided by an opinion or vote of the majority of big growers, and of those who, although now not in the very highest rank, are yet rapidly forging ahead, and will in time aspire to the championship. My own view is that the number at present staged for the provincial amateur championship—viz., twenty-four distinct varieties—would in all years produce a fine and most satisfactory competition, and anyone who could produce a faultless twenty-four would certainly win; but a faultless box of twenty-four distinct varieties would tax the greatest professionals on their best days. A competition of twenty-four high-class Roses would be a delightful sight, and infinitely preferable to the inferior boxes of forty-eight varieties usually staged. I trust that this question having been broached will be discussed by those directly interested, with the view of having a change in the champion amateur trophy class in next year's schedule.

MULTIPLICITY OF EXHIBITS.

I am now going to discuss a far more difficult question, and yet one that most intimately affects 99 per cent. of our exhibiting members. I confess that I approach it with the feeling that, even at the risk of being misconstrued, it is one that must be grappled with if discontent is to

be allayed. It is the question of any one member having the power, by his superior climatic position and facilities of growth, and thereby of exhibiting power, of sweeping the board of the majority of our Society's prizes. Anyone who knows me intimately will acquit me of any mercenary personal motive in what I say; but it must be seen that if a few members of the Society are going to monopolise the bulk of the prizes the Society offers, then all zest or excitement even in gaining honour, which is all I seek or care for in the contests, is over.

For three years I have noticed the loophole which has existed in our arrangements, but I have refrained from comment because I hoped that there would be some remedy found without a restrictive policy being requisite; but I see that nothing but restriction can prove efficacious, and I therefore—possibly rashly, certainly boldly—suggest that there must be some restriction placed on the number of prizes any member can take or compete for at one meeting. I have no intention of entering into minute dissection of my meaning; but "he that runs may read," and it is a matter of notoriety that the bulk of the prizes, not only proportionately but actually, in 1893 and 1894 were taken by very few members of the Society. I do not say I blame anyone for taking advantage of what is open to him, but I do say most unhesitatingly that it is very bad for the Society that matters are so arranged, and also that it causes much discontent.

No doubt, the question at once arises, What do you propose as a remedy? The rule exists in many Rose and horticultural societies that only three prizes can be gained on any one occasion by a member. Those who belong to the societies I refer to do not dream of questioning the propriety of the rule, which is, in fact, a most wholesome one, as it primarily prevents greed, a sin that grows on anyone of us who gives in to it. I, therefore, intend to propose at the annual meeting of our Society next December that at future Rose meetings no amateurs shall be allowed to exhibit for more than the trophy classes and four other classes in whichever division they may elect to exhibit, and if the gentlemen who are trade growers agree with me in this matter (and I appeal to them and amateurs to give their candid opinions openly, and under their proper signatures, as I detest anonymous letters, feeling that if a man has any backbone he should stand up and fight under his name, and not shirk responsibility by initials, pseudonyms, or anonymity), I suggest that they shall also come to some similar decision as to their exhibits. We want our Society to be anything but a monopoly for a few, and it strikes me forcibly that unless some change be made there is a tendency to drift into that most undesirable and evil position.

ROSES AT HITCHIN.

The meeting of the Hitchin Horticultural Society took place on Wednesday, the 11th inst., in a pretty field close to the town. Hitchin in a rosarian's mind is associated with the name of Mr. Lindsell, who lives nigh thereto and acts as Honorary Secretary of the local Society. The show was a success, as although the entries seemed hardly so numerous as last year, the quality of the flowers was good. The professional growers supported the meeting well, Messrs. Benjamin Cant, George Paul, Harkness, Burrell, and Burch sending flowers. In the class for forty-eight distinct varieties Mr. Benjamin Cant staged a very fine exhibit, one that was quite up to even this great rosarian's high standard. The second box, staged by Mr. George Paul, jun. (Paul and Son), was beautifully fresh, and the arrangement of colouring decidedly meritorious and in good taste. It is very pleasing to see Mr. Paul's flowers this year showing promise of even greater results in the future than he has hitherto obtained in a long series of successes in the past. The third place was gained by Messrs. Harkness, who have not reached their highest form; but, as usual, the Roses in their boxes were exhibited with the perfect finish for which this firm is renowned. Mr. Burrell was a very close fourth; his box of flowers, although possibly a shade smaller in size than the other exhibits, would certainly have gained the first prize for arrangement, the variation of light and dark flowers being managed with great skill and taste. Messrs. Burch were fifth with good but small flowers. Not one of the exhibits could have been called inferior, and, in fact, they were one and all most creditable to the exhibitors. The other exhibits of the professional growers were for twelve flowers of one variety, the prizes for dark Roses being gained by Mr. B. R. Cant, who showed two good boxes of Ulrich Brunner and Marie Baumann; the other exhibitors being Mr. George Paul, who showed a very taking box of Victor Hugo, which has not been a satisfactory Rose this year, and Messrs. Harkness, who staged Alfred Colomb. For light Roses Mr. Benjamin Cant was again first, showing a fine twelve of Mrs. John Laing, which is the light Rose par excellence of 1894.

In the amateur classes there were many exhibitors. It being generally known that Mr. Lindsell had suffered severely from the frosts of May probably induced a stronger competition than last year. Notwithstanding that his plants are only recovering from their semi-annihilation Mr. Lindsell showed good flowers, but Mr. Edward Mawley of Berkhamstead, in this class, caused the surprise of the meeting by taking the first place, winning in a close contest with a very pretty and good box of Roses, well staged. In his exhibit amongst other high class Roses was a very fine Mrs. John Laing. Mr. Lindsell was second, his most remarkable flowers being an excellent Mrs. John Laing and a Mrs. Sharman Crawford, the latter a really good specimen of Messrs. Dickson's beautiful new pink flower—one of the gold medallists of last year. Mr. Lindsell also had Messrs. Dickson's gold medal Rose, Marchioness of Londonderry in his box. Mr. Parker of Hitchin was third, his Roses being good, he obtained the N.R.S. medal in this box for a good

Horace Vernet. Those unplaced were Mr. Gurney Fowler, Mr. Jackson of Bedford, and Mr. R. E. West of Reigate. For Teas Mr. Parker of Hitchin worthily obtained first place, his box of twelve being one of the very best I have seen this season, fully seven of the flowers being of unusual merit in a bad season for Tea Roses; he was, however, surpassed in respect to the best Tea (and best flower in all the show) by Mr. Jackson of Stagsden Vicarage, Bedford, who won with a Catherine Mermet, which at any show I have seen this year would have taken the medal, it being, I think, even a shade better than Mr. Burnside's Cleopatra at Windsor. Mr. Lindsell was placed first for Roses of one variety, showing a very beautiful box of Mrs. John Laing, of which Rose I think there were several other boxes staged.

There was nothing otherwise remarkable in the Rose contests, but the gem of the whole show at Hitchin was an exhibit of herbaceous flowers sent by Mr. Burrell of Howe House Nurseries, Cambridge, which for finish and perfection of every variety of flower staged was simply superb. It was the admiration of all beholders, and quite eclipsed those of Messrs. Paul & Son and Messrs. Harkness, both celebrated growers of perennial flowers. The hospitality of the Hitchin Society was extended to a large number of exhibitors and to the judges. A similar courtesy was shown at Bearton by Mr. and Mrs. Lindsell. All rosarians hope that in another year the Bearton Roses may again be seen in their hitherto invincible form.

WOODBIDGE SHOW.

From Hitchin I travelled to Woodbridge, passing the great Colchester home of Roses on my way thereto. The show at Woodbridge was held in the beautiful Abbey grounds. This meeting is looked on with great pride by the local inhabitants, and on our arrival we saw bunting flying from many windows, and the parish church bells welcomed us with a joyful peal. No more picturesque place for a show could possibly be conceived, Mr. Carthew's pleasure grounds being on a beautiful slope, and the trees numerous and varied. The great Essex and Suffolk amateurs and professionals always exhibit well at Woodbridge, and the competitors put forth their greatest strength, as they like to show well before the county folk who throng to this meeting in great numbers.

The competition in the professional classes was on this occasion confined to Mr. Benjamin Cant, Mr. Frank Cant, and Messrs. Prior and Son of Colchester. To the surprise but, nevertheless, the delight of those who like to see a good firm steadily advancing in merit and position, Messrs. Prior were placed first for the Woodbridge 25-guinea cup; their box was a most beautiful one, and would have done credit in any year to the most famous of our professionals. The following varieties were admirably represented—Back row: Her Majesty, Ulrich Brunner, The Bride, Xavier Olibo, Madame Eugène Verdier, Grand Mogul, Mrs. J. Laing, Marie Baumann. Middle row: A. K. Williams, Niphetos, G. Pigneau, Caroline Kuster, Duchess of Bedford, Maréchal Niel, Victor Hugo, Baroness Rothschild. Front row: Ernest Metz, Prince Arthur, Madame de Watteville, Horace Vernet, Marie Verdier, Reynolds Hole, Duchesse de Morny, Alfred Colomb. Mr. Benjamin Cant was second with a splendid exhibit, and Mr. Frank Cant third, his flowers were a shade off their best. I was glad to see both these gentlemen warmly congratulating their victorious Colchester opponent, who certainly deserved his success; it is the true spirit of rivalry! For forty-eight varieties Mr. Benjamin Cant was first and Mr. Frank Cant second, and in the trebles Mr. Benjamin Cant, Messrs. Prior & Son, and Mr. Frank Cant were placed. For Teas Messrs. Prior took first place, and Mr. Frank Cant second.

The amateurs' exhibits are usually looked forward to with interest at Woodbridge, but on this occasion the weather and other causes prevented as good a competition as usual. Mr. Foster-Melliar obtained the prize for twenty-four varieties, showing a good box with large even flowers. For twelve Teas Mr. O. G. Orpen, who won firsts nearly all along the whole line of the show, was first, Mr. Berners second, and Mr. Foster-Melliar third. There were several excellent Roses in all these three boxes of Teas, Mr. Orpen having good specimens of Madame Cusin very fresh and highly coloured, Maréchal Niel and The Bride. Mr. Foster-Melliar had very fine flowers of Souvenir d'Elise and Comtesse de Nadaillac. Mr. Berners had an even and good box, but with no exceptionally large flowers. In the contests for six of one variety Mr. Berners was first for fresh flowers of Merveille de Lyon, and Mr. Foster-Melliar second with large Ulrich Brunner which at ten o'clock would probably have been an easy first. In the class for six Teas Mr. Foster-Melliar was first with large and good flowers of Souvenir d'Elise; Mr. Orpen second with rather rough specimens of Souvenir d'un Ami. The local classes were not well filled, but there were some good boxes staged.

The competition in the classes for table decoration, bouquets, baskets, and buttonholes was very large, and the exhibits were much above the average in quality. The first prize for a centre table arrangement of fruit and flowers was gained by Lord Rendlesham for a beautiful stand of Orchids with Maidenhair and Asparagus Fern, and nine or ten varieties of fruit. There were six competitors in the class for centre table decoration of wild flowers and Grasses, and the winning stand of Miss Kemp of Woodbridge was a most tasteful arrangement of Poppies, Forget-me-nots, and Water Lilies, with Grasses and fine Rushes. A still larger number of ladies competed for the prizes in the class for centre table decoration of cut flowers (not greenhouse), and the first prize was gained by Mrs. Orpen for a very light and tasteful stand of pale pink Sweet Pea with Gypsophila and Maidenhair Fern. The first prize in the class for dinner-table decoration with stove or greenhouse flowers

was easily won by Miss Dudley for a charming arrangement of pale pink and salmon Begonias. The bouquets, both bridal and ball-room, were very lovely, the first prizes in each class being gained by Mrs. Orpen, and this lady also carried off the premier awards in the classes for buttonholes, sprays for ladies' dress, and posies.

After the judging had been completed—and although a labour of love it was by no means a sinecure, which is evident when I mention the fact that my colleague (Mr. Burrell of Cambridge) and I had to go through forty-three classes of one sort or another, some requiring careful consideration, and that Mr. Barron of Chiswick and Mr. Wright had equally laborious tasks—Mr. Andrews, the local Secretary, entertained several exhibitors and judges in the most kind and hospitable way, and I would here wish to tender my acknowledgment of Mr. Andrews' great courtesy and attention, as well as to warmly congratulate him on the success of his efforts to please everyone interested and ensure the welfare of the show. I have no doubt from the numbers present that this result was achieved. The fine band of the Suffolk Regiment played a good selection of music, which seemed much appreciated by the large attendance from the countryside.

From Woodbridge we accompanied Mr. Foster-Melliar to his home at Sproughton, and had the pleasure of spending that afternoon and night in his rectory with its sweet surroundings.

Everyone who is a rosarian of any standing knows the Roses of the Rector of Sproughton, but it is not everyone who has been privileged to see him at home amongst his flowers. I was delighted with my visit, and also with the Roses and other refining influences with which the Rector is happily surrounded. Long may he be spared to enjoy them! —CHARLES J. GRAHAME.

[Another correspondent who was at Woodbridge says, "The show in all departments was the best ever seen there, fruit and vegetables being as meritorious as the Roses and table decorations, as were some of the plants, notably tuberous Begonias. The Society is well supported, and the shows widely appreciated. Mr. Andrews and his Committee work with zeal, and deserve the success they achieve."]



EVENTS OF THE WEEK.—The events of horticultural interest to take place during the ensuing week include, as mentioned in our last issue, the Rose and Pink exhibitions at Manchester Botanical Gardens on Saturday, 21st inst. On Tuesday, 24th inst., the Committees of the Royal Horticultural Society will meet at the Drill Hall, James Street, S.W., and a special general meeting of Fellows will be held on the same day at 117, Victoria Street, S.W. The National Carnation and Picotee Society will hold a southern exhibition in the Drill Hall on the 24th, in conjunction with the meeting of the Royal Horticultural Society. A few Rose shows remain to be held, and a list of these appears on another page.

THE WEATHER IN LONDON.—The past week has again been characterized by changeable weather, showers being of frequent occurrence. The temperature has been lower than the average. On Monday it rained more or less all the day, but Tuesday was comparatively fine. Wednesday opened dull, but the sun shone as the day advanced.

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Society will be held in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday, July 24th, when the National Carnation and Picotee Society will also hold its annual exhibition. At 2.30 a special general meeting of the Fellows will be held at the offices, 117, Victoria Street, to consider the adoption (or otherwise) of a new bye-law relating to life subscriptions. At 3 P.M. a paper on "Filmy Ferns" will be contributed by Mr. J. Backhouse of York. The Council would be grateful to growers of these beautiful Ferns for living specimens.

ALLOTMENT FLOWERS.—Rarely has a prettier official use of flowers grown on allotments been made than was seen on the occasion of the official opening and presentation of prizes at the first exhibition of the produce of the Richmond Corporation allotments, held on the ground on the 14th inst., when the Mayor of Richmond and Mayoress attended in the afternoon to open the show. A most charming bouquet collected from the allotment gardens by Mr. W. Brown, the Richmond florist, was presented to the Mayoress, and in the evening an equally charming one was presented to the wife of Mr. Alderman Pillans, who so very gracefully presented the prizes. Such handsome bouquets were quite unique, and were made up by Mr. Brown with exquisite taste.

THE NATIONAL PINK SOCIETY.—The fifth annual exhibition of the northern section of this Society will be held in the Botanical Gardens, Old Trafford, Manchester, on Saturday, July 21st, in connection with the annual exhibition of Roses.

THE GARDENS AT HAMPTON COURT.—Although at these popular public gardens warmth and sunshine is much needed, as is the case generally, yet there is already a very beautiful display of bedding furnished, and every week this display increases in effect. Some regard to the prevailing taste for carpet beds is still shown, and the balloon pattern, which was so much admired last year, is now transferred to the extreme end bed, near the river. Mixed beds are well filled and very gay. Very pretty also are the combinations with silver and bronze-leaved Pelargoniums, and Violas. Fuchsias are largely used again, and Begonias, though later than usual, will be very attractive presently. The grass and trees are delightful. The gardens will certainly be a very popular resort this summer.—D.

BEDDED-OUT COCKSCOMBS.—Some seven years since Mr. Barron had sent to Chiswick a superbly coloured dwarf Cockseomb under the name of Glasgow Pride. It perhaps does not differ from other similar strains in commerce, but the fact illustrated is that seed saved from the strain from year to year has kept so true to character that the non-bedded out plants are as alike as if all cast in a mould. The combs are massive and of the richest blood crimson, the plants being from 9 to 10 inches in height. In such a position they look much more pleasing than when standing in pots in a greenhouse, where the pretty pyramidal Celosias are always so charming. These dwarf crimson Cockseombs would be most effective set in a carpet of white Violas, if to them were added a few pink or rose Begonias.

OLEARIA STELLULATA.—In writing of this beautiful dwarf shrub under the name of *O. Gunniana*, under which designation it is generally sold, I mentioned that it had proved quite hardy here. I am thus surprised to hear from Mr. W. E. Gumbleton that it had been destroyed in his garden at Belgrove, County Cork, by the frosts of last winter. It is unfortunate that this should have been the case, as it raises grave doubts in one's mind of its capabilities for general gardening. The winter of 1892-3 was the most severe we have had here for years, and destroyed several plants which had stood for some years and had been considered hardy. The *Olearia* was, however, untouched, and this year also was uninjured. I am much obliged to Mr. Gumbleton for so kindly writing me.—S. ARNOTT, *Dumfries*.

NATURALISING FLOWERS.—In the *Journal of Horticulture* for June 21st there is an interesting article by "E. K., Dublin," on naturalising flowers. I have often thought that much might be done in that way, and have tried it in a small way myself. The plant known as Creeping Jenny (*Lysimachia nummularia*), often seen hanging from pots and boxes in London, does not grow wild here, though it flourishes most luxuriantly a few miles off. I have planted it on various banks, and am pleased to see that in some places it grows well and spreads, especially where the subsoil is clay. The Foxglove, again, which in some parts of England is so plentiful and ornamental, does not grow wild about here. I have sown the seeds in many places, and have been pleased to see the young plants grow up, but as soon as they come into flower some labourer sees them and digs them up to plant in his garden, so that I fear the naturalisation of this plant by me has not been a success.—E. C., *Oakhams*.

DUNDEE HORTICULTURAL ASSOCIATION.—At the monthly meeting of this Association, held recently, a paper was read by Mr. Colin MacKenzie, Warriston Nurseries, Edinburgh, on "Decorative Palms." He said that Palms comprised a selection of plants combining the highest possible utility with the utmost beauty. To dwellers in the tropics it supplied wine, oil, wax, sugar, food and clothing, and material with which to build their rude habitations. Little more than a quarter of a century ago the Palm was comparatively unknown in Britain, except in large public and botanic gardens, but at the present time among a wide range of decorative plants, few were more deserving of general cultivation. Alluding to their culture, Mr. MacKenzie remarked that vigorous-growing varieties when young liked ample pot room, but after reaching a large size the space had to be curtailed, and they could be kept in good condition for a number of years by removing a portion of surface soil and substituting fertile compost. The soil suitable for strong-growing varieties was a good sound loam and sharp river sand, and for the slow-growing, elegant forms, such as *Cocos* and *Geonoma*, some fibrous peat should be added.

— GARDENING APPOINTMENT.—Mr. H. A. Joy requests us to announce that he has left the gardens at Falconhurst, Penrath, to take charge of those at The Heath, near Cardiff, his employer, R. A. Bowring, Esq., having removed from the former place to the latter.

— VIOLAS AND PANSIES AT WOLVERHAMPTON SHOW.—In our report of the Wolverhampton Horticultural Exhibition on page 43 the name of the winner of the gold medal for Violas and Pansies is in error given as Mr. Septimus "Page." It should be Mr. Septimus Pye, florist, Catterall, near Garstang, a comparatively young cultivator, whose exhibits were of a high order of merit.

— A GIANT CHESTNUT TREE.—There are many fine Chestnut trees in this country, but that which M. Ed. André recently described in the "Revue Horticole" is probably one of the largest in existence. The tree is growing on the property of M. le Comte Montais, at Drouilly, and the dimensions are as follows:—Circumference of the trunk at a yard above the soil, 25 feet 2½ inches; height about 70 feet, approximately 70 feet; spread of the branches 214 feet in circumference.

— WIMBLEDON HORTICULTURAL SOCIETY.—The twenty-second annual exhibition, promoted by the Wimbledon and District Horticultural and Cottage Garden Society, was held on Wednesday, July 11th, in the grounds of Draxmont, Wimbledon Hill. In the two salient respects of quality and quantity, this year's show evidenced considerable deterioration, not only upon that of last year, but upon the average standard of the last dozen shows, which was the more regrettable, in that the attendance was probably the largest on record.

— MELON BEAUTY OF SION.—With us this Melon has proved itself to be a useful addition to the numerous varieties already in cultivation. Grown not under the most favourable conditions it has shown itself to be good in flavour, constitution, and appearance. We have cut fruits about 4 lbs. in weight grown in pots 1 foot in diameter, three and four fruits to a plant. The flesh is thick and bright scarlet in colour, while the flavour is excellent. It is handsome in appearance, the outside being of a rich orange colour and very evenly netted. —W. H. W.

— THE HOLLYHOCK DISEASE.—In the *Journal of Horticulture* for March 29th, page 239, there appears a note extracted from the "American Florist," and contributed by Mr. John Clark, Wemyss Castle Gardens, Fifeshire, Scotland, in which he says that he has battled successfully against the Hollyhock disease by syringing with a weak solution of permanganate of magnesia. I have tried at several large chemists in London and elsewhere to obtain it, and they all say there is no such thing made. There is evidently some mistake. I should be very pleased if Mr. Clark could rectify it.—W. S. E.

— SIX GOOD VIOLAS.—In the *Journal of Horticulture* for July 12th, page 31, are some notes on "Violas at Chiswick," which seem to apply more to the miniature or Violetta section, which are of dwarf growth, have very small flowers, and so far as I have seen are not so effective bedding plants as the larger flowered kinds. Still, in cooler districts they are pretty, and are generally strongly perfumed. The writer of the notes asks for the names of "the very best six self-coloured Violas in existence, free and enduring." No person acquainted with Violas can give the names of the six absolutely best varieties in cultivation, because we have so many which are good bedders, and tastes vary; but as I hold that good constitution, close habit, very floriferous and continuous bloomers, with sufficient substance in the flowers for withstanding rough weather, combined with clear self colours free from any dark blotch, and not subject to die off in hot weather, should be the main essentials, then I think that the following six are safe ones to meet the requirements of your correspondent:—Countess of Hopetoun, the best all round white in every way; Bullion, deep rich yellow, and a very profuse bloomer; Wonder, pale creamy yellow, close sturdy habit, excellent; Lilacina, variety "Mauve Gem," bright mauve-lilac, a wonderful bloomer of excellent habit, standing all sorts of weather, a variety not yet known much beyond Birmingham, but a great acquisition; True Blue, the best all round blue tinted variety, of a deep colour, and of close sturdy habit, an early and continuous bloomer; William Neil, always a pretty pink shade, but paler in hot weather, and of an excellent constitution, and of a distinct colour. These are some really hot-weather resisting sorts which can be relied upon. I find that some sorts die in hot weather, while Ardwell Gem, Duchess of Fife, and others are doing so this year. —W. DEAN, Sparkhill, Birmingham.

— BEGONIAS AT ANTWERP.—We are informed that Messrs. John Laing & Sons, Forest Hill, gained the gold medal at the Antwerp exhibition recently for their group of single and double Tuberous Begonias.

— MARTON FLOWER SHOW.—We are informed that the Marton (Yorkshire) flower show will be held on August 8th. Special prizes of £4 and £1 will be given for the largest Cabbages. Messrs. Hogg and Snaith, Marston, R.S.O., Yorkshire, are the Hon. Secretaries, from whom particulars may be obtained.

— THE NATIONAL CHRYSANTHEMUM SOCIETY'S ANNUAL OUTING.—Mr. Owen Thomas writes from the Royal Gardens, Windsor, to say that the members of the National Chrysanthemum Society have permission to see the east terrace flower garden, Windsor Castle, between 9 A.M. and 11 A.M., on the occasion of their visit to Windsor, on the 23rd inst.—RICHARD DEAN, *Hon. Secretary*.

— A NOVELTY AT FLOWER SHOWS.—In your report of Hitchin show last week you omitted to mention the washing competition which, though scarcely coming within the range of a gardening paper, is surely worthy of a short notice in your columns if only as a novelty. It was promoted by Messrs. Lever, Bros., and every competitor was provided with a stool and a bucket and a piece of the famous Sunlight soap. As may have been expected the competition attracted great attention, and created much amusement, though how judgment was passed I am at a loss to know. I am thankful to say I was neither a washer nor a judge, as I am convinced that neither of the tasks could be termed a sinecure. —OUTSIDER.

— SWEET PEA EMILY HENDERSON.—I was very pleased to read the favourable opinion expressed by "E. M." (page 9) on the merits of this novelty. I have grown one row for a trial, and have already formed such a good opinion of it, that I intend to save the whole row for seed purposes. It is certainly the best white Pea for market work, the flowers being pure in colour and of great substance, while the stalks have been grown 18 inches long, an important item where the flowers are grown for cutting. I am not sure the stalks will grow so long under ordinary culture, but by feeding freely with manure this result may always be attained. The other white varieties are smaller in size and more creamy in appearance.—J. B. R.

— TACCA CRISTATA.—This is a handsome stove plant, which is rarely seen or heard of outside botanical gardens. A good specimen of it was recently in flower in a stove at Kew, where its extraordinary looking heads were a source of much speculation on the part of visitors. From a fleshy root-stock spring long-stalked, lanceolate, dark green and purple leaves, not unlike those of Eucharis, but larger and more lanceolate. The scapes are nearly 2 feet long, and each one is terminated by a cluster of small roundish flowers and long filaments, springing from the base of four large conspicuous spathe-like bracts. Mr. W. Watson informs the "Garden and Forest" that the flowers last about a fortnight. Grown in a hot moist atmosphere, and potted in a rich open soil, this plant soon forms a handsome specimen. It is a native of Malaya. Another name for it is *Ataccia cristata*. The order Taccaceæ is closely allied to the Amaryllids.

— APPLES AT CHISWICK.—When at Chiswick Gardens the other day I specially noticed the really wonderful crops of Apples growing on the young trees in the north-west corner of the garden. Most, if not all, these trees are on the Paradise stock, and have been planted at various times during the past ten or twelve years, and comprise most of the best sorts. They are in both bush and very low standard form, but in not a single instance are hard pruned. So far from that being the case the branches rather run out long, loose, and drooping. Mr. Barron's practice is to thin out, but not to shorten back. The result seems to be found in good crops almost every year, that of the present being a very heavy one. Whether under such conditions of training the bloom becomes more robust than is the case with hard-pruned trees, or whether it be that it is somewhat protected from the action of frost in the spring, in any case the result fully justifies the practice, and places it entirely outside of criticism. Oddly enough there are no Peaches on the wall close by. One or two leading gardeners present at Chiswick at the same time told me that whilst they had large crops of Peaches they had no Apples. The causes operating to produce these very diverse results are hard to ascertain or explain. Nature in her extremely varied operations is always furnishing problems that the greatest of experts cannot fully solve. Still I cannot well in the case of the Apples at Chiswick come to another conclusion than that the practice there adopted is the right thing in the proper place.—VISITOR.

— **GMELINA HYSTRIX.**—The genus *Gmelina* consists of eight species of Asiatic trees and shrubs, and is related to *Clerodendron*. *G. hystrix* is the most ornamental of them, judging by a specimen of it which flowered recently for the first time at Kew. According to a correspondent in the "Garden and Forest," it has a stout woody stem, with long slender Bougainvillea-like shoots clothed with bright green ovate or lobed leaves, and bearing drooping terminal cymes of large yellow flowers, which spring from large, ovate, overlapping, brownish bracts. The corolla is tubular and divided at the top into four segments, the lowest of which is much the largest. The plant grows freely in a moist stove. Mr. Goldring, who brought this plant from Baroda, says it is a most useful shrub in Indian gardens, and one which can be utilised there for fences, as it grows quickly and develops strong spines.

— **WILD FLOWERS AT BRIGHTON.**—An interesting department has been started at the Brighton Museum, and it may be commended to the notice of those in charge of similar institutions in other parts of the country, though perhaps some have already anticipated the idea. It is the display of a collection of wild flowers belonging to the county, which are set out with labels giving their names in Latin and in the popular form, as well as the locality from which they have been brought. The flowers are kept in water as long as they will last, and then make way for other specimens. Recently some sixty or seventy different flowers were thus on view. The collection is kept going by voluntary gifts from botanists, amateur and otherwise, whilst professional men who live in the country near Brighton take pleasure in adding to the store. The wild flower table is proving one of the most attractive portions of the Museum.

— **SCOTTISH HORTICULTURAL ASSOCIATION.**—At the recent monthly meeting of this organisation a paper by Mr. E. Waller, embodying the "Diary of a Horticultural Journey from England to Valencia," was read by the assistant secretary. The author, after commenting on the flat districts of France and their products, alluded more particularly to the cultivation of the Orange in the great plain of Valencia, where the finest Oranges in Spain are produced in enormous numbers, and pointed out that the land, which is of a heavy clayey nature, is watered from the surrounding rivers at the expense of the Government, to whom the fruit farmers paid a stipulated rent. This system of irrigation, it was observed, was introduced into the plain in question by the Moors, and it still continued to give the utmost satisfaction. The communication further described the methods of gathering, selecting, and packing the fruit for export to the British market. In the course of a discussion which followed Mr. Mackenzie emphasised the necessity there was for improvement in the system of packing fruit carried on by British horticulturists.

— **THE MANRESA VINE.**—At the present time this famous Vine is a spectacle well worth a visit to see, carrying as it is upwards of 800 bunches of fruit, each composed of well-shaped berries. As is now well known to readers of the *Journal*, Mr. Davis, the grower, has trained it with the rods running lengthways of the structure, and as one stands at the end the sight presented when all the bunches are hanging, as they were a week ago, is such as is likely to be seen only once a year, and that only at Manresa House. The foliage and wood are in the best possible condition, and are destitute of all trace of insect pests of any kind, with the exception of a few leaves in one corner, where a mere suspicion of red spider is noticeable; but it is doomed, as Mr. Davis has determined to eradicate it, and it is almost beyond doubt that he will very soon succeed in doing so. The exact number of bunches hanging on the Vine before cutting was commenced was 852, and as it may interest many readers, the number on each of the seven rods is given. Starting at the bottom of the house, the first rod has 130; second, 122; third, 120; fourth, 132; fifth, 129; sixth, 122; and seventh, 97, making the afore mentioned total. For the sake of comparison, last season's figures are given in the same order. First, 119; second, 108; third, 92; fourth, 98; fifth, 112; sixth, 84; seventh, 93, or a total of 706. The weight of the crop this year will be close on 1000 lbs., which is, as everyone will readily admit, a grand crop for one Vine to carry. The path down the back of the house in which "The Monster" is growing is formed of concrete, and some slight evidence of the strength and vitality of the roots, it may be mentioned that just opposite to where the Vine was originally planted this path was lifted up for a length of nearly 5 feet. To obviate this in the future, three holes, 4 feet wide, have been made through the wall, the roots carefully spread through, fresh soil having been afforded to provide the requisite nourishment, this also having been done in the border on the outside of the wall.

This will doubtless give new life to the Vine, and it is unfortunate that the space at disposal is now completely occupied, or the dimensions of the Vine would in the course of a few years be materially increased. Mr. Davis deserves the heartiest congratulations for his industry and perseverance, for not only did he propagate the Vine himself, but he actually built the house with which it is covered, and this piece by piece as the increasing size of the "baby" demanded. It must not be thought that Mr. Davis devotes all his indomitable energy and exceptional intelligence in looking after his Vine, for such is not the case, as the crops of Peaches and Nectarines, both indoors and out, and the fine condition of the hardy fruit trees and vegetables with which the garden is so well stocked, amply prove.—H. J. [An illustration of the Manresa Vine appeared in the *Journal of Horticulture* of September 10th, 1891, page 229, and a portrait of Mr. M. Davis in the issue of August 24th, 1893.]

— **EUPATORIUM SERRULATUM.**—Mr. W. Watson, in the "Garden and Forest," says—"Eupatorium serrulatum has lately been introduced from Brazil by Mons. E. André, to whose energy horticulture is indebted for many new and useful plants, *Senecio sagittifolius* being one of the most recent. The Eupatorium has long been known to botanists as a shrub about 4 feet high, with ovate, serrated, hairy leaves from 1 to 3 inches long, and numerous terminal compound panicles of bright rose purple flowers, the strongest branches producing heads 6 inches across. It grows as freely and flowers as profusely as any of the Eupatoriums already in cultivation, and no doubt will thrive under the same kind of treatment. For such places as the Riviera and California it will be an acquisition as a hardy shrub. Mons. André informed Mr. Gumbleton, to whom he sent the specimens, that this plant would prove a good acquisition for his garden at Belgrove."

— **DEVON AND EXETER GARDENERS' ASSOCIATION.**—The third summer outing of the members of the Devon and Exeter Gardeners' Mutual Improvement Association took place on Wednesday in last week. A party of fifty persons started at eight o'clock in three well-appointed breaks. The places selected for the day's outing were Haldon House, Whiteway House, Pitt House, and Teignmouth. The drive to Haldon House was very enjoyable. The gardeners and their friends were allowed to visit the house and grounds by the kind permission of Mr. Henry Drew, agent to Mr. T. B. Bolitho, M.P., the owner. Mr. Field, head gardener, acted as conductor. The drive to Teignmouth was a very pleasant one. Soon after five o'clock an excellent dinner was served, Mr. T. E. Bartlett presiding. The day was a thoroughly enjoyable and instructive one, and thanks are due to Messrs. A. Hope and T. E. Bartlett (the Hon. Secretaries) for the manner in which they carried through the whole of the arrangements for the convenience of the party.

— **THE MANCHESTER BOTANICAL GARDENS.—ACTION FOR LIBEL.—FINDLAY v. ARMITAGE.**—In this case last week Mr. Bruce Findlay, curator of the Botanical Gardens, Old Trafford, claimed damages for libel against Mr. Benjamin Armitage, of Sorrel Bank, Pendleton. Mr. Gully, Q.C., M.P., and Mr. Sutton represented the plaintiff; Mr. Shee, Q.C., Mr. M'Keand, and the Hon. John Mansfield were counsel for the defendant. The libel complained of was a letter written by the defendant and published in the "Manchester City News," as follows:—"Where are the exhibits of the Botanical Gardens? A large amount of money has been spent on expensive houses for the culture of Orchids and other plants, and what is the result? Nothing worth looking at, and the poor plants dying for lack of proper attention, or, as I fear, for want of cultural knowledge. On Saturday last I and a Manchester authority paid a visit behind the scenes—I mean the nursery—and found destitution on every hand; expensive Orchids dying for want of proper culture. The only bright spot is the fernery, the occupants of which will grow in spite of the gardener if you only turn the tap on. It is very sad to contemplate. The number of subscribers has fallen off and nothing but bankruptcy stares these gardens in the face. I hope the Council will at once seek a remedy." This, Mr. Gully submitted, was a distinct attack on Mr. Findlay. As to the financial position of the Gardens, it was not what Mr. Armitage represented. When Mr. Findlay came to the Gardens there was a debt of £12,000 upon them. To-day, although the expenditure had been large—the debt was reduced to £5,000. The value of the property had in the meantime increased enormously, standing now at about £30,000. The position of the Society, therefore, was a good one, a fact due in a large measure to the exertions of Mr. Findlay. Messrs. Leo Grindon and W. Elphinstone gave evidence in

support of Mr. Findlay's abilities, both being of the opinion that the Botanical Gardens of Manchester could compare with any in the country. The Judge, in summing up, said that the management and condition of the Botanical Gardens was, in his opinion, a matter of such concern to the citizens of Manchester as to warrant discussion in a local paper as a matter of public interest. If what was said was fair criticism, though it might even reflect on an individual, no action lay. But it must be criticism. If instead the occasion were used to malign an individual there would be cause for action. The questions for the jury were—(1) Did they think the words used were in their ordinary sense defamatory; (2) did they apply to the plaintiff; and (3) if they did apply to the plaintiff, did they think the defendant had exceeded the bounds of fair criticism? The jury found for the plaintiff and awarded him £25 damages. In the action of Findlay v. The "Manchester City News" Company, Limited, arising out of the publication of Mr. Armitage's letter, judgment for the plaintiff was given by consent for 40s. and costs.

— PEARS ATTACKED BY CECIDOMYIA (DIPLOSION) PYRIVORA.—The Rev. E. N. Bloomfield, Guestling Rectory, Hastings, writes in "Science Gossip":—"This pest has been very destructive in my garden this spring, having destroyed almost the whole produce of some of my Pear trees. The kinds which have been most attacked have been Marie Louise, Catillac, and Josephine de Malines, though other kinds have not been spared. The insect which causes the injury is a very small fly of the same family as some of our most destructive pests. The affected fruits may be detected very early; the fly lays its eggs in the blossom, and the little Pears thus attacked swell more quickly than the sound fruit, and instead of being Pear-shaped are spherical and bloated. On being cut open a number of small larvæ will be found in the core. When they are mature they leave the Pears, and falling to the ground bury themselves and remain quiescent until the spring. The life history of this insect has been very carefully investigated by Professor Riley in America. Although in all cases the infected Pears are misshapen and bloated, yet in some varieties they are small and inconspicuous, as, for instance, in the Josephine de Malines, while in others they are much larger, and in the Catillac especially they are very conspicuous. I believe this pest will be found to be common, but as the injured Pears soon fall off it is doubtless often overlooked. In gardens where the trees are dwarfs or espaliers it is easy to check or even get rid of this pest. The distorted Pears should be collected and burned, or effectually destroyed. This should be done not later than the middle of May, since soon after that time the larvæ leave the Pears and bury themselves in the earth."

— AN AMERICAN'S OPINION OF ENGLISH FLOWER SHOWS.—A New York correspondent writing to the "Garden and Forest" gives his opinion of the recent Temple Show and the summer exhibition of the Royal Botanic Society, both of which he visited. After remarking that owing to the exhibits being arranged in five separate tents, and consequently the effect was not so magnificent as may be sometimes seen in Madison Square Garden, he says:—"On the other hand, the Temple show was altogether superior to our American exhibitions, not only in the number of plants exhibited, but in their variety and in the general cultural skill they showed. The exhibition was specially strong in Orchids. Hardy plants, in pots and pans, as well as their cut flowers, were shown in such profusion as I had never seen before at an exhibition, although there is no reason why these should not be a feature of equal prominence in our own shows. I have seen cut Roses in our exhibitions which have equalled any in the Temple show, but never anything like the number and variety of Roses in pots shown by the great growers. Every group showed admirable culture, and many of them were most tastefully arranged. But perhaps the best example of cultural skill in the whole show was a group of some thirty Clematis, trained to balloon frames, all in perfect form, in the best condition, and just at their best bloom, not smothered with flowers, but each one bearing a sufficient number to be seen to the best advantage against a background of healthy leaves. The only group of plants which equalled these in perfection of culture were some Fancy Pelargoniums, which I saw a few days later at the exhibition in Regent's Park. It seemed to me an evidence of the healthy condition of horticulture in London and its vicinity that so complete and satisfactory an exhibition as this could be held within a week after the three-days show at Temple Gardens and command so large an attendance, in spite of unfavourable weather. There was something like a crush of visitors at both exhibitions, and the attendance would have been still larger if the exhibitions had been more effectively advertised. Indeed, I afterwards met many Americans,

not to speak of English men and women, who would have enjoyed the Temple show if they had known it was to take place. On the morning after the opening day the principal papers gave extended, and, as a rule, intelligent reports of the show, but this hardly made up for a lack of generous preliminary advertising." It is interesting to know what those "on the other side" think of our flower shows.

— NEWCASTLE HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.—The monthly meeting of the Newcastle and District Horticultural Mutual Improvement Society was held on Wednesday in last week in the Wood Memorial Hall, Newcastle-on-Tyne, Mr. Bernard Cowan, F.R.H.S., in the chair. After the reading of the minutes, which contained a vote of sympathy with the Chairman in his recent accident, a most interesting agenda paper was placed before the members by the Hon. Secretary, Mr. J. Elliot, jun., Jesmond Dene, this including a paper by the popular Vice-President (Mr. Murray, of Oakwood Hall, Wylam), entitled "Gardeners Past and Present, and Their Relation to Other Tradesmen." The essayist in his paper gave a brief *résumé* of gardening from the time of Adam down to the Elizabethan period. Modern gardening, more particularly carpet bedding, received from the northern orchidologist a severe degree of censure, as imparting too much of mechanism, without strictly adhering to the higher ideal of Nature. The paper was well received, and a hearty vote of thanks was awarded to the able essayist. The naming of plants then followed, which forms one of the most instructive features of the Society's programme. Many curious herbaceous, stove, greenhouse, and other plants were named.

THE GARDENS AT OLYMPIA.

AMONG the many pleasure resorts of the metropolis, and with which horticulture is connected, Olympia at Kensington stands out prominently. The attractions here are of a varied and unique character, a representation of Constantinople being the leading feature, but the gardens are most pleasing and enjoyable. These were designed and planted by Messrs. J. Laing & Sons, the well-known nurserymen of Forest Hill, and whom the directors of Olympia invited a number of representatives of the gardening press to meet there on Monday last for the purpose of viewing their handiwork.

Considering the space at disposal and the general surroundings, Messrs. Laing have certainly achieved a marvellous success, and are to be congratulated on the manner in which the grounds are embellished. It is obvious that no expense has been spared in the undertaking, and being in able hands, the result is a most beautiful and attractive promenade. This is about a quarter of a mile long, the walk being remarkably firm and well gravelled. On both sides serpentine beds have been constructed, these varying from 3 to 6 feet in width, and they are very effectively planted. On one side 400 Lombardy Poplars, averaging perhaps 20 feet or more in height, are established, these forming a magnificent background and screen. In front of these is a wealth of evergreen and deciduous trees and shrubs, comprising Cupressus, Hollies, Rhododendrons, Copper-leaved Beech, and others, the margin being devoted to summer flowering plants. Among the latter are Zonal Pelargoniums, Heliotrope, Ageratum, Lobelia, and Pyrethrums, all planted to produce a mass of blossom. The corresponding side is devoted to similar plants, and the walls of the building are being rapidly covered with the Virginian Creeper, which adds a charm to the surroundings. All the trees and shrubs were planted during the past spring, but they are growing vigorously and present a clean, healthy appearance, and are as fresh and bright as if grown in the country.

In the centre of the promenade, over which a series of crystal arcades, illuminated with gas, have been formed, is a carpet bed that will attract the attention of thousands of visitors. The bed is about 14 feet in diameter, filled with Mesembryanthemum, Alternantheras, Lobelia, Echeverias, and similar plants. In the centre is a gigantic figure of a peacock, cleverly designed and planted with blue Lobelia, Pyrethrum, and Alternantheras, the colours being brought out in an excellent manner. This style of bedding is common enough in America, but is seldom seen in England, and is therefore a novelty. Other beds are devoted to double and single Begonias, splendid varieties, flowering profusely. Here and there the walls of the building are covered with virgin cork, pockets being filled with flowering plants. The doors of the "emergency exits" are likewise covered, and so places what would otherwise be unsightly are made to appear beautiful. Well formed grottos, too, are noticeable, and on these rock plants are flourishing, whilst at the base of each may be seen aquatics in striking contrast. Suspended from the crystal arcades mentioned above are no less than 400 baskets of flowering plants, which naturally add beauty to the scene. Altogether the gardens at Olympia have been admirably planned, the utmost being made of a limited space, and Messrs. J. Laing & Sons, with the garden manager there, Mr. Bick, may well be proud of the work accomplished.

ROYAL HORTICULTURAL SOCIETY.

JULY 10TH.

SCIENTIFIC COMMITTEE.—Present: Dr. D. Morris, C.M.G., in the chair; Mr. McLachlan, Mr. Blandford, Dr. Russell, Prof. Müller, Mr. Wilson, and Rev. G. Henslow, Hon. Sec.

Calochortus, vars.—Mr. Wilson exhibited specimens remarkable for their fine growth and varieties of colouring. They were *C. venustus*, *purpurascens*, *C. v. roseus*, and a pure white form. References to descriptions and figures of *C. venustus*, *Benth.*, a native of California, will be found in Baker's "Revision of the Genera and Species of Tulipeæ," Journ. Lin. Soc. xiv., p. 302. Mr. Wilson observed that this species was drawn by Mrs. Duffield about twenty-five years ago, and reproduced in "The Garden." It is also figured in Trans. Hort. Soc. ii. (1) [1835], t. 15, fig. 3. Mr. Baker places *Calochortus* as the sixth and last genus of the tribe Tulipeæ, enumerating twenty-one species from Mexico and Western North America.

Sugar Cane Diseased.—Mr. Blandford reported on specimens received

having originated in Malta, will be found in the "Proc. Lin. Soc.," 1893, page 31.

Centaurea spathulata, Zeraph, 1827 (*C. crassifolia*, Bert, 1829).—Mr. Henslow also brought a living plant in flower of this remarkable species, which is the only truly indigenous plant known to Malta. It has entire spathulate fleshy leaves, and heads of rose-coloured florets. It is found in the valley known as "Wied Babu," in Malta, and also in Gozo, growing in the cracks of the rocks.

THE FRUIT COMMITTEE AT CHISWICK.

MEMBERS of the Fruit Committee met at Chiswick on July 13th inst. to examine Tomatoes and Peas. There were present Messrs. Balderson (Chairman), Pearson, J. Smith, Norman, Wythes, Hudson, Glen, Bates, A. Dean, and J. Wright. Tomatoes were found growing in 10-inch pots ranged on each side of the centre walk in the large span house. There were large numbers of varieties, but only few showed special merit, and none very particular merit. Three marks were awarded to Golden Princess, large yellow; Golden Nugget and Sutton's Dessert, red, both small fruited and very prolific; Conference, still one of the very best reds; Comet (Wrench), medium size and very free; and Excelsior (Corbett), free cropping and handsome. The following had two marks awarded for the present:—Sutton's A1, Brock's Freedom, smooth round red; and Turner's Prolific, a large red.

Under a heavy shower the members then adjourned to the edible Pea quarter, where very large numbers of these vegetables were growing. The general opinion was that there was far too much of sameness, not only between new varieties, but between old and new, and that improvements were very hard to find. Only distinctly new or not previously noticed varieties were marked, all having three—viz., Eckford's The Don, tall, fine pods; and Critic, also tall and a fine podder; Veitch's 365, 4 feet, a good variety; Hughes' Fertility, 4 feet, very prolific; and Laxton's J. Howard, an excellent Ne Plus Ultra form, and of good flavour. Some of the sorts tried as new need even more hard selecting, but the great feature of so many is sameness.

RUBUS JAPONICUS TRICOLOR.

MESSRS. J. VEITCH & SONS, Royal Exotic Nursery, Chelsea, exhibited sprays of *Rubus japonicus tricolor* at the Drill Hall, Westminster, on the 10th inst., which appeared to attract more than ordinary attention. For decorative purposes this distinct Bramble is undoubtedly valuable and worthy of the first-class certificate awarded for it by the Floral Committee of the Royal Horticultural Society. As shown in the illustration (fig. 9), the leaves are prettily marked and varied, some being white tinted rose, others green and white. The stems are well coloured, which enhances the appearance of the sprays.

LILIUM THUNBERGIANUM HORSMANI.

THE accompanying illustration (fig. 10) represents a bloom of *Lilium Thunbergianum Horsmani*, a very distinct variety, exhibited by Messrs. R. Wallace & Co., Colchester, at the meeting of the Royal Horticultural Society, held at the Drill Hall, Westminster, on the 10th inst. The plants shown were dwarf in habit, and each bloom nearly 7 inches in diameter, being very dark in colour, approaching a deep maroon red, covered on the inside with black spots. When compared with flowers of the type the rich colour of the form now under notice is most striking, and were the bulbs to become plentiful *L. Thunbergianum Horsmani* would probably be extensively grown. A first-class certificate was awarded Messrs. Wallace & Co. for this plant on the above-mentioned occasion.

MALMAISON CARNATIONS AT RANGEMORE.

THE Malmaison Carnations at Rangemore have been mentioned in the discussion on syringing and diseases to which these plants are subjected, and I wrote, judging from the plants sent here that it would be impossible to find cleaner and better grown examples. My friend Mr. Bennett sent me an invitation to see his plants, which I gladly accepted. Well, they not only equalled my anticipations, but far exceeded expectations in their cleanness, health, vigour, and luxuriance. Malmaison Carnations are well grown at Rangemore; the plants are not small sickly yellow specimens, but large ones, strong, and of the darkest shade of green. Several span-roofed houses are devoted to their culture, and Mr. Bennett is now building another structure 80 feet in length and 19 or 20 feet wide. I will now give some idea how the plants are raised and the treatment they receive. If I give any small particulars wrong I can only hope that Mr. Bennett will correct me, because I am writing entirely from memory.



FIG. 9.
RUBUS JAPONICUS TRICOLOR.

from Barbadoes. They were badly diseased with the fungus, *Trichosphaeria sacchari*, and in some cases bored by the beetle *Sphenophorus*. This disease is as yet only known to occur in Mauritius, Java, and Barbadoes. Dr. Morris observed that it first appeared in Barbadoes and was called the "rind" disease; it then occurred in the roots in Java, being thought to be distinct from the former; but the two forms ultimately proved to be one and the same. A summary of the nature of the disease is contained in a letter to the Colonial Office, "Kew Bulletin," June, 1894, pp. 175-176.

Photos of Malta.—Mr. Henslow exhibited some photographs illustrative of different features of Malta, including cultivated areas, uncultivated hill-tops, &c., and ancient river valleys known as "wieds." The only trees of cultivation in the fields are Carobs, Figs, and *Opuntia Ficus indica*, of which last there are four varieties—the "blood," the "white," the "seedless," and the "yellow."

Oxalis cernua, Thunb.—He also showed specimens of this ubiquitous and so-called by the Maltese "English weed," introduced by Father Giacinto from the Cape, in 1806. It is remarkable for its prolific multiplication by bulbils, as it never sets seed in the northern hemisphere, the "short-styled" form being the only form known. It has elongated slender rhizomes with rod-like aquiferous appendages, by means of which it can climb up among the loose stones of the walls, or descend to great depths among the rubble. A further account of the distribution of this plant throughout the Mediterranean region,

The first house that I saw contained splendid plants, and I said, "Do you layer from these, and at what period of the year?" The answer I received was to the effect that the growths were too weak. I must confess I should have considered them strong enough for me. The plants from which Mr. Bennett propagates were raised from layers last July. There were numbers of these plants producing one large flower stem each, all being remarkably strong. The best of these are repotted, the remainder being turned out of their pots into frames that have produced Potatoes and Violets. After the layers are well rooted they are potted and grown through the winter in a span-roofed house on the side beds not far from the glass. These plants are finally placed into 6 and 7-inch pots, in which I saw them. Some of these plants are reserved for layering and others are placed in 10-inch pots, and it is from the latter that flowers during the winter and spring are obtained; in fact, I think I am correct in saying they are never without the blooms of Malmaison Carnations at Rangemore. All the plants flowering, with the exception of the young stock, are in 10-inch pots.

The compost used for potting is two parts good loam, the other part being made up of peat, leaf mould, and coarse sand. The soil is pressed firmly, and the pot is slightly fuller than one is generally in the habit of seeing. The plants are watered with great care, and no doubt some of the success is due to this attention; they are never allowed to suffer by an insufficient supply, and at the same time they are never over-watered. The aim is to keep the soil in an intermediate state for moisture, as near as it is possible to do so. The plants are not fed by the aid of liquid manures, but when they have rooted abundantly in their pots Clay's fertiliser is occasionally applied to the surface of the soil.

Mr. Bennett does not believe in plunging, and it is not practised only where the side beds do not allow sufficient height for the plants. They are never syringed, only the material on which the pots stand, and even this merely when it becomes dry. In many cases the plants stand upon gravel or wood trellises just above the gravel on the surface of the beds. The atmosphere of the house is cool, airy, sweet, and rather dry. I forgot to inquire whether shading was practised.

In addition to Malmaisons, Winter Cheer appears to be largely grown, a number of plants had fine blooms upon them, while others were being placed in 10-inch pots for winter flowering. These had been propagated by cuttings in the spring, and had stood in cold frames for a time and were being plunged in lengthy boxes filled with ashes for the summer. I may repeat that Carnations are splendidly grown at Rangemore, and so are other plants of which something may be said at some future time. The diseases to which Carnations are subject are strangers to Mr. Bennett. I wish I could say the same.—WM. BARDNEY, *Osmaston Manor, Derby.*

BORDER CARNATIONS AT CHELSEA.

Now that the popularity of the border Carnation is so rapidly spreading, it behoves those admirers of these charming plants to pay a visit to Messrs. Jas. Veitch & Sons, Royal Exotic Nursery, Chelsea, where they will no doubt see many varieties worthy of adding to their collection. At present there is a display of flowers as has not been excelled, perhaps not equalled, at these nurseries during many years. The plants have made strong growth and are throwing numbers of perfectly developed blooms, rich in colour and superb in form. Last year this collection, with many others, was severely handicapped by the drought, and consequently the flowers were not seen at their best; this season they have not had such a formidable foe to contend with, and are as a consequence immeasurably superior. For upwards of a fortnight the sight has been a grand one, and for another ten days it will be worth a long journey to see; but after that the beauty of beds as a whole will commence to pass away, and only the later flowering kinds will remain for the visitor to see and admire. Amongst these latter Winter Cheer must be classed, for at the present time there is scarcely a flower of this variety to be seen, while in the course of a week or two some of the innumerable buds with which the plants are crowded will begin to expand and continue to do so right through the summer and far into the winter months. Equally as floriferous as under pot culture, this is one of the varieties which should be seen in every garden.

So numerous and of such excellent quality are the varieties now in commerce, that a selection likely to meet the tastes of everyone is somewhat difficult to make, but taking as the chief desiderata form of

flower, habit of plant, substance of petal, and scent, a few may be named as standing well above their fellows. Let us first look at the border varieties possessing self, or at least very distinctive colours, amongst the best of which may be named Ketton Rose. This variety is well named, for it is of a true rose colour, with broad petals, forming a grandly shaped flower. The habit, too, is good, and the blooms are borne with great freedom. A charming flower, likely to find favour with many lovers of Carnations, is found in Beauty of Foxhall, the colour of which is a pleasing lively purple. The plant is a very fine grower, dwarf and free, and the flowers are beautiful in shape. For a salmon rose Laurette will be difficult to surpass, which is excellent in contour and freedom of flowers. The broad petalled blooms, borne in profusion, of Florence E. Thoday are of the purest white, and splendid in shape. Another pure white of much merit is Mrs. Donaldson, of



FIG. 10.

LILIUM THUNBERGIANUM HORSMANI.

which the blooms are large, and possessed of charmingly fringed petals. Lothair has satiny-rose-coloured flowers, of which the calyx is, unfortunately, somewhat prone to split. The shape leaves little to be desired, though in point of freedom of flowering there are many far superior.

One of the very finest of the numerous pure white kinds is Mrs. Frank Watts. Sturdy in habit, perfect in shape of bloom, with broad substantial petals, this is a variety worthy of universal popularity. A bright crimson coloured sort is found in Meteor, the flowers of which are borne in very large numbers. If a brilliantly hued scarlet kind is wanted Joe Willet is the one to grow. Freedom of flowering is not the only good point about it, as will be admitted when the fact of the colour not fading under the influence of the sun is pointed out. One of the best Carnations for bedding purposes is the now well-known Border Maid. The plant is very dwarf, extremely floriferous, and the colour of a bright rose, shading with age and the rays of the sun to almost white. Cava Roma, rich maroon in shade, large in size, symmetrical in form, is a really grand variety, and the same may safely be said of the salmon-rose coloured Queen of the Bedders. Ruby cannot be said to be truly named, for the colour is a rich cerise, which, however, fades very much

when fully exposed to the sun. This is unfortunate, for otherwise it is a very fine variety.

A deliciously scented kind is to be found in Maggie Laurie, the colour of which is delicate rose, the flowers being produced very freely. A brilliantly hued variety is the crimson J. L. Toole, the calyx of which seldom, if ever, splits. The plant is of medium height, carries a good number of blooms. Amongst the early flowering scarlets Napoléon III. still finds much favour with growers. Florence has yellowish-buff coloured, medium sized flowers, which are charmingly fringed and freely produced. Clove-scented, and of almost perfect shape, the bright scarlet flowers of Cantab are worthy of more than passing attention. A grand white is Empress, and for a dark crimson Ivanhoe is one of the best. A bed which attracts much attention is filled with Comtesse de Paris, which, as most readers will know, is of a chaste blush white colour, while the fringed flowers of the pure white Mrs. Gifford find numbers of admirers.

Flaked and bizarre kinds are very numerous, are largely represented by excellent forms, among the best of the former being St. Gatien, rose flake, of which the flowers are very large and of good shape, being, moreover, freely produced. Jas. Douglas is a grand purple flake. The plant is a good grower, and the flowers of very fine form and substance, while if another rose flake is desired Thalia will be found free in flowering and symmetrical in shape. True Briton is well worthy of heading the list of bizarres, it belonging to the scarlet division, and being of good shape, as also are the medium sized flowers of Showy, this again being a scarlet bizarre. Queen Victoria is a splendid crimson bizarre of perfect shape, as also is Dr. Cromin, which is very free in flowering, and of excellent contour. Princess Beatrice is the best of the pink and purple bizarres, now in flower. The flowers are fine in every way, and are freely produced. This is all the flakes and bizarres that can be mentioned now, though there are many others equally worthy of mention.

It would not be doing justice to the collection of plants in the Chelsea beds if brief reference were not made to a few of the Picotees. Half a dozen have, therefore, been selected as being fairly representative of the remainder, to particularise the whole of which would take up so much time, without serving any good purpose. As a free blooming, purple-edged variety Mrs. A. Chancellor can only be termed one of the best, so good is the shape of the flowers. Dr. Bryant has large flowers and a crimson edge, but it also is prolific and possesses broad petals of much substance. Floriferous and shapely is the rose-edged Louisa, which is in truth one of the most charming. Chastely beautiful is Grosteen with its thin crimson edges, while among the broad crimson edged forms Dr. Epps must be assigned a foremost position. A grand variety with broad purple edges is found in Admiration. The habit of the plant is very dwarf and sturdy, the flowers being borne with a most pleasing profusion.

Not the least interesting feature of the collection is the freedom with which most of the varieties represented are producing growths, which must be taken as ample evidence of the care and cultural skill brought to bear on the plants by Mr. Weeks, under whose direction they have been grown. In pots the plants are fine examples and are in excellent health, a number of the beautiful yellow Germania forming a sight in themselves worth a visit to Chelsea to see even if there were no others in flower. Let us congratulate all concerned in the success achieved in the cultivation of these charming flowers, which are suitable alike for town and country gardens.—WANDERER.

FLOWERS IN COVENT GARDEN.

(Concluded from page 13.)

THIS competition between the local home grown and the distant and continental flowers, is becoming every year more pronounced, and is especially trying to certain growers. The advantages of climate enable the French and Riviera flower growers to send blooms to this country, grown at little expense in the open air, which compete against similar goods forced here under glass.

It is a matter of opinion whether a certain amount of foreign trade, especially in blooming shrubs, such as the Acacia, and in Ferns, does not encourage the flower trade generally, and whether the earlier produced continental flowers, does not to the same extent create a demand for the same flowers produced naturally in England later on.

Whatever view we take, one thing is certain, and that is, that the foreigner has felt the pulse of his English customer, and will be more and more a rival of the English producer.

One thing the foreign producer of flowers has not yet, and probably never will be able to do, and that is to touch the best grown and choicest varieties of market stuff. Take Tomatoes and Grapes as samples in fruit particularly. What foreign goods of these kinds can equal the home-grown article? (I consider Guernsey goods home-grown). No out-of-door Grapes or Tomatoes can ever equal English hothouse fruit, and for the foreigner to attempt house cultivation would place him on an equal footing with English growers, while his distance from the market would prevent any danger of his competition being ruinous to the home grower. So with our best grown English forced flowers, the Roses, Carnations, Scarlet Pelargoniums, Azaleas, Bouvardias,

Tuberoses, Eucharis, Lilies, and Gardenias; they need fear no rival from beyond the sea. The admirable manner in which they are grown, and the excellent condition in which they are marketed, defies competition. There are so many features in our cut-flower trade, that I may, perhaps, be excused if I overlook some of them. Next to the wondrous succession of blooms, passing in gorgeous array, each in its time and season, like a revolving panorama, from the earliest flowers of spring to the latest Chrysanthemum of autumn, I am much struck with the excellent judgment displayed by the grower in timing his produce to suit the occasion. Take Easter and Whitsuntide festivals for example; no matter when they fall, or how varied the season, there always seems an abundance of specially grown white flowers to meet the occasion.

Perhaps I can best illustrate the growth of this cut flower trade, within my own experience, when I say that ten years or so ago the flower market was never opened during what we call the dull season, *i.e.*, from August 1st to April 1st on the bye-days, Mondays, Wednesdays, and Fridays. What little cut trade there was to do on those days during the winter months was done on the old market stands, letter H. The inconvenience from want of space necessitated its removal—first, into a covered roadway adjoining the flower market, and finally into a portion of the flower market itself. The space allotted to this business has had to be enlarged from time to time, till now about one-third of the market is used for it, and if it continues to grow it is only a question of time how soon it may be desirable to open the whole flower market daily for morning market all the year round.

In speaking of the cut flower trade I must not overlook the out-of-door farming flower grower, whose acres of Wallflowers, Daffodils, Violets, Pinks, Stocks, Roses, Dahlias, and Chrysanthemums are marketed at times in such abundance, often in the open general market. I have seen waggonloads of these goods, sometimes packed in bundles, loose, often in large rounds or hampers, scenting the very air with their fragrance for yards around. These are not unworthy casts-off, but admirably grown blooms. I have known cartloads of Stocks, *e.g.*, fine double-bloomed heads often fit for exhibition in a flower show. Double white Daffodils, this spring, I have known as many as 800 bushels, each containing four dozen bunches, sold by one man in a single morning before nine o'clock, without fuss or bother. Violets in bunches, six small bunches in a market bunch. I have, a few years ago, known as much as £50 or £60 worth sold by one man on a single morning. These were grown under Apple trees. Roses are not so largely grown, but their cultivation is increasing. Moss Roses, Monthly Roses, Général Jacqueminot, and Gloire de Dijon are the chief varieties. Bunches of mixed flowers, ready tied up, are sold in the autumn, and amongst these the Dahlia is conspicuous.

Perhaps nothing is more speculative, and certainly nothing more profitable, than the introduction of a new and popular variety of flower, say Carnation, Chrysanthemum, or Rose. But the public are very exacting in these respects, and demand an attractive size, colour, or scent, while the grower requires it to possess a constitution, habit, and vitality sufficiently to stand the test of continued forcing without deterioration of quality. Perhaps one of the latest examples of success in this line is the Carnation Uriah Pike, one grower of which has at present a daily average cutting of 200 dozen blooms, which he hopes to increase.

Look at the bulbs and seeds we grow and import—Holland, Germany, Japan, East and West Indies, the colonies, every quarter of the globe sends us roots and seeds. One little feature of our home trade must not be forgotten. I mean the humble Moss, Fern, and ornamental foliage and grass so useful and increasingly sought for. Winter and summer spring and autumn, each season sends us its representatives. The tinted sprigs from the early hedgerows, the Primroses, Ivies, and Moss of woodland dells, the brown and yellow autumn-tinted leaves, the berries of Hawthorn and wild Dog Rose, nothing of beauty in Nature is too insignificant for London supply. I think I cannot better conclude my observations than by adding up a morning's items somewhat after the fashion of a market buyer or salesman.

One morning in May—item 268 large vanloads, 114 small loads or barrows of boxes, 370 stands, with every available shelf packed to overflowing; gangways blocked, corners used, out space crammed full; about 300 sellers. Here is a bill for the mathematical inquirer. How many buyers? How many horses and vehicles to take them away? What value? How many acres of glass? How many miles of houses? How many miles of piping? How many tons of fuel? How many casts of pots? How many hands employed to plant, tie, water, cut, and pack them? What capital invested in the trade of the producers only? Say nothing of the shops of the tradesman, or the living of the

coster or flower girl who sells, verily the subject of our varied, continuous, and increasing Covent Garden flower supply is worthy the pen of a Thackeray or a Dickens, and I would some more able pen had introduced it to your notice, and I trust market friends will not fail to supply material to fill any weak spot in the design of carpet bedding I have had the pleasure of planting for your survey.—J. ASSBEE.

DROOPING DISEASE IN TOMATOES.

I TAKE it Mr. F. Williams (page 9) is alluding to the *Phytophthora infestans* when he speaks of the drooping disease in Tomatoes; at least I do not know any other disease which makes the plants droop. I have not experienced the good result mentioned by your correspondent by top-dressing or earthing up the plants, though I have tried it this season. It seems to me almost impossible to outgrow it, for the moment we see a plant drooping brown patches of the fungi can be seen on the stem, showing quite clearly the tissue is destroyed and incapable of taking up or rather passing along further supplies of food. In all probability the earthing up as described by your correspondent would answer, provided the diseased parts were near the roots or low on the stem.

At the present time I have only had ten attacked in a house containing about 400 plants, so I cannot complain of its ravages. I have grown many plants in pots, so that I can always fill a blank space, and my method of procedure is briefly this: when a plant is noticed drooping it is pulled up at once and promptly put in the fire, then one of the large plants in pots is used to fill up the vacancy. By this method no space is lost, and as the plants are large they do not make any noticeable difference in the house. I trust entirely to chemical manures for feeding purposes, because I find animal manure added to the loam causes the plants to grow grossly, whereas by planting out in firm loam a sturdy growth follows, and a good set results from such treatment. Immediately the first truss of bloom sets the feeding commences.

I am under the impression that this particular fungoid pest can be almost avoided by careful and constant attention in ventilating and watering. While a light buoyant atmosphere is maintained very little trouble will be given; but allow the air to become charged with moisture and the ventilators closed for a few hours in the early morning, and the disease will readily appear. I have no doubt spraying with a Bordeaux mixture will prove very helpful where the plants are grown in single rows, so that the work may be done thoroughly, but I question its utility where the plants are grown thickly, as in market culture.—JAS. B. RIDING.

ACHIMENES.

THESE popular flowering plants are never seen even in a second rate condition, without calling forth expressions of admiration at their great beauty and richly coloured flowers. Their profuseness of flowering must ever place them in a foremost position amongst indoor plants, for when seen to perfection they are undoubtedly superb ornaments.

To ensure success in the cultivation of *Achimenes* the corms should be placed in pans of light rich open soil, and started in a stove heat or warm pit. Water moderately until growth has fairly commenced, after which it may be applied with greater freedom. Many cultivators place the corms in the pots in which they are to flower, but as far as my experience goes this method of procedure is totally erroneous, as much better results are achieved when they are started in pans as recommended. When the shoots are about 2 or 3 inches in height the plants may be transferred to pots, pans, or baskets, whichever it is intended to grow them in. If grown in pots eight to ten plants may be placed in a 6-inch pot, and when well established and before they become root-bound they may be shifted into 8 or 10-inch pots, which size will be large enough for ordinary decorative purposes.

As the growths lengthen place a neat stake to each, otherwise there is a tendency of them dropping over, thereby greatly deteriorating the general appearance and value of the plant. Some growers make a practice of pinching the tops of the shoots in order to induce sturdy growth; but such proceedings are quite unnecessary, for by so doing not only is the main shoot upon which the best flowers are invariably obtained removed, but the season of flowering is also very materially shortened. If the process of watering and feeding is carefully and regularly attended to side shoots will be readily obtained as soon as the main leader commences to unfold its flowers. These shoots form a succession to the main growths, extending the flowering period throughout the whole of the autumn and winter. *Achimenes* require whilst growing a tolerably high temperature, combined with a moist humid atmosphere, till such a time that the flowers commence to open, when they may be removed to the greenhouse or conservatory with impunity.

Many of the varieties are admirably adapted for growing in suspended baskets, but where this method of cultivation is adopted it is very essential that rather more than ordinary care should be exercised in placing the plants in the basket. The best way of effecting this end is to line the basket with moss and insert the young plants through it by making a hole with the finger, commencing at the bottom of the basket, and filling in with soil as the work proceeds. Having filled in all around the basket, place a few plants in the top, carefully watering them in so as not to wash the soil over the sides of the basket. If the foregoing instructions are assiduously carried out the effect produced when the plants are in flower will be one

not easily to be forgotten, so profusely do they bloom that they almost conceal both leaves and suspender; in fact they look like a huge ball of flower. *Achimenes* delight in a light rich open soil, a compost of good fibry loam, leaf soil and peat, with about a sixth part of silver sand to keep it porous, and a little dried cow manure suiting them admirably. Thorough drainage is an indispensable item towards successful cultivation, for to allow the soil to become at all sodden or sour is only to court failure. As soon as the flowering season commences liquid manure or some of the numerous chemical mixtures will prove very beneficial both in enlarging the bloom and also in prolonging the flowering season.

The following are some of the leading varieties:—*Achimenes* coccinea, scarlet; *A. grandiflora*, violet and purple; *A. longiflora*, violet; *A. longiflora* major, blue; *A. Masterpiece*, rose shaded violet; *A. Lady Lytleton*, magenta shaded crimson; *A. Harry Williams*, cerise; *A. Marvel*, blue; and *A. longiflora* alba, white. The last two named are truly magnificent varieties, and should find a place in every collection of indoor flowering plants.—GEO. PARRANT.

BEGONIAS AT FOREST HILL.

THE results of patient and judicious hybridisation are invariably of a satisfactory character, but it rarely happens that greater success is achieved in any class of plants than has been attained in tuberous Begonias. It is less than three decades since the originators of these now popular flowers were first taken in hand, and the pioneers in the movement cannot be other than gratified with the outcome of their labour. Be that as it may, it is certain the general public are satisfied in this respect, for had it been otherwise tuberous Begonias would certainly not have found their way into so many gardens. Nor is the popularity which characterises these plants a matter of surprise when their utility for decorative purposes is taken into consideration. For the embellishment of the flower garden their usefulness is well known, and in thousands of gardens they have proved admirable substitutes for Zonal Pelargoniums, inasmuch as their habit and variety of colour warrant them a position in the most choice arrangements. Scarcely less can be said of them for the ornamentation of greenhouses and conservatories. For this purpose they may, as every gardener knows, be cultivated in small or large pots, while those of a pendulous nature make excellent basket plants. When covered with blossom and suspended in baskets in a greenhouse they produce a beautiful effect, such as may now be seen in the nurseries of Messrs. J. Laing & Sons, Forest Hill, S.E., to whom all admirers of tuberous Begonias are indebted.

It is needless to dilate at length upon the successful efforts of the above-mentioned firm to improve these flowers, because that is already well known, and therefore it will be sufficient for the present to remark that Messrs. Laing not only maintain the high reputation they have so long held in this matter, but are still carefully hybridising, which each year results in the production of some sterling novelties. A visit to the Stanstead Park Nurseries will corroborate this statement, for there are some remarkable blooms in the newer varieties that have recently flowered. At one time size of bloom and brilliant colour appeared to constitute the chief desiderata in raising new kinds, but nowadays the hybridiser has happily other objects in view. Whilst size is an admirable feature in its way, it should not approach coarseness; and brilliancy ought never to give place to gaudiness. A line must be drawn between these characteristics, and fortunately this has been done, for latterly the blooms have become more refined in appearance, and certainly a greater range of colour has been obtained. These features are noticeable in both the double and single varieties, the flowers of the former being particularly neat in form and varied in colour. At this period of the year it is, of course, the plants in pots that make such an effective display at Forest Hill, those which are planted in the open ground being at their best later in the summer. Several large span-roofed houses are filled with tuberous Begonias, and the effect these produce can be better imagined than described. It may interest some readers, however, to know the names of some of the newer varieties.

Among the double flowered Begonias of recent introduction Earl of Cranbrook may be noticed as being especially attractive. This variety produces a large flower of excellent form, the colour being rich crimson scarlet. Lord Esher, too, is a splendid variety with fine bright scarlet blooms, the same applying to Earl of Warwick. The plant of the last named kind appeared to be unusually dwarf and compact in habit, a feature to be observed in many of the later introductions. As a white flower Countess of Craven will prove useful, the blooms being large and handsome. The variety known a short time since as Lady Brooke may now be recognised as Countess of Warwick, the huge flowers of a bright salmon scarlet shade standing out prominently amongst the rest. The plant, too, is dwarf in habit, and exceedingly floriferous. Lady Theodora Guest has blooms delicately tinted apricot shade, the petals being also beautifully fringed. One of the finest yellows is Mrs. Regnart, this being a magnificent flower with broad petals. Baron Schröder is an older variety, but it can well hold its own, the flowers being large and bright scarlet.

The single varieties are also very fine this year, and several new varieties were pointed out as being above the average merit. One of these was the Grand Duchess of Hesse, a pure white of great substance, the flowers being large and of excellent form. As a companion to the last named the Grand Duke of Hesse may be particularised, this being a brilliant scarlet, and apparently very free flowering. Countess of

Pembroke is a beautiful variety, with large blossoms of a charming pink shade, and Marchioness of Salisbury is an excellent yellow. Those who prefer large deep crimson blooms will find them in Duke of Wellington; and Britannia is a peculiar but attractive golden bronze. There are many more kinds of equal merit, as may be seen by visiting the afore-mentioned nurseries.—C.

THE NATIONAL PINK SOCIETY (MIDLAND SECTION).

THE fourth annual exhibition of the Society was held in connection with the great Wolverhampton Floral Fête on July 10th, 11th, and 12th, and in the opinion of such well-known growers as Mr. John Ball, Mr. Joseph Lakin, Mr. James Thurstan and others was the finest exhibition of Pinks they had ever seen. There were some very fine flowers staged, and it was a surprise to many persons who have experienced a disappointment in the absence of "lacing," so apparent in flowers this season, at all events in the Midlands.

In the class for twelve blooms of laced Pinks, distinct, there were three stands staged. First, Mr. A. R. Brown, florist, Handsworth, Birmingham, with an excellent stand of Princess Louise, very fine; Minerva, also fine; Bessie (Fellowes), a good bloom; Captain Kennedy, very bright in colour; Ernest, Lustre, Harry Hooper, Brown's Bertha, Arthur Brown, extra fine; Emmeline, Amy, and Empress of India. Second, Mr. C. F. Thurstan, Wolverhampton, with an excellent stand of Robert Houlgrave, Modesty, Princess May, a grand variety, excellent quality; Duke of York, Brown's Amy, a fine bloom; Mrs. Richards (seedling), Dr. Braide, a seedling, very promising flower; John Dorrington, Empress of India, Boiard, and two seedlings. Third, Messrs. Thomson & Co., Birmingham, with a fine bloom of Boiard, The Rector, Minerva, Mrs. Dark, Ada Louise, John Ball, Mrs. F. Hooper, Duke of York, Amy, Godfrey, Bertram, and Empress of India.

In the class for twelve blooms, of not less than six varieties, there were six exhibits. First, Mr. A. R. Brown, with Boiard, Minerva, Bessie, Amy, Princess Louise, a beautiful bloom; Arthur Brown, a fine flower with broad petal and well laced; Empress of India, and Godfrey. Second, Mr. C. F. Thurstan, Wolverhampton, with Duke of York, Modesty, John Dorrington, Robert Houlgrave, Princess May, Dr. Braide, Boiard, and seedlings. Third, Mr. R. Sydenham, Birmingham, with a very fine bloom of Ne Plus Ultra, Duke of York, Amy, Boiard, Minerva, Rector, James Thurstan, Mrs. Dark, and Harry Hooper. Fourth, Messrs. Thomson. Fifth, Mr. J. Jester, West Bromwich.

With six blooms of laced Pinks, distinct, there were five exhibits. First, Mr. C. F. Thurstan, with Robert Houlgrave, Duke of York, Dr. Braide, Princess May, Amy, and another. Second, Mr. A. R. Brown, with William Paul, Arthur Brown, Godfrey, Ernest, Bessie, and Princess Louise. Third, Mr. Sydenham. Fourth, Messrs. Thomson. Fifth, Mr. M. Campbell, Blantyre. In the class for six blooms, not less than three varieties, there were six exhibits. First, Mr. C. F. Thurstan, with Robert Houlgrave, Amy, a fine bloom; Modesty, and two seedlings. Second, Mr. A. R. Brown, with Princess Louise, Arthur Brown (2), The Rector, Bertha, and Minerva. Third, Mr. Sydenham, with Ne Plus Ultra, Boiard, The Rector, and James Thurstan. Fourth, Messrs. Thomson. Fifth, Mr. Jester.

For single blooms, red laced, the awards were made as follows:—First and third, Mr. C. F. Thurstan, with Robert Houlgrave. Second and fifth, Mr. Sydenham, with Ne Plus Ultra. Fourth, Mr. A. R. Brown, with Minerva. Purple laced.—First and second, Mr. A. R. Brown, with Arthur Brown. Third and fourth, Mr. C. F. Thurstan, with Princess May; and fifth with Minerva.

For six bunches of border Pinks. First, Mr. C. H. Herbert, Spark-hill Nurseries, Birmingham, with Bertram, Amy, Boiard, Edward Ladham, and Lord Lyons, bright rosy pink. Second, Mr. Campbell, Blantyre, who had in his stand Snowflake, a very pretty white. For a bouquet of Pink blooms Mr. C. H. Herbert was also first.

The premier laced Pink of the exhibition was Mr. James Thurstan's grand seedling Robert Houlgrave, a massive flower of fine build, bold and rich in its lacing and with a superb broad petal, and a first-class certificate was awarded to it also. This is a distinct flower, and will be most popular.

Certificates were awarded also for a variety named Arthur Brown, a seedling raised by Mr. George Chaundy, jun., Oxford, the stock being in the hands of Mr. A. R. Brown, Birmingham, and was shown by him. It is a regularly purple laced flower, with a very fine broad, smooth petal; also for Princess May, another grand seedling of Mr. Thurstan's, a refined flower exquisitely laced with light purple.

Amongst other newer kinds, Dr. Braide, another of Mr. Thurstan's seedlings, is very pure in the white, with small well formed petals, and a charming chaste flower with almost a wire red edge. John Dorrington was rough and faulty. Duke of York (Thurstan) as shown throughout, although a large showy flower is not equal to Boiard, which is so very fine this year in the Midlands. Ne Plus Ultra is a bold flower of good size, with plenty of petals. James Thurstan, as shown, was poor in quality. William Paul, a pale purple laced flower, and a good exhibition variety. Princess Louise (Fellowes), shown so well by Mr. Brown, is a beautiful and very refined flower with good smooth petals, and exquisitely laced purple, thoroughly beating The Rector by its side. Modesty, a fine older variety, and usually seen in good condition, showed coarseness and unequal lacing generally, and it was so with other flowers. Still it was an excellent show of Pinks, and Mr. Thurstan's fine seedlings, Robert Houlgrave, Princess May, and Dr.

Braide, and Chaundy's Arthur Brown, are four wonderful varieties, which will make 1894 a red letter year amongst Pink growers.

Mr. C. H. Herbert arranged, not for competition, some fine border Pinks, and I will allude further to these and other border varieties as seen at Birmingham in a future issue of the *Journal*. The Judges were Mr. John Ball of the Slough Nurseries, and Mr. Joseph Lakin, Oxford.—W. DEAN.

BAPTISIA EXALTATA.

WHILST visiting gardens where hardy flowers are extensively grown one occasionally meets with an old favourite that is comparatively unknown to many modern establishments. Such a plant is Baptisia exaltata, depicted in the illustration (fig. 11). Although of easy culture this plant is by no means common, its appearance in gardens



FIG. 11.—BAPTISIA EXALTATA.

being the exception rather than the rule. It succeeds well in the open air, and when planted in clumps at the back of a border its bright blue flowers are very effective.

ROSE AND HORTICULTURAL SHOWS.

NORTH LONSDALE.—JULY 11TH.

THIS annual exhibition was held in the Drill Hall, Ulverston, and both as regards entries and quality of blooms must be termed a success. Messrs. Alex. Dickson & Sons, Newtownards, Co. Down, staged no fewer than 384 blooms, and succeeded in winning the silver cup for the best collection of Roses, including H.P., Teas, and others. This stand contained a splendid selection, noteworthy being Merveille de Lyon, Ulrich Brunner, and 100 blooms of La France; a truly grand stand. Dicksons, Limited, Chester, had a choice stand also for a second position, winning the N.R.S. silver medal. Mr. Jas. Crombie, Barrow, was third, gaining the N.R.S. bronze medal. For the best seedling Rose, Messrs. Alex. Dickson & Sons were first with Marchioness of

Downshire, and in the class for the best Rose in the show, open to all, the same exhibitors won with a superb Général Jacqueminot.

Amateur exhibits made a charming display, the contest in most of the chief classes being fought between Mr. J. T. Marsden and Mr. J. H. Midgley, J.P. Four Hybrid Perpetual Roses, three trusses of each.—First, Mr. J. T. Marsden, Silverdale; second, Mr. J. H. Midgley, Berner's Close, Grange; third, Rev. R. T. Langtree, Grange. For six trusses, any light, and same number of dark H.P. Roses, Messrs. Marsden and Midgley scored. There were three bronze medals for the best bloom of any light and dark H.P., and best Tea or Noisette, Mr. J. T. Marsden winning the first with a fine Horace Vernet, and Mr. Midgley the two latter with superb La France and Ernest Metz.

For classes open to amateur growers of 350 Rose trees and upwards the Rev. R. T. Langtree was first with a fine stand of eighteen distinct varieties, Messrs. Midgley and Marsden taking the other positions. The latter exhibitor also won for twelve Roses, distinct, six distinct light and six distinct dark H.P., being closely followed in each case by Mr. Midgley. The latter won with six Teas or Noisettes, distinct, Mr. Marsden being second. For amateur growers of less than 350 trees Messrs. J. Abbott, N. W. Wilding, Miss Case, and Miss Park were successful.

Pansies are always shown in fine form and large numbers, this year forming no exception to the rule. The principal prizetakers were Messrs. A. Ratson, R. Bolton, R. Bolton, jun., J. Sharp, Wm. Askew, J. Greenop, and G. N. Fell. Numerous special prizes had been kindly given by ladies and gentlemen in the neighbourhood. These were presented by Mrs. Fell. Mr. Midgley presented Mrs. Fell with a charming bouquet of Roses, kindly sent by Messrs. Dickson & Sons. The Judges in nurserymen's exhibits were Mr. Midgley and Mr. Jno. Poole. For the amateurs Mr. Alex. Dickson of Newtownards and Mr. Dunning of Dicksons, Ltd., Chester; and Pansies Mr. H. Rothery.

The Hall was greatly enhanced in appearance by a collection of foliage plants, arranged by Mr. Caird, Tod Bush Park, and Mr. Croasdale of Onbas. A word of praise is due to Messrs. G. H. Mackareth and F. W. Poole, joint Secretaries, who were assisted by Mr. T. W. Mason, Mr. H. Longson, Treasurer, and an excellent Committee.—R. P. R.

ROYAL CALEDONIAN, EDINBURGH.—JULY 11TH AND 12TH.

HELD as usual in the roomy Waverley Market on the 11th and 12th inst., this by courtesy more than in reality is termed the Rose show. Roses were eclipsed by some other denizens of gardens, and judging by the quality of those shown the queen of flowers is in somewhat poor form across the border. Better flowers are promised later, however. There was a fair display of plants, Ferns being numerous and fine. Fruit, especially Grapes, was well shown; and vegetables, though somewhat few in number, were generally very good indeed.

Mr. Wood, gardener to J. Buchanan, Esq., Oswald House, was the only exhibitor in the class for table of plants arranged for effect, and the first prize was awarded. For six foliage plants, Mr. Crichton, Liberton, was first, the sorts comprising a good Croton Warreni, a large Asparagus plumosus, and Dasylirion acrotricum. The same exhibitor was first also with two Crotons, extra fine examples of The Countess and Lady Zetland, also with two Caladiums, large specimens, and with two good Dracenas. Mr. Napier, gardener to P. Neil Fraser, Esq., Murrayfield, staged excellent examples in the class for six stove or greenhouse Ferns, *Macrolepis hirta cristata* and *Nephrolepis plumosa* being of extraordinary proportions. The same gentleman was also first in the class for six British Ferns, a very large number of most excellent plants being staged in this class. Mr. Anderson, gardener to Colonel Davidson, Woodcroft, Edinburgh, was a close second. There was also a good competition among dwarf British Ferns, Mr. Anderson being first, and fine examples were shown by this grower.

But few Orchids were staged, and for the prizes there was next to no competition. Mr. Sharp, Liberton, was first for four Orchids with fairly well bloomed examples of *Odontoglossum vexillarium*, *O. Alexandræ*, *Epidendrum vitellinum majus*, and *Aërides odoratum*. Mr. McIntyre, The Glen, Innerleithen, was second. Mr. Murray, Restalrig House, had the two best and Mr. Sharp the best one Orchid, a good *Odontoglossum Alexandræ*. Carnations *Souvenir de la Malmaison* were shown, many of the plants exhibiting disease very pronouncedly. The best grown plants were from Mr. Rae, Dunlows, Kelso; but these were passed for larger and taller examples. A number of *Gloxinias* and table plants in great variety were also shown well.

Cut flowers were largely composed of Roses. In the class devoted to trade growers that for forty-eight blooms was the most important. Here, Mr. Hugh Dickson, Belfast, secured the premier award for fresh blooms, though somewhat small in size. Mr. Dickson's best flowers comprised Mrs. J. Laing, Star of Waltham, Margaret Dickson, La France, Alfred Colomb, Madame L. De la Place, Etienne Levet, Benoit Comte, Princess of Wales, Lady H. Stewart, François Michelon, and Duke of Fife. Messrs. J. Cocker & Sons, Aberdeen, were second, and Messrs. Croll, Dundee, third. For twenty-four Roses Messrs. Croll were first. Some of the best blooms shown were in this stand; Gustave Piganeau, Marchioness of Dufferin, A. K. Williams, Lady Mary Fitzwilliam, Horace Vernet, Constantine Petriakoff, and Violet Bougère were the best. Messrs. Cocker & Sons were second, and Messrs. Smith & Sons, Stranraer, third. Messrs. Cocker & Sons were first for twenty-four Teas with small but fresh blooms; Messrs. Croll second, and Mr. Robinson, Helensburgh, third. Messrs. Croll had the best twelve trusses Roses, and Mr. Dickson was second for these. Messrs. Cocker & Sons had the best collection of Roses in species and varieties, *L'Idéal* and *Cramoisie Supérieur* being the most striking sorts. In the section reserved for

gardeners and amateurs Mr. Parlane, gardener, Roselea Row, won first prizes for thirty-six, twenty-four, and twelve Roses. The blooms generally were small and lacking in freshness.

Fruit formed a good display. Several collections were shown. Mr. Smith, gardener to Earl of Stair, Oxenford Castle, was first here with fair Grapes, good Nectarines and Peaches, Figs, Melon, Cherries, and Strawberries. Mr. Kirk, gardener to — Paton, Esq., Norwood, Alloa, was second with extra fine Madresfield Court and Black Hamburg Grapes, the smaller fruits, however, being deficient. Mr. Morrison, Archerfield Gardens, Drem, was third. For four bunches Grapes Mr. Rutherford, Airthrey Castle Gardens, was a good first with fine clusters of Duke of Buccleuch and Black Hamburg. Mr. Morrison was second, and Mr. Hammond, gardener to Sir W. Lawson, Brayton, Cumberland, third. Mr. McDonald, gardener to the Marquis of Lothian, Newbattle Abbey, had the two best clusters of Black Hamburg; and Mr. Kirk second. For two black of other sort Mr. Mattison, Curriesshill, was first. The two best bunches of white Grapes were Duke of Buccleuch, shown by Mr. Rutherford. The best Pine Apple was shown by Mr. McKelvie, Broxmouth Park, Dunbar. Peaches were very fine, Mr. Buchanan, Dailly, Ayrshire, being first; and Mr. Clark, Wemyss Castle, Fife, second. Nectarines also were fine, Mr. Smith, Oxenford, being first with extra Lord Napier.

Of vegetables, Mr. Harper, gardener to P. S. Richardson, Esq., Tulliebolton House, Perth, was first with a collection of extra fine examples, comprising very good Moncrieffe White Celery, Early London Cauliflower, Sutton's Seedling Potato, Extra Duke of Albany Peas, Lockie's Perfection Cucumber, and Challenger Tomato. Mr. Johnstone, Hawick, was second. Mr. Milne, Sunnybank, Leith, had the best collection of salads. Tomatoes, Cucumbers, and Cauliflowers were also well shown.

Miscellaneous exhibits, chiefly from trade growers, were perhaps the chief features of the Show, and of these the most striking were the numerous collections of hardy flowers. Not the least important was that of Messrs. Cocker & Sons, containing, as it did, representative examples of all the more popular and the best hardy flowers grown. Mr. Cuthbertson also had a most charming group, as did Mr. Lister, Messrs. Laird & Son confined themselves to showing only a few species of hardy flowers, but had a group of stove and greenhouse plants. Mr. Campbell, High Blantyre, contributed, along with other hardy flowers, a very large number of blooms of the best Carnations. Mr. Forbes, Hawick, also showed blooms of Carnations, particularly *Malmaisons*, and a large number of *Delphiniums*. Mr. Smellie, Busby, exhibited a stand of "rayless" *Violas*, the flowers being very sweet and pretty. Messrs. Methven & Son, Princes Street, contributed a large group of stove and greenhouse plants. A charming table was arranged by Messrs. Laing & Mather, Kelso. Mr. McMillan, Trinity, had on exhibition a well arranged basket of large *Chrysanthemum* blooms.

WORKSOP.—JULY 12TH.

THE fifth annual exhibition of the Worksop Rose and Horticultural Society was held on the above date, and was, all things considered, an excellent show. As will be remembered, the National Rose Society's provincial show was held at Worksop last year, and a grand display of Roses resulted, amongst which many of the leading rosarians were represented. This year the local Society had no such aid, and had to rely entirely on its own efforts, and such being the case two large marquees were found to afford sufficient space for the exhibits, whereas last year a considerably larger amount of tabling was requisite. The centre table of one of the tents was entirely devoted to Roses, and it was pleasant to see, in taking a glance over the exhibits before the judging commenced, that some handsome flowers were shown, more especially amongst the Hybrid Perpetuals. The Teas and Noisettes were by no means up to the standard, though here and there a praise-worthy bloom was noticed.

As will be seen by the subjoined report, which deals almost exclusively with the Roses, Mr. H. V. Machin, J.P., Gateford Hill, rendered a very good account of himself, as he doubtless would have done at other shows in the country had not the late frosts played such havoc amongst his plants. Nurserymen were not so largely represented as might have been expected, only two sending stands, these being Messrs. R. Mack & Sons and Mr. Henry Merryweather. No doubt more would have been present had it not been for the other shows held on the same day, for the prizes offered were sufficiently substantial to render a long journey worth the while. The managers of the show are to be congratulated on the punctuality with which the judging was commenced, being only a very few moments after the advertised time of eleven o'clock. This is an example which might well be followed by those in charge of many of the southern shows, where the judges have sometimes to wait an hour, and even more, before being able to start their duties.

As has been said, only two nurserymen were represented in the Rose classes, but if somewhat lacking in numbers of blooms, the quality of many left little to be desired. In the class for forty-eight, distinct, one truss of each, the two exhibitors ran each other somewhat closely, the premier position being finally accorded to Messrs. Mack & Sons, Catterick, while Mr. Henry Merryweather, Rose Nurseries, Southwell, Notts, had, perforce, to be contented with the second position. The varieties represented in the winning stand were the following:—Ulrich Brunner, Madame Montet, Rosieriste Jacob, Heinrich Schultheis, A. K. Williams, Boieldieu, Victor Hugo, Magna Charta, Prince Camille de Rohan, Exposition de Brie, Charles Lamb, *Souvenir d'Elise Vardon*, Duke of Fife, Monsieur Noman, E. Y. Teas, Comtesse de Ludre, Suzanne

Marie Rodocanachi, Prince Artbur, Merveille de Lyon, The Bride, François Michelin, Mr. Jowitt, Madame Hausmann, Le Havre, Duke of Edinburgh, Auguste Rigotard, Devoniensis, Marie Rady, Mrs. John Laing, Sultan of Zanzibar, Margaret Dickson, Charles Lefebvre, Baroness Rothschild, Annie Laxton, Gloire Lyonnaise, Alfred Dumesnil, Madame Thérèse Levet, Gustave Piganeau, Madame Gabriel Luizet, Dupuy Jamain, Princess Beatrice, Reynolds Hole, John Stuart Mill, Violette Bouyer, Marie Baumann, Jeanie Dickson, and Beauty of Waltham. The second stand was a very fine one, and contained many examples which were of the highest order of merit, and in every way creditable to Mr. Merryweather.

Mr. H. Vessey Machin was the only competitor in the open class for twenty-four Roses, distinct, single trusses, the exhibitors in the class previously named being precluded from staging by the wording of the schedule. The stand shown was a grand one and thoroughly deserving of the first prize that was accorded to it. Fresh, well coloured blooms of A. K. Williams, Mrs. John Laing, Heinrich Schultbeis, La France, Marie Baumann, Merveille de Lyon, Ulrich Brunner, Général Jacqueminot, Etienne Levet, Madame Montet, John Stuart Mill, Madame Gabriel Luizet, Marie Finger, Prince Arthur, Baroness Rothschild, Emily Laxton, Princess of Wales, François Michelin, Horace Vernet, Captain Christy, William Warden, Earl of Dufferin, Xavier Olibo, and Suzanne Marie Rodocanachi were staged in this exhibit.

There were three competitors in the class for twelve Roses, distinct, three trusses of each, the blooms to be arranged triangularly, and the first prize was awarded to Messrs. Mack & Sons, who staged Mrs. John Laing, Prosper Laugier, Caroline Testout, Gustave Piganeau, Sultan of Zanzibar, Dr. Sewell, Merveille de Lyon, Beauty of Waltham, Ulrich Brunner, La France, Baroness Rothschild, and A. K. Williams. Mr. H. Merryweather was a close second with well finished examples, and Mr. H. V. Machin a good third with a stand of small, but very fresh flowers.

Mr. H. Merryweather was the only exhibitor in the open class for eighteen Teas or Noisettes, and was given the first prize, though some of the examples staged were past their best and lacking both in colour and finish. The following were the varieties which comprised the stand;—Madame de Watteville, Golden Gate, Ruby Gold, Marie Van Houtte, Madame Lambert, The Bride, Rubens, Perle des Jardins, Ernest Metz, Caroline Kuster, Madame Cusin, Madame Hoste, Hon. Edith Gifford, Souvenir d'un Ami, Souvenir de S. A. Prince, and Alba Rosea. In the class for twelve Hybrid Perpetuals or Hybrid Teas, any one variety, Messrs. Mack & Sons were first with fairly good examples of Mrs. John Laing; Mr. H. V. Machin a very close second with La France; and Mr. H. Merryweather a good third with Ulrich Brunner.

The class for eighteen bunches of garden Roses, distinct, each bunch to be composed of not less than three trusses, brought only two competitors—Mr. H. V. Machin and Mr. Mallender, gardener to Mrs. Mellish, Hodsock Priory, Worksop, the first named being an easy winner. The stand contained Caroline Rennet, Gloire de Polyantha, Blanche Moreau, Monthly China, Princess Louise, Coupe d'Hébé, Rosea Alba, Bardou Job, The Pet, Village Maid, Celestial, L'Idéal, Anna Maria de Montravel, Mignonette, Homère, Perle d'Or, Damask, and an unknown variety. The arrangement of these was excellent, and permitted of every variety in the stand being readily seen and admired. The second prize exhibit was fair, some good flowers being noticed here and there.

The competition in the class for twenty-four single trusses, distinct, open to amateurs, was remarkably keen, notwithstanding the fact that only three boxes were staged. The first position was assigned to Mr. H. V. Machin with a superb exhibit, probably the best he has staged this season. The varieties represented were Marie Baumann, Mrs. John Laing, Maurice Bernardin, François Michelin, Xavier Olibo, La France, Ulrich Brunner, Her Majesty, Madame Hausmann, Baroness Rothschild, Merveille de Lyon, Salamander, Louis Van Houtte, Madame Montet, A. K. Williams, Madame Gabriel Luizet, Prince Arthur, Duke of Albany, Etienne Levet, Suzanne Marie Rodocanachi, Earl of Dufferin, Alfred Colomb, and Souvenir d'un Ami, all being fresh, well finished, and highly coloured. The second prize was won by Mr. M. Hutchinson, Kirby Moorside, with a good stand in which Horace Vernet, Comtesse de Ludre, Ulrich Brunner, and Cleopatra were prominent. Mr. W. Boyes, Derby, was a close third with an even exhibit.

For twelve distinct, single trusses, there were four competitors, not including either of those named in the previous class who were debarred from entering. The stands did not run very close, Mr. C. Stubbings, Gateford, being a fairly easy first with Suzanne Marie Rodocanachi, Mrs. John Laing, Cleopatra, Jean Ducher, Ulrich Brunner, Souvenir d'Elise Vardon, La France, Miss Ethel Brownlow, Margaret Dickson, Marie Baumann, and Madame Cusin, all of which were small but very fresh. Miss Jebb was second, and Mrs. Mellish a poor third.

In the class for six trebles, arranged triangularly, Mr. H. V. Machin was again first with a fine exhibit, which included La France, Annie Wood, Prince Arthur, Merveille de Lyon, Madame Hausmann, and Mrs. John Laing. Mr. W. Boyes was a fair second, and Mr. W. Hutchinson third.

Mr. H. V. Machin and Miss Jebb were the only competitors in the class for nine single trusses of any Hybrid Perpetual or Hybrid Tea, both staging Mrs. John Laing, and the prizes being accorded in the order of their names. This was also the case in the class for nine single trusses of any Tea or Noisette, when the first named showed Hon. Edith Gifford and the latter Madame de Watteville. Three stands of Margaret Dickson were shown in the class for six single trusses of any new Rose,

the blooms in each being highly meritorious. Mr. W. Boyes was placed first, Mr. H. V. Machin second, and Mrs. Mellish third.

The National Rose Society's silver medal for the best Hybrid Perpetual or Hybrid Tea in the show was accorded to Messrs. Mack and Sons for a beautiful example of Mrs. John Laing, and that for the best Tea or Noisette to Mr. H. Merryweather for a bloom of Catherine Mermet, excellent in shape, fresh, and well coloured, though perhaps somewhat small in size.

The Roses shown by the amateurs and cottagers of the Society were fairly numerous, and in many instances of excellent quality. Good prizes are offered in the schedule, and these no doubt have the effect of stimulating growers to do their utmost so that they may be able to win some of them at show time. Unfortunately we are precluded, owing to want of space, from going into details, and it must suffice to say that in almost every case the blooms were very creditable, and reflect the highest credit on their respective growers.

For a group of miscellaneous plants, in or out of flower, arranged in a space not to exceed 100 square feet, there were three competitors. The first-prize arrangement, shown by Mr. A. Webb, Kelham Hall, was a novel and an excellent one. The taste in the display of the plants, and the excellent manner in which they had been grown, placed the combination well in front of either of the others. Amongst the plants utilised were Crotons, tuberous-rooted Begonias, Celosia plumosa, Dracænas, Palms, Ferns, and numerous others. The second-prize group was somewhat stiff and formal, though some handsome plants were noticed therein. Unfortunately there did not appear to be a name attached to this exhibit. The third prize was assigned to Mr. Cookman, Worksop, in whose group Zonal Pelargoniums predominated.

In the class for twelve bunches of hardy herbaceous flowers, inclusive of bulbous plants, Mr. Mallender was first with a very charming collection, comprising *Lycnis chalcedonica*, *Campanula coronata*, *Erigeron speciosus*, *Hemerocallis fulva*, *Epilobium angustifolium* album, *Spiræa Aruncus*, *Alströméria chilensis*, *Lysimachia punctata*, *Thalictrum adianthifolium*, *Gaillardia grandiflora*, *Delphinium Amelia*, and a double red Pæony. Mr. W. Hutchinson was a good second, while the third prize exhibit did not appear to possess a name. There were four competitors in all.

The plant classes, in both the amateurs' and cottagers' divisions, were very numerous, as also were the entries. As might have been expected, the competition in many classes was close, and some splendid examples of cultural skill were shown by various growers. Though space will not allow of a detailed prize list being given, special mention may well be made of the six stove or greenhouse Ferns exhibited by Mr. Slade, which were perfect models, especially the examples of *Adiantum cuneatum*, *Nephrolepis exaltata*, and *Lomaria gibba*. The same exhibitor staged six plants suitable for table decoration, and won the first prize. These were a great credit to the grower, being in every respect suitable for the purpose. Mr. Woods, in the class for six Coleuses, staged excellent examples of cultural skill, which were thoroughly deserving of the first prize awarded to them.

Mr. Woods, gardener to F. J. S. Foljambe, Esq., Osberton, was placed first in the open class for a collection of eight kinds of fruits with a splendid exhibit. Black and white Grapes were superb. The bunches were shapely and the berries large and perfectly finished. The Pine, Cherries, Figs, and Melon were also very fine, but the Peaches and Nectarines were small. Mr. Slade, gardener to the Duke of Newcastle, Clumber, the only other competitor, was a remarkably close second. The Peaches and Nectarines were decidedly superior to those of his opponent, but the Grapes, though large, lacked symmetry of bunch. In the other fruits staged there was little or no difference in the examples shown, both stands being highly creditable. The same exhibitors gained the prizes for black and white Grapes with handsome bunches in each case.

Vegetables were very extensively shown in the various divisions and classes allotted to them, and some produce of the highest order of merit was staged. All kinds in season were represented on the tables, and the majority were above the average of excellence. Mr. Slade's collection in the open class for nine dishes of different kinds of vegetables was very fine, and composed of Onions, Peas, Vegetable Marrows, Tomatoes, Carrots, Cucumbers, Potatoes, Kidney Beans, and Cauliflowers. W. H. Mason, Esq., Morton Hall, Retford, was a fair second; and Mr. Hudson, gardener to T. J. Flockton, Esq., Woodleigh, third.

Miscellaneous exhibits were not very numerous, but were of much interest. One of the best of these, in fact a feature of the whole show, was the group exhibited by Mr. J. Horton, gardener to the Duke of Portland, Welbeck Abbey. The arrangement was in every way praiseworthy, great taste having been used in the placing the well-grown specimens at disposal. The Souvenir de la Malmaison Carnations utilised were grand examples of correct treatment, every plant being clothed with stout healthy leafage, and carrying large, perfectly formed blooms. Palms, Ferns, Dracænas, and *Caladium argyrites* were especially prominent amongst the other plants employed. Messrs. J. R. Pearson & Sons, The Nurseries, Chilwell, showed a bouquet and a harp-like design of cut flowers, both exquisite combinations of Roses, Stephanotis, Eucharis, Asparagus fronds, and other flowers. Messrs. Laxton Bros., nurserymen, Bedford, sent fruits of Strawberries Latest of All and Jubilee, while Messrs. W. Cutbush & Sons, The Nurseries, Highgate, N., staged Uriah Pike, Souvenir de la Malmaison, and other Carnations in charming condition and variety. Messrs. Fisher, Son, & Sibray,

nurserymen, Sheffield, displayed plants of Hydrangeas, Ferns, Coleuses, Caladiums, Crotons, and Gloxinias, in which good culture was perceptible throughout.

BATH.—JULY 12TH.

THIS show, which took place in the Sidney Gardens, was, so far as the Roses were concerned, one of the most successful held in this western city. Teas were particularly good, the Rev. F. R. Burnside showing them in grand condition. Owing to stormy weather the attendance may not have been such as the Committee could have desired, but the exhibits were of good quality. In the nurserymen's classes, Messrs. Perkins & Son, with Mr. G. Prince, were the most successful exhibitors, the Hybrid Perpetuals of the former being clean and fairly smooth. The amateur classes were well contested, Dr. Budd, Bath, and Mr. Drew of Ledbury taking chief honours for Hybrid Perpetuals, the former securing the N.R.S. medal for twenty-four singles in the local class. The nine bouquets of Roses were shown by Messrs. Perkins & Son in a style well worthy the firm's reputation for this class of work. Groups of miscellaneous plants were excellent, seven competitors entering in one class, Messrs. Cypher, Cheltenham, being the winners. Tuberous Begonias, Strawberries, and vegetables, if not very numerous, were well shown.

For seventy-two distinct Roses, Messrs. Perkins & Sons, Coventry, were easily first, the following being some of the best in this exhibit—Alba Rosea, Mrs. J. Laing, Marie Verdier, Merveille de Lyon, Duke of Wellington, Horace Vernet, Gustave Piganeau, Ulrich Brunner, Her Majesty, and Madame J. Bomiaire. Messrs. Paul & Son, Cheshunt, were second, and The English Fruit and Rose Co., Hereford, third. Messrs. Perkins & Sons were again first for thirty-six triplets, showing good Margaret Dickson, Merveille de Lyon, Mons. E. Y. Teas, Victor Hugo, and Marquise de Castellane. The English Fruit and Rose Co. were second.

For eighteen, distinct, three trusses of each, Mr. G. Prince was first, Comtesse de Nadaillac, Marie Baumann, Duke of Edinburgh, Prince Camille de Rohan, Beauty of Waltham, and Horace Vernet being some of the best. Mr. Mattock was second, Messrs. Curtis, Sandford & Co. third. Mr. Prince was also first for thirty-six singles, showing Prince Camille de Rohan, The Bride, Comtesse de Nadaillac, Horace Vernet, and Xavier Olibo in good form. Messrs. Curtis, Sandford & Co. were second, and Mr. J. Mattock, Headingly, Oxford, third. Mr. Prince was again first in the class for eighteen Teas, his stand comprising good examples of Mrs. J. Wilson, Comtesse de Nadaillac, Madame Hoste, Souvenir d'Elise Vardon, and Marie Van Houtte; Mr. J. Mattock being second.

In the amateurs' class for thirty-six singles Mr. W. Drew, Ledbury, was first, François Michelon, Horace Vernet, Ulrich Brunner, Suzanne Marie Rodocanachi, and Louis Van Houtte being some of the best; Rev. J. H. Pemberton was second, and Dr. Budd third. For eighteen triplets Mr. Drew was again to the front, Dr. Budd second, and Mr. A. Hill Gray third. Mr. Thos. Hobbs, J. Hinton, Esq., and Mr. J. Parker were first, second, and third for twenty-four blooms. Mr. Thos. Hobbs was first for twelve Roses, Mr. J. Parker second, and Rev. R. Powley third. In the class for twelve, three of each, Mr. Thos. Hobbs was also first with a fine stand, Rev. R. Powley second, and Mr. J. Parker third.

For eighteen distinct Teas the Rev. F. R. Burnside was first with good flowers, including Madame Cusin, Anna Ollivier, Innocente Pirola, Jean Ducher, Francisca Krüger, and Madame Bravy. Mr. A. Hill Gray was second, and Dr. Budd third. For twelve, distinct, Mr. C. Jones was first, Rev. J. H. Pemberton second, with Mr. J. Parker third. In the class for six triplets the Rev. F. R. Burnside was a splendid first with Catherine Mermet, Jean Ducher, Madame Cusin, Souvenir de S. A. Prince, Souvenir d'un Ami, and Innocente Pirola, one of the finest stands of the show. Mr. A. Hill Gray was second, and Dr. S. P. Budd third.

For twelve blooms of any Rose, open, the Rev. F. R. Burnside was first with Catherine Mermet; Messrs. Keynes, Williams, & Co. second with Marie Baumann. Mr. G. Prince was first with fine Comtesse de Nadaillac, for twelve of any yellow Rose; Mr. J. Mattock second with the same variety. Dr. Budd was first for twelve crimsons with Alfred Colomb; Mr. A. H. Gray being second. For twelve blooms of La France Mr. Gray secured first prize with large well grown flowers. In the class for six trusses of any new Rose of 1892 or 1893 Messrs. Jefferies & Son were first with Margaret Dickson; Messrs. Paul & Son were second with Duke of Fife. Messrs. Paul & Son took first for twelve bunches of garden Roses, beating Messrs. G. Cooling & Sons, Bath.

In the local class, for twenty-four, distinct, Dr. Budd was successful, showing Alfred Colomb, Her Majesty, Earl of Dufferin, Sir Garnet Wolseley in good condition, this exhibit taking the N.R.S.'s gold medal; Mr. A. Hill Gray a good second. The other local classes were well filled.

Messrs. Perkins & Sons were the winners for nine bouquets of Roses for hand, and also for a basket of Roses. For a group of miscellaneous plants, arranged for effect, Messrs. Cypher, Cheltenham, first; R. B. Cater, Esq., second; Lady Theodora Guest, third. Mr. Geo. Garaway, Bath, exhibited good Strawberries and vegetables; and Mr. W. Pritchard showed hardy flowers splendidly.

Trade exhibits made a grand display, Mr. Hooper having fine Carnations, and Mr. A. Walters had a good miscellaneous collection. Messrs. Davies, Yeovil, showed cut blooms of Tuberous Begonias, while Messrs. R. Veitch & Sons, Exeter, had a stand of various hardy and other plants. Messrs. Keynes, Williams & Co. staged a box of the new hybrid

Sweet Briars, Mr. C. Turner having a box of Crimson Rambler Rose. Messrs. G. Cooling & Sons exhibited a box of their new light Rose Bladud. A sale of Roses, to which many of the exhibitors contributed, was held during the day in aid of the Bath and Bristol Auxiliary Branch of the Gardeners' Royal Benevolent Institution.—J. WRIGHT, *Kelston Knoll Gardens, near Bath.*

NEW BRIGHTON.—JULY 14TH.

THE annual show of the above Society was held in the grounds attached to the residence of Dr. Bell, J.P., St. George's Mount. The Society has been in existence for about twelve years, and since the decline of the Birkenhead and Christleton shows is the only one in the neighbourhood of Liverpool at which Roses are primarily shown. The money which is taken is sent to the Wallasey Cottage Hospital.

The Roses were arranged in two tents, and were most certainly the finest that have been seen at any previous show. The twenty-four distinct blooms staged by W. Drew, Esq., Ledbury, were excellent and worthy of the N.R.S. gold medal. Mr. G. Prince, of Oxford, was in fine form with superb stands, and succeeded in beating Mr. B. R. Cant in both classes, viz., for forty-eight and twelve. The three Roses which figured prominently throughout the show were Mrs. J. Laing, Suzanne Marie Rodocanachi, and Madame Eugène Verdier, all being in superb condition.

In the class for forty-eight distinct blooms, open to all nurserymen, as before said, Mr. Geo. Prince, Oxford, was first, his best blooms being Suzanne Marie Rodocanachi, Madame C. Testout, François Michelon, Xavier Olibo, Catherine Mermet, The Bride, Duke of Edinburgh, Comtesse de Nadaillac, Pride of Waltham, Ulrich Brunner, Souvenir de S. A. Prince, Reynolds Hole, Golden Gate, Victor Hugo, Madame Eugène Verdier, Alfred Colomb, and Merveille de Lyon. Mr. B. R. Cant, Colchester, who was some nine points behind, had choice blooms. The English Fruit and Rose Co., Hereford, came in a very meritorious third. Messrs. J. Townsend, Lower Broadheath, Worcester, were fourth. For twelve Roses, Tea or Noisette, Mr. Prince had good blooms, the best of which were Souvenir d'Elise Vardon, Madame Hoste, Marie Van Houtte, Madame Cusin, and The Bride. Mr. B. R. Cant was second.

In the section open to all amateurs for twenty-four named varieties Mr. W. Drew, Ledbury, was accorded the N.R.S. gold medal, his exhibit being fresh, and blooms of perfect contour. The varieties included Her Majesty, Suzanne Marie Rodocanachi, François Michelon, Horace Vernet, Gustave Piganeau, Earl of Dufferin, Alfred Colomb, Mrs. Paul, Mrs. J. Laing, Duchesse de Morny, Merveille de Lyon, Marchioness of Londonderry, A. K. Williams, Marie Verdier, Abel Carrière, Duchesse de Vallombrosa, Mrs. S. Crawford, Marie Baumann, E. Y. Teas, La France, Louis Van Houtte, Souvenir d'un Ami, and Duchess of Bedford. H. V. Machin, Esq., Worksop, staged remarkably well for second position, having Margaret Dickson, Xavier Olibo, Baroness Rothschild, Ernest Metz, Ulrich Brunner, Her Majesty, and Mrs. J. Laing in fine condition. H. J. Roberts, Esq., Mold, was a fair third with good blooms of Marquise de Castellane, Marie Verdier, Madame Gabriel Luizet, Marie Finger, Xavier Olibo, and Anna Ollivier.

For eighteen distinct W. Drew, Esq., was again ahead, lacking very little in the previous class. Superb were Suzanne Marie Rodocanachi, Mrs. J. Laing, Merveille de Lyon, Horace Vernet, Louis Van Houtte, Earl Dufferin, and Marie Verdier. H. V. Machin, Esq., again came second, Her Majesty, Margaret Dickson, Gustave Piganeau, and Prince Arthur being conspicuous. In classes for six dark and six light H.P. any one variety, W. Drew, Esq., was first in both classes with Ulrich Brunner and Her Majesty. W. Stubbs, Esq., and H. V. Machin, Esq., second with same varieties. For twelve named varieties the first prize was won by W. Bell, Esq. T. R. Bulley, Esq., came second. For twelve single blooms, Tea or Noisette, and which carried with it the N.R.S. silver medal, was easily obtained by the Rev. F. R. Burnside with an admirable stand, in which were fine blooms of Comtesse de Nadaillac, Madame Cusin, Innocente Pirola, Souvenir de S. A. Prince, and Ernest Metz. H. V. Machin, Esq., was a good second, his most conspicuous flowers being Hon. Edith Gifford, Souvenir de S. A. Prince and The Bride. For six Teas or Noisettes Mr. W. Drew was ahead, the second honours falling to Mr. T. Gee, Allerton. For six named varieties, open to amateurs residing in the parish of Wallasey, A. Smith, Esq., Earleton, won the first prize.

There were prizes offered for hardy perennials grown in the open, and a feature of great interest they proved, being bright in colour and in arrangement perfect. For twenty-four, distinct, Mr. T. Raffles Bulley was an easy first, the second prize, kindly presented by Mr. Bulley, going to A. Smith, Esq. Mr. Bulley won with twelve Carnations. W. Bell, Esq., was the only exhibitor in the class for twelve hardy perennials, but his flowers were of much excellence. Dicksons, Ltd., Chester, made a great feature with their exhibit, and which was accorded unstinted praise. It consisted of forty-eight cut blooms H.P. Roses, same number of bunches of Teas, Noisettes, and Moss Roses, and thirty-six magnificent varieties of florist flowers.

It would be quite out of place if some mention was not made of Dr. Bell's garden, which contained handsome Roses, choice perennials, and well stocked fruit trees; the ladies at the flower stall, the veteran Rose grower, T. B. Hall, Esq., and the Secretary, Mr. T. R. Bulley, who did all in their power to make it the success which no doubt it proved. The Judges for amateurs were Mr. H. Neville, of Mr. B. R. Cant's, and Mr. Geo. Prince, jun., Oxford; and for professionals Mr. T. B. Hall and Mr. W. Drew.—R. P. R.



FRUIT FORCING.

Pines.—Houses as they become vacant should be thoroughly cleansed before being again occupied with plants. The first thing to be seen to is the bed. If the bottom heat be afforded by hot-water pipes, the material forming the bed, whether of tan or leaves, should be removed at least once a year, or insects, particularly woodlice, increase rapidly. The old material also harbours other predatory vermin. Brush all brickwork or plaster with hot lime, the wood and ironwork being thoroughly cleansed with soft soap and brush, keeping the soapy water as much as possible from the glass, which ought to be cleansed with water only. If needed, the wood and ironwork should be painted. Beds that are chambered—that is, the hot-water pipes covered with slates or other material—are much in advance of those passing through beds of rubble. Those composed of the latter should be turned, and dirt or small parts removed, to allow the heat given off by the pipes to penetrate through the whole, and diffuse a uniform temperature to the bed. New material will be required for the bed. Fresh tan should be provided, of which 3 feet depth is ample where pipes are placed beneath to maintain the requisite temperature when that of the fermenting material is declining, and about 1 foot or 18 inches more where there are no pipes. If it be wet, turn it occasionally on fine days.

Suckers that were started in June will soon fill their pots with roots, and must be shifted into larger ones before the roots become closely matted together. Queens require 9 and 10-inch pots, and those of stronger growths 11-inch pots. Supply water if the soil be dry immediately after potting, and plunge the pots in a bed having a temperature of 90° to 95°. There is no greater mistake in growing Pines than crowding young plants, which causes them to become drawn and weakly. Attend to the bottom heat of the beds that have recently been disturbed by the removal of plants, not allowing the heat to exceed 95° at the base of the pots without immediately raising them, as too much bottom heat will disastrously affect plants with fruit or those having the pots filled with roots. Examine the plants for watering about twice a week, and maintain a moist, genial, well-ventilated atmosphere. The climatic conditions are now so favourable that Pine plants grow luxuriantly, therefore discontinue any shading, such as may have been employed for an hour or two at midday when the sun was powerful through the months of May, June, and early July, the plants after this, unless the weather be very scorching, having the benefit of every ray of light. Admit air freely when the temperature ranges from 85° to 95°, affording fruiting plants a night temperature of 70° to 75°, and successional plants 65° to 70° at night. Reserve, if possible, suckers on the stools for starting at the commencement of September.

Melons.—If fruit of these be required very late a last sowing should be made, but unless there be a light and well heated structure available the prospect of a crop will be indifferent, and the flavour of late fruit is not always satisfactory. It is desirable to choose for this sowing varieties that will keep some time after being ripe, as Scarlet Premier in scarlet-flesh, and Longleaf Perfection of the white-flesh section. These, and many others, are good setters and swell well late, or at any time, for that matter, in the season, provided they are properly cared for.

The plants for affording ripe fruit in October should be placed out without delay. If the weather be bright and the temperature at night does not fall below 65°, fire heat may be dispensed with, only it is necessary that the bottom heat, if derived from fermenting materials, be 90° at the commencement, as they will gradually lose heat. If from hot-water pipes 80° to 85°, keep the temperature of the house by day 70° to 75°, advancing with sun heat to 85° or 90°, or 100° after closing.

In pits and frames the latest plants are setting, and a good watering should be given if necessary before the flowers open, as it is undesirable to supply water during the setting process. If, however, it is necessary to afford water during the time the fruits are setting it should be done carefully, as a dry atmosphere with rather free ventilation is essential to a good set. As soon as the fruits of the different crops are set and swelling earth the plants freely, making the soil very firm so as to secure solid fruits. Keep the growths well in hand after the fruit commences swelling, so as to admit light and air to the principal leaves, also stop all lateral growths to one joint. Syringe freely, and afford copious supplies of water, except during the setting and ripening periods. If canker appear at the collar of the plants promptly apply quicklime, rubbing it well into the affected parts, and if there be any indications of the fruit cracking cut the stem half way through a few joints below the fruit, reducing the supply of water at the roots, and maintaining a dry well-ventilated atmosphere, leaving a little air on at night.

Figs.—*Early-forced Planted-out Trees.*—The first crop is gathered, which usually affords a supply over several weeks, and during that time red spider sometimes increases alarmingly, therefore resume syringing twice daily, and sprinkle the house whenever the surfaces become dry. Thin the fruits freely if plentiful, reserving those which are nearest the base of the shoots. Tie in the growths as they advance, securing them loosely to the trellis, stopping or removing any which are not required, regulating those retained so that they may receive the benefit of light

and air to mature them properly. Do not allow the trees to suffer for want of water, but afford copious supplies, also of liquid manure, mulching the surface with short material.

Where crops are ripening maintain a free circulation of warm, dry air constantly, which is essential to ensure good flavour, withholding water from the fruits, and only supplying it at the roots to maintain the foliage in good condition. Trees in pots required for early forcing must not be neglected for watering and supplies of liquid manure, syringing them occasionally to keep down red spider.

THE KITCHEN GARDEN.

Cabbages.—Spring Cabbages, or any that can be cut before or about Eastertide, are always appreciated. In order to be certain of having a good supply of tender young hearts, without running the risk of the greater portion of the plants put out “bolting,” the seeds have to be sown at a certain period—this varying considerably according to circumstances. In some districts on or about July 12th is not found too early, in others from a fortnight to three weeks later answers better. In any case it is not wise to depend solely upon one sowing. Make two sowings at intervals of a fortnight or rather more, and an equal number of plants being eventually put out from each it will then be found which is the best time to sow. If both sowings do well so much the better. There are also some varieties that can be more relied upon than others, and there are few better than Ellam's Dwarf Spring and the old Wheeler's Imperial—both small Cabbages and admirably adapted for private gardens. Select a good open spot, make the soil quite fine, and sow the seeds either thinly in beds or in drills 5 inches apart. If the ground is at all dry well moisten it prior to sowing, and cover the seeds with fine or sifted soil. Where small birds are troublesome net over the beds, and during showery weather slugs may be kept away by means of occasional dustings of soot and lime. When the Coleworts or small quick-hearting Cabbages are large enough plant out, 1 foot asunder, wherever there are border or blank spaces want filling. They will heart in, provided the ground is not too poor, next autumn, and will be found very serviceable till midwinter.

Endive.—Plants raised much earlier than July cannot be depended upon to keep long, but if well grown and properly blanched early hearts add greatly to the appearance of a summer or early autumn salad. Endive must have the benefit of well-worked moderately light rich ground. Supposing the early plants are in seed beds, give the latter a good watering before the attempt is made to lift the plants. Next open moderately wide drills 12 inches apart, give these a watering if dry, and dibble out the Endive 6 inches asunder. Grown thus thickly in drills the blanching will be effected with little or no trouble. Now is a good time to sow seed of the Green Curled and Broad-leaved Batavian forms in drills 12 inches asunder. Where the ground is not yet at liberty, and the Potatoes are late this season, sow the seeds in drills 5 inches apart and transplant from these later on.

Kidney Beans.—When the plants are grown thickly there is usually a heavy crop and an early collapse, whereas when they are freely thinned out, say to a distance of from 8 inches to 12 inches apart, and the plants further lightly staked or supported by being heavily moulded up, a longer succession of pods will be had. Especially is it necessary that the plants be grown thinly, and not be allowed to bear heavily at a time when long straight exhibition pods are wanted. During the next fortnight more seed should be sown on a warm border or high ground, where early frosts are not felt so quickly as in lower positions. From these rows it may be possible to gather several extra late and very acceptable dishes. Sion House and Canadian Wonder are among the best for these late sowings.

Turnips.—Directly a good breadth of early Potatoes can be cleared off the open ground, as much of this as can be spared should be well forked over, levelled, and raked ready for Turnip seed. Open drills 15 inches apart, water if at all dry, and then sow the seeds thinly. Snowball and Veitch's Red Globe are suitable for this sowing, but as a rule the roots will be too forward for winter use, and more seeds ought to be sown late in July or early in August.

Early Potatoes.—Frosts crippled the haulm of these, and as a consequence the crops are somewhat light. Hot weather has forwarded them rapidly of late, and the Ashleafs in particular will soon be ready for lifting and storing. No varieties are more liable to disease attacks, and it is a mistake, therefore, to leave them in the ground till the haulm has quite died down. After the tubers have ceased to grow, and before the skins are set hard, all may safely be lifted and stored. On no account leave the tubers on the ground or pathway to green. No good results from this greening, while a few hours' exposure to a moist atmosphere may lead to the bulk taking Potato disease. It is not very often too many Ashleaf and other extra early varieties are stored for planting purposes, the opposite more frequently being the case. Store abundance of tubers thinly in a cool airy shed or outhouse. Where space is limited an early clearance of Potatoes admits of the sowing or planting of several crops already named, as well as Broccoli, Borecole, Cauliflowers, Savoys and such like in close succession. If the ground is well forked over, levelled, cleaned, and where very loose trampled, it ought to be in excellent condition for any successional crop.

Winter Spinach.—It is yet too early to sow seeds with a view to having Spinach in abundance next winter, but seeing that no crop better repays for a little extra trouble taken in producing it, the preparation of the ground ought, ere this, to have commenced. Not only does early manuring, digging, and redigging render the ground fit for the crop, but also serves to eradicate grubs or insect pests that are liable

to greatly interfere with winter Spinach. A baking will do clayey soils good, but directly a soaking rain falls fork over the surface so as to break all the lumps down finely. If this can be done during the next fortnight or three weeks so much the better, and it may then be possible to sow seeds early in August.

PLANT HOUSES.

Crotons.—Good heads that have been notched and are well rooted should be taken off and placed into 4, 5, and 6-inch pots according to their size and the purpose for which they are required. After potting place in a frame or under large hand-lights for a week or ten days until they are rooting freely. They must be kept moist and shaded from the sun until they are well established, when arrange them where they will enjoy full sunshine. Where small plants are needed for various forms of decoration, and large bold foliage at the base is not important, side shoots may be rooted by inserting them in suitable pots and placing them under hand-lights. Plants in from 3 to 9-inch pots may, if they need more root room, be potted and put in a sunny position; syringe freely to keep the foliage clean and maintain a warm moist atmosphere.

Poinsettias.—Old plants as well as those that have been raised from portions of stem should be placed in the pots in which they are intended to produce their bracts. They ought to be gradually hardened and be grown in cold frames during the summer. If kept close and warm these plants soon become tall and weakly, being liable to lose their lower foliage. Give them full sunshine, and ventilate freely during hot weather.

Adiantum cuneatum.—Plants that are growing freely and intended for yielding fronds in the best condition in autumn and winter may be grown in cold frames. If the plants have been shaded it will be necessary to give them light shade for a time, after which they may be freely exposed to the sun. It is only by exposure and abundance of air that fronds of the lightest green, almost yellow, and those that will last when cut, can be produced. For cutting purposes these plants are frequently overshadowed, and the fronds flag directly they are cut. Seedlings may be placed from pans in thumb or 2½-inch pots, a very suitable size for many forms of decoration.

Eulalias.—Good plants that are needed in the autumn, and have been divided, but are not well established in 5 or 6-inch pots, may be placed into larger ones. Do not grow the plants in too warm a temperature, or they become weak and will not be capable of supporting themselves. A sturdy habit should be aimed at consistent with keeping the plants growing.

Caladiums.—Early plants of *C. argyrites* that are going past their best may be gradually induced to go to rest, so that they will be ready for starting again into growth a few months hence. These must not be prematurely forced to rest or the tubers may decay. Repot late plants that have been started in boxes, and these will keep up the supply for a long time. Plants of larger growing varieties that it may be necessary to increase in size should be placed in other pots as they need more room. Light shade will be needed during the brightest and hottest part of the day.

Gloxinias.—Seedlings that are now in 3-inch pots, and are well rooted, may be placed in 5 and 6-inch pots. If the plants have been brought forward in gentle warmth they should be gradually hardened and grown in a cool house or cold frame. The foliage of the plants must not be watered, and should be shaded from bright sunshine.

Begonias.—The various autumn and winter flowering kinds should be placed in their flowering pots and stood in cold frames. If they have been in a warm temperature the plants must be kept close at first and then given abundance of air. Protect from direct sunshine, but on no account must they be overshadowed. Nearly all Begonias will bear more light and sunshine than they are generally given. Cuttings of the varieties of *B. nitida* and others required for spring flowering may be rooted as frames and hand-lights are at liberty. *B. Ingrami* is very serviceable, and cuttings propagated from the present time will be found most useful for various purposes. The same may be said of many of the *semperflorens* section.

Asparagus plumosus.—Young plants raised from cuttings, and well rooted in small pots, may be placed in others 2 inches larger. These if grown well, will be useful by autumn for either table or room decoration. Few plants are more useful in a small state, and they are readily raised and grown into a suitable size in one season.

and cloudy, with the barometer at 29.10. There is little prospect of the Clover honey season being resumed.

I have a number of nuclei prepared for isolation, which I intend taking to the Leadhills probably before this is in print, when I shall take a survey of the hills whether it be advisable to remove the stock there or not. The weather will also have to be taken into account, for unless it settles, no matter how fine the bloom of Heather may be, no honey can be gathered.

A partial inspection of my hives reveals the fact, notwithstanding all the care taken to keep them in the highest condition, they are only now coming to that desirable point. Had they been fed excessively they would have been more forward, but to do so in the absence of the knowledge of what the future weather will be is inadvisable. I strive to have my hives free from sugar during the summer months, then I can depend on the honey being pure. I was well pleased when examining my hives to see the Punics with so much sealed honey, a decided proof against those who averred "they gathered no honey."

QUALITY OF HONEY.

So far as I am personally concerned, I would not give 1 lb. of good honey for 20 lbs. of that which is inferior. Many of our modern writers on bee matters have condemned the good old practice of dripping honey, to the general commendation of extracting it by the aid of centrifugal machines, and pressing indiscriminately full sized combs of Heather honey. In both cases the honey contains much foreign matter, such as pollen and water intended for larvæ food, or may be containing larvæ. The ancient writer who said, "or honey from the comb, which droppeth sweeter far," seemed to be alive to that which our forefathers followed up most rigidly, and would on no account press a single cell. Had the same care been continued and practised at the present day, we would have heard less about "no market for our honey."

In many samples of honey submitted to experts their analyses come all pretty near each other—i.e., so much pollen, and water in excess, with traces of animal matter. This is a state of matters which should not be in connection with honey. Pollen as a ferment has been well known for ages, and is what I use as such, also for colouring purposes. When pollen and honey come into contact their strong affinity for each other causes an infusion to take place, and fermentation follows. This is what occurs in many cases of honey on sale in our warehouses in towns and cities, consequently the honey has neither an inviting look nor is it appetising.

Honey should contain neither pollen nor unsealed honey and water. No honey ought to be pressed from comb which is unsealed, or from that containing pollen or eggs, or brood in any stage. Nor should any but fully sealed combs be subjected to the extractor. But that is not all; there is a great difference between honey extracted or pressed from that dripped by simply cutting the cells of select combs, laying them upon sieves, and finally through muslin or flannel cloth. Heather honey cannot be taken in full without pressing, but as before said, the combs should be selected, be entirely free from pollen, and have no unsealed cells.—A LANARKSHIRE BEE-KEEPER.



TO CORRESPONDENTS

All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Questions on Vines (H. W. N. and W. O.).—The specimens did not arrive soon enough for the purpose of examination and the preparation of satisfactory replies this week. The matter will have attention.

Schedule of Crystal Palace Fruit Show (W. Packham).—A letter addressed to the Rev. W. Wilks, Secretary, Royal Horticultural Society, 117, Victoria Street, London, S.W., will no doubt result in your obtaining what you require.

THE BEE-KEEPER.

APIARIAN NOTES.

THE HONEY SEASON.

ON the 6th inst. the test hive mentioned on page 46 of last week's issue rose in weight 2¾ lbs. in two and three-quarter hours. The day was sultry, and a severe thunderstorm occurred, putting an end to the ingathering for the time being. The test hive swarmed on the 10th, and I gave it about half a pound of syrup in the evening. Very little honey was obtained on the 11th, but on the 12th the swarm gathered 2 lbs., while unswarmed hives secured about half that amount only. The 13th proved windy

Potatoes Unsatisfactory (*Mutual*).—It seems clear from the circumstances of the case that the ground where the Potatoes were planted has been poisoned through the excessive use of crude manure.

Shortening of Crimson Rambler Rose Shoot (*Kittie*).—No climbing Rose ought to be stopped, but should be allowed to grow and produce as much young wood as possible this year for flowering in the next. That, of course, depends on its being well ripened. Mr. Turner does not "top" the growths of his Crimson Rambler Rose in the summer, but allows them to extend, and the long ripened stems tied round stakes produce trusses of flowers nearly from base to summit.

"Caked" Superphosphate (*Idem*).—The superphosphate should be crumbled and used in somewhat larger quantities than usual, as it will have lost nearly all its ammonia, and a considerable amount of the phosphate will have reverted to the insoluble state.

Tomatoes (*Cross*).—We are obliged by the fruits, which are very good. We have not tried either of the remedies you propose. You will have read what Mr. F. Williams said on sulphur and lime on page 9 (July 5th). You will also find in a lengthy reply to another correspondent a method of conquering the Tomato disease, and we happen to know the record is strictly accurate. All nearly ripe fruits should be cut before applying the dressings.

Challenger Tomato (*J. W. B.*).—You say you "cannot get one fruit in ten to finish properly," though you have no difficulty with other varieties. The fruits sent are a little irregular in outline and not uniformly coloured. They are softer than others we have seen perfect in shape and colour, and if yours suggest anything it is that the plants have been somewhat overfed. Possibly also the fertilisation may have been defective. Try the effect of less generous treatment.

Insect on Chrysanthemum Leaf (*W. R., High Beech*).—The "bug" on the Chrysanthemum leaf is the pupa state of the "ladybird" insect (*Coccinella bipunctata*), from which the perfect insect will soon emerge, leaving its skin or pupa-case behind—on the leaves of the Chrysanthemum. In its larva stage it devours aphides, and is extremely useful, of which your testimony is convincing, namely, "they seem to eat the 'aphides' and die [become pupa], as all plants with this bug [pupa] are clear of green fly." The insect in its next or beetle form does not do the plants any harm, but will feed on certain kinds of fruit, though it rarely does material mischief.

Black Muscat Grapes Shank (*A. D.*).—You do not say when you re-made the border, and there has perhaps not been time for the effects of your work to show themselves. Apart from this the Grape named is prone to shank, especially when the crop is expected to ripen in June. A month later the root-action would be much more powerful and the shanking less virulent. The advice of your friends to "do away" with the Vine is probably good; but if you particularly desire to retain the variety, inarch a cane to the adjoining Muscat of Alexandria. This Vine will support two rods as well as one, and as a rule the Black Muscat succeeds on it much better than on its own roots.

Cyclamens (*Flower Lover*).—If the plants are small they may be kept growing under the present treatment, and shifted into larger pots as more rooting space is needed. When large plants have flowered it is a good plan to plunge the pots over the rims in cocoa-nut fibre refuse, or other light material, in the open air. They will then rest for a time, and eventually push clusters of new leaves. When these are an inch or two high a good deal of loose soil may be removed from the roots and fresh compost supplied, using the same or larger pots, according to the condition of the plants. After repotting they may be grown in frames under your present treatment until the temperature falls too low for them in the autumn.

Insects on Red Currants (*W. S. P.*).—The "little grub or beetle attached so fast that it can only be removed by force" is the pupa stage of one of the ladybirds, probably *Coccinella bipunctata*; but the species is rather difficult to distinguish in its pupal condition. The preceding stage of the insect is extremely useful in devouring aphides, which it grasps with its fore legs and sucks the liquid part of the insect's clean out of the skins, leaving only these. The larvæ are black and very active when anything is applied to the bushes which they do not like, as tobacco smoke, and soon get out of harm's way. The only thing worth trying to do is to keep the Currant bushes free from aphides, and then the ladybirds in any stage will not frequent them so as to do harm, as they certainly do when they become pupæ on the fruit, which is clearly unfit for use. See Mr. Dunkin's article on "Fighting Our Insect Pests," in the Journal of July 5th (page 1).

Peach Trees Infested with Thrips and Red Spider (*E. M.*).—As the fruit is ripening syringing cannot well be had recourse to, but you may kill the thrips by fumigation with good tobacco paper, choosing a calm evening and having the foliage dry, but the floor may be damped. Repeat in the course of a few days, as more will be hatched from eggs, which the smoke will not destroy. For the red spider it will be necessary to heat the hot-water pipes to 180° or more, only not making the water boil. Close the house, and paint the hot-water pipes with a cream formed of flowers of sulphur and skim milk. The house should be kept close and the pipes hot for about an hour, when they should be allowed to gradually cool to the usual heat. Repeat the heating of the pipes in about a week, it sufficing to brush them with a little water if the sulphur remain on, otherwise use a little of the sulphur cream as before. Though these measures will destroy the pests, it is certain the effects of these will prove more or less disastrous to the trees and prejudice their health—and possibly cropping—another year.

Trees for Towns (*Member of Local Board*).—Forest or deciduous trees of large size:—1, Common Ash (*Fraxinus excelsior*); 2, Common Beech (*Fagus sylvatica*), also Copper Beech (*F. s. cuprea*); 3, Balsam Poplar (*Populus balsamifera*); 4, Sycamore (*Acer pseudo-Platanus*), also the Purple-leaved *A. p.-P. foliis purpureis*; 5, White Willow (*Salix alba*); 6, Small-leaved Lime (*Tilia cordata*), also the Silver Lime (*T. argentea*), these hold their leaves better than the common Limes (*T. platyphylla* and *T. vulgaris*) in towns; 7, Norway Maple (*Acer platanoides*); 8, Tulip Tree (*Liriodendron tulipifera*); 9, Scotch or Wych Elm (*Ulmus montana*); 10, Scarlet Oak (*Quercus coccinea*), also common Oak (*Q. pedunculata*); 11, Ontario Poplar (*Populus canadensis*, also var. *P. c. nova*); 12, Manna Ash (*Fraxinus Ornus*). Horse Chestnut (*Æsculus hippocastanum*) does well, but the capsules tempt boys to throw stones. Tree of Heaven (*Ailantus glandulosa*) is an excellent tree for towns, but it produces an immense number of suckers, as also does White Poplar (*Populus alba*), otherwise it is a good town tree. Birch (*Betula alba*) may not be large enough for your purpose, otherwise it has few equals for beauty—"queen of the woods." Two of the very best town trees, Acer-leaved Oriental Plane (*Platanus orientalis* var. *acerifolia*) and Black Walnut (*Juglans nigra*), have not been included in the dozen, as they would probably prove too tender for your situation.

Red Spider on Vines—Manure (*Omicron*).—There is no better plan than the tedious one of sponging the leaves carefully with a solution of softsoap, 2 ozs. to a gallon of water, taking care not to damage them or to rub the berries. Another plan is to syringe the Vines forcibly with clear rain water, so as to dislodge the red spider, practising it sufficiently early in the afternoon to allow of the foliage and Grapes becoming fairly dry before night. This may be continued daily in fine weather up to the Grapes commencing to colour, when the Vines ought to be perfectly free from red spider. The best manurial antidote to red spider is soot; but if used after the Grapes are more than half swelled it will impart an unpleasant taste to the fruit. You may use Peruvian guano, 2 ozs. per square yard, at fortnightly intervals, and wash in moderately, it being best to first give the needful supply of water, then sprinkle with the guano and wash in as advised. It will aid the Vines, and prove more or less inimical to red spider. In bad cases the hot-water pipes may be heated to 180°, and while hot painted with flowers of sulphur brought to a thin cream consistence with skim milk. The house should be closed, and the pipes kept hot for about an hour. The fumes vapourised in that time will kill the red spider; afterwards allow the pipes to cool to the ordinary temperature. You may repeat the operation in about a week from the first, so as to destroy any "spider" hatched from eggs.

Phenyle and Carbolic Acid for "Club" in Cucumbers (*M.*).—Phenol (which you mention) is of no use, but Soluble Phenyle (C_6H_5) is a cure, provided the plants are not too far gone, for when "clubbing" has set in so as to affect the foliage nothing will cure, though by earthing up the plants and getting new roots from the stem they may be continued in bearing some time. Phenyle is a preparation of coal tar, and to be of use must be soluble (Little's Soluble Phenyle can be had of all druggists). It should be used with soft or rain water, quarter pint to four gallons of water, mixed well, and a gallon applied to each square yard of bed. You mention the length of the border (100 feet), but do not state its width, yet ask how much of the liquid to use? The mixture may be applied at intervals of about fifteen days, and it will not injure (like carbolic acid) but invigorate the plants, as it is a nitrogenous manure. You can, however, use carbolic acid, one part to twenty of rain water, and employ a gallon of the solution per square yard, but it will act prejudicially upon the plants for a time. If you would like to still further experiment, procure some gas liquor from gasworks, and use half pint to a gallon of water, applying that to a square yard of bed. The cysts of the eelworm may resist this, but when they emerge as eelworms they will soon seek "pastures new" or wriggle themselves out of existence. The quantity named is for very strong gas liquor, but it is as well to be safe, otherwise it may be used at a strength of one part to eight of water—viz., one pint to a gallon. It is a sure preventive if applied in time.

Tomato Plants Diseased—Making and Using Carbonate of Copper Solution (*G. C.*).—We find nothing in the elaborate account of your treatment but what accords with good cultural management. When the attacking fungus is not affected by bouille bordelaise it is possible that either a slight mistake has been made in its preparation or dressings have been too long deferred or incomplete. After a failure with the bouille Mr. W. K. Woodcock succeeded in banishing the fungus and gathering a very profitable crop of Tomatoes through the use of carbonate of copper solution. We reproduce what he wrote on the subject in 1892:—"Having read in the *Journal of Horticulture* of the value of carbonate of copper solution, I determined to give it a trial, and therefore applied to the wholesale drug stores, but was told by them that they kept the copper sulphate but not the copper carbonate. I also saw in the Journal a method by which the sulphate may be converted into carbonate. I proceeded to put it into practice as follows:—I purchased 4 lbs. of sulphate of copper and 4 lbs. of ordinary washing soda. I placed the sulphate in a wooden vessel and added thereto 9 gallons of hot water, stirring this vigorously until the sulphate was all dissolved. I then placed the soda in another vessel and dissolved it with a similar quantity of hot water. After allowing the two solutions to stand a sufficient time for the water to become cold I poured the soda solution into the vessel containing the copper, stirring well to thoroughly mix the two solutions, the effect of this being to cause the sulphur to part from the copper, the former floating as a thick yellow scum on the

surface of the water, whilst the latter settled to the bottom, having the appearance of a thickish brown mud. The vessel was then covered with boards and left to stand quietly for twenty-four hours to give time for completing the partition and settling, after which the water with the floating yellow scum was most carefully poured off, leaving the sediment undisturbed. This was then collected in a pail and placed near the fire until the water was all evaporated, leaving it a dry, hard cake of a brownish orange colour, this being the carbonate of copper required, and which was stored away for use as required. This carbonate of copper is insoluble in water, but soluble in liquid ammonia. In using it I dissolved 2 ozs. of the carbonate in one pint of liquid ammonia, and mixed this in 20 gallons of water, keeping it well stirred to prevent any settling and applying it as a fine spray with the syringe, using a jet thereon instead of a rose end, and breaking the jet into fine spray with the forefinger of the left hand. During the time necessarily taken up in obtaining and preparing these materials the disease had spread itself so rapidly that there was not a leaf upon the plants unattacked, the disease ceased to spread after the first spraying, and I continued throughout the remainder of the season to spray at intervals of ten or twelve days, thus protecting the young foliage as formed. I was soon able to clear away every leaf showing disease, and late in the autumn I had the house again well furnished with healthy clean foliage, and also, which was of more value, a good second crop of fruit, which continued ripening satisfactorily until considerably after Christmas. I have thus given as clearly as I can the methods I followed with the results, and the deductions I have myself drawn from them are that by commencing the sprayings with this ammoniacal solution of carbonate of copper early in July, before the disease has shown itself upon the foliage, I can practically bid defiance thereto, as I have proved most surely that its spores cannot germinate on foliage thus protected. The Bordeaux mixture, consisting of a solution of sulphate of copper and lime, is too astringent, and is found injurious to the young tender foliage, but the carbonate of copper solution seems to have no injurious effects whatever."

Forming Brick Pits for Early Vegetables (Somerset).—The southern position would be much the best, in fact it would be a great mistake to face the pits to the east. Early vegetables could be grown in three pits each of four lights 6 feet by 4 feet. If possible allow 6 feet spaces between the pits, as they can be more easily filled and attended to when there is good room between them. Sink the walls and excavate the pit to a depth of about 30 inches, and build the fronts to a height of 3 feet, and the back walls to a height of 4 feet above the level of the ground. This would give a good depth for heating material, and admit of the pits being utilised for a variety of purposes. After the foundations are laid 4½ inch brickwork will be sufficient, and the wall-plates may be of the same width, and not less than 2 inches thick. The lights and bearers may well be of the same thickness (2 inches), and use good 21-oz. glass, as this is the best and cheapest in the end. We can only give a brief outline of what may be grown in such pits, fuller cultural details invariably appearing in the earlier pages in due course. Carrots could be grown in four lights, sowing these, with Radishes between, at fortnightly or rather longer intervals, commencing as early in the year as possible, so as to afford a long succession. Two lights in another pit could be devoted to early Turnips, and the other two be filled with Early Paris Market or Golden Queen Cabbage Lettuces. The third pit might be cropped with early Potatoes and Kidney Beans in close succession. The Turnips and Lettuces would probably be the first to be cleared off, and frame Cucumbers or Melons could then be grown, or if preferred, these could follow Potatoes instead of Beans. If early Turnips are not particularly wanted then you might well devote two lights to raising Brussels Sprouts, Early Broccoli, Cauliflowers, Lettuces and Celery, for planting out, though we should think you will be able to spare two lights out of the pits primarily intended for raising flowers for this purpose. Early London and Dwarf Erfurt Mammoth are good varieties of Cauliflower for wintering in pits and frames, and room should also be found for plants of Veitch's Autumn Giant. The latter, raised in the autumn and in the spring planted out on good ground, will produce extra fine hearts during the following August.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (W. W.).—Cox's Pomona. (H. P. R.).—The Grapes you send are Black Hamburgs, poor grown samples, and badly coloured. (D. B.).—Peach Walburton's Admirable.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers.

Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (J. W.).—*Cattleya guttata*. (*Cynosurus*).—The parcel was insufficiently stamped. Please remit the overcharge, 2d., and the Grasses will be named. (J. A.).—1, *Geranium sanguineum* fl.-pl.; 2, *Malva moschata* alba; 3, *Lysimachia vulgare*; 4, *Lythrum salicaria*; 5, no leaf sent, possibly *Funkia ovata*. (*Normanton*).—1, *Anthericum variegatum*; 2, *Begonia Jules Chrétien*; 3, *Sedum carneum variegatum*; 4, *Dracæna amabilis*; 7, *Rhus cotinus*; 8, *Tropæolum tuberosum*. Only six plants can be named at once, see instructions above. Specimens in excess cannot be preserved. (*Enquirer*).—*Silene inflata*.

COVENT GARDEN MARKET.—JULY 18TH.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Cherries.. .. .	3	0	5	6	Lemons, case	10	0	to 15	0
Currants, Black, half sieve	4	6	5	0	Peaches, per doz. ..	1	0	8	0
" Red,	3	0	4	0	St. Michael Pines, each	2	0	6	0
Grapes, per lb.	1	0	2	0	Strawberries per lb. ..	0	6	1	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Asparagus, per bundle ..	1	6	to 3	6	Mushrooms, punnet ..	0	9	to 1	0
Beans, Kidney, per lb. ..	0	6	0	9	Mustard and Cress, punnet	0	2	0	0
Beet, Red, dozen	1	0	0	0	Onions, bushel	3	6	4	0
Carrots, bunch	0	3	0	4	Parsley, dozen bunches ..	2	0	3	0
" new, bunch	0	9	1	0	Parsnips, dozen	1	0	0	0
Cauliflowers, dozen	1	6	3	0	Potatoes, per cwt.	2	0	4	8
Celery, bundle	1	0	1	3	Salsafy, bundle	1	0	1	5
Coleworts, dozen bunches	2	0	4	0	Scorzonera, bundle	1	6	0	0
Cucumbers, dozen	1	6	3	0	Shallots, per lb.	0	3	0	0
Endive, dozen	1	3	1	6	Spinach, bushel	1	6	3	0
Herbs, bunch	0	3	0	0	Tomatoes, per lb.	0	4	0	8
Leeks, bunch	0	2	0	0	Turnips, bunch	0	3	0	4
Lettuce, dozen	0	9	1	0	" new, bunch	0	8	0	10

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.

Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	1	6	to 3	0	Myosotis or Forget-me-nots, dozen bunches ..	1	6	to 2	0
Asters (French) per bunch	0	9	1	0	Orchids, per dozen blooms	3	0	12	0
Bouvardias, bunch	0	6	1	0	Pansies, dozen bunches ..	1	0	2	0
Carnations, 12 blooms ..	0	9	1	6	Pelargoniums, 12 bunches	4	0	6	0
" doz. bunches	2	0	4	0	Pelargoniums, scarlet, doz. bunches	2	0	4	0
Coronflowers, doz. bunches	1	0	2	0	Pinks, various, doz. bnchs.	1	0	3	0
Crassula, per bunch	0	9	1	3	Poppies, various, dozen bunches	0	9	2	0
Eucharis, dozen	2	0	4	0	Primula (double), dozen sprays	0	6	1	0
Gaillardia, dozen bunches	1	0	2	0	Pyrethrum, dozen bunches	3	0	6	0
Gardenias, per dozen ..	1	0	4	0	Roses (indoor), dozen ..	0	6	1	0
Gladiolus, dozen bunches..	1	6	5	0	" (outdoor), doz. bnchs.	3	0	8	0
Lily of Valley, doz. sprays	1	0	1	6	" Tea, white, dozen ..	1	0	2	0
Lilium candidum, dozen bunches	12	0	18	0	" Yellow, dozen	2	0	4	0
" Ditto dozen blooms ..	0	4	0	6	" Safrano (English), doz.	1	0	2	0
Lilium longiflorum, per dozen	2	0	4	0	" Maréchal Niel, doz. ..	1	6	5	0
Maidenhair Fern, dozen bunches	4	0	6	0	Stephanotis, dozen sprays	1	0	2	0
Marguerites, 12 bunches ..	1	6	4	0	Stocks, dozen bunches ..	2	0	4	0
Mignonette, 12 bunches ..	1	6	4	0	Sweet Peas, dozen bunches	1	0	3	0
Moss Roses (English), doz. bunches	6	0	12	0	Tuberose, 12 blooms ..	0	4	0	6

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	to 12	0	Ivy Geraniums	4	0	to 6	0
Arum Lilies, per dozen ..	6	0	12	0	Lilium auratum, doz. pots	18	0	30	0
Aspidistra, per dozen ..	18	0	36	0	" Harrisii, per dozen	12	0	24	0
Aspidistra, specimen plant	5	0	10	6	" lancifolium, dozen pots	12	0	18	0
Calceolarias, dozen pots ..	3	0	6	0	Lobelia, per dozen	3	0	4	0
Crassula, dozen pots	12	0	30	0	Lycopodiums, per dozen ..	3	0	4	0
Dracæna terminalis, per dozen	18	0	42	0	Marguerite Daisy, dozen ..	6	0	12	0
Dracæna viridis, dozen ..	9	0	24	0	" yellow, doz. pots ..	6	0	18	0
Ericas, per dozen	9	0	24	0	Mignonette, per doz. ..	4	0	8	0
Euonymus, var., dozen ..	6	0	18	0	Musk, per dozen	2	0	4	0
Evergreens, in var., dozen	6	0	24	0	Myrtles, dozen	6	0	9	0
Ferns, in variety, dozen ..	4	0	18	0	Nasturtiums, per dozen ..	1	6	6	0
" (small) per hundred	4	0	8	0	Palms, in var., each	1	0	15	0
Ficus elastica, each	1	0	7	6	" (specimens)	21	0	63	0
Foliage plants, var., each	2	0	10	0	Pelargoniums, per dozen ..	6	0	12	0
Fuchsia, per dozen	4	0	6	0	" scarlet, per doz. ..	3	0	6	0
Heliotrope, per dozen ..	5	0	8	0	Spiræas, per dozen	6	0	12	0
Hydrangea, per dozen ..	9	0	18	0					

Roots in variety for planting out in boxes or by the dozen.



DAIRY FARMING.

FROM the mere production of milk for sale up to the finishing of a first-class Stilton cheese, or the successful running of a dairy factory, dairy farming has a wider range and greater

possibilities than is at all so well understood as it ought to be, even by some of those leaders of thought and pioneers in agricultural reform whose opinions are, or ought to be, a light and guide for those who look to them for help. To say that the profitable cultivation of Wheat is at an end, and that the milk trade is much overdone; that land has become so foul and poor as to be unfit for cropping; to suggest that it shall be restored to sound condition by the State, but to give no definite information as to what purpose it could then be turned to; to offer no scheme of management which has the elements of success in it, is, to say the least, not satisfactory. It may be that the scope of commissioners' reports is simply to make clear the agricultural situation in order that a scheme of improvement may be matured so wide and far-reaching in its character as to embrace the requirements of the whole nation. If so, such a scheme should set forth what to avoid and what to do, in order that the farmer's efforts should not be spent, or his time and means wasted, in striving for that which is impossible.

Very far from satisfied should he be with the dictum that the milk trade is overdone, because in milk we have an article of diet of the first importance, the demand for which in its pure and simple form of new milk is ever growing, and is bound to increase very much in proportion to acquirement of a knowledge of its real value by the masses, by whom cheap food, wholesome and nutritious, must be had. At present it is certain that there are thousands of poor children to whom plenty of pure new milk would prove a blessing in the promotion of robust health and vigorous growth, yet which is practically denied to them, more through ignorance of its value, its nutritive properties, than from a want of means to procure it. At the breakfast table of the children of the upper and middle classes well cooked oatmeal porridge, with abundance of new milk, is always to be found; it is only in exceptional cases, few and far between, that the labourer's children have it. We commend this matter to the attention of both dairy and cooking lecturers in their work in County Council classes.

That the purchase of new milk, both for cheese and butter making, is extending we have proof. It is probable that dairy factories have led to this in certain localities, and while producers can be found to sell milk for 6d. a gallon buyers ought certainly not to be wanting. It is in this direction that producers should look for an extension of trade. Let them try to grasp all that is possible in the profitable disposal of milk. If under this category we are to include 6d. a gallon, then it is certain that the town retailer of new milk at 4d. per quart must be making enormous profits. We are bound to tell every dairy farmer that it is so, that we know of one instance where a retail milk dealer is able to reside in a house for which he gave £800 of his profits; and of another who is the owner of several good middle class houses. His profits are so large that he is thus able to lay house to house. He has none of the risk and anxiety of the farmer, he has simply to receive his milk, to sell it, and collect his money.

The sale of milk to factories may or may not prove advantageous. The factory company fights entirely for its own hand, giving the farmer the lowest price for milk and turning everything to account for its own advantage. In the recent inspection of such a factory in Cumberland, we found the making of butter, margarine, and cheese, also cream cheese, the potting of cream, and the scalding of separated milk for sale, all being done in a thoroughly systematic manner. Nothing was wasted; poultry and pigs were kept for the consumption of refuse which could not otherwise be turned to account, the entire establishment being a striking embodiment of industry and economy. The only objectionable feature was the scalding of separated milk for sale. It was done in a perfectly open manner without a thought of evil, yet the sale of it undoubtedly

is a bid for dishonesty, as it enables the retailer of new milk to mix with it the cheaper worthless separated article, and so add to his high profits. That is especially the case in the second round about 10 A.M. when "lovely milk" is offered at 1½d. a pint in strident tones by the ever increasing number of those men who push milk handcarts about suburban streets. So serious an evil is this sale of separated milk that we would make it penal, and the use of it at the place of separation for pigs compulsory.

Be it understood that we do not recommend the sale of milk to the company factory, but we do most heartily commend its disposal at co-operative factories by the shareholding farmer; and we intend to call attention once more to the special advantages of such factories next week.

WORK ON THE HOME FARM.

Though the haymaking has been somewhat hindered by rain it has not been so to a serious extent, and the rain was much wanted in some districts even for the hay crop where land was stocked very late in spring. On the whole the weather has been so favourable for hay-making that ensilage has hardly been thought of generally. It is in hilly districts where the rainfall is always high, that ensilage should have more attention. Well would it be to make the relative value of roots and silage quite clear. If it can be shown that good silage is more nutritious than roots, then there ought to be a complete revolution in farm management in those widespread districts where roots are cultivated so extensively. Root culture at the best is a costly process, and as compared with ensilage it is extravagant in the highest degree. For silage of the best quality we must have nutritious herbage, mown before seed is visible among it. In the process of ensilage there is no risk, no uncertainty, and though it has been condemned by practical men after a very perfunctory trial, there are many more good men and true with whom it has answered. Failures arise from various causes, and we have no doubt that every one of them could be explained in connection with this important matter.

Oats are already changing colour, Winter Oats especially will soon be ready for the reaper. We want no self-binder for this valuable crop, but shall mow it at once after the grain has passed the milky stage. The threshing machine and chaff-cutter will be at hand; the corn will be carted off the land to the thrasher, the threshing will be followed at once by the chaff-cutter, the whole of the straw being cut into chaff, which is placed in a compact heap in a barn head or chaff house, every layer of a foot or two in thickness being well sprinkled with salt and well trampled. Sufficient heating follows to develop a delicious aroma, and to render the chaff as palatable as it is nutritious. It is available for horses during the general harvest, so that no time is taken up in the collection of food then, and the horses are certain to be all the better fed for that reason alone.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

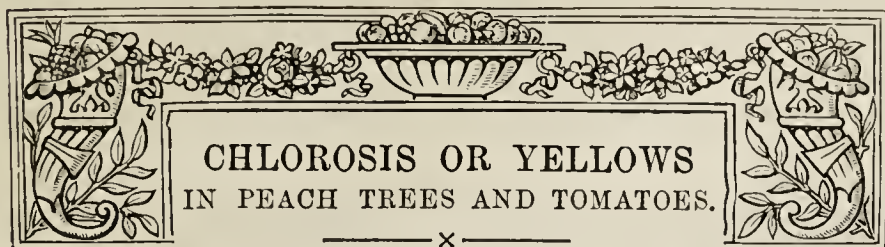
Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
		Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
1894.	July.										
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday ..	8	30.068	63.8	56.3	W.	63.6	72.9	50.0	128.0	45.3	0.128
Monday ..	9	29.824	63.6	60.3	S.W.	62.9	73.4	54.4	122.0	53.1	0.248
Tuesday ..	10	29.620	60.1	55.9	S.E.	62.6	67.0	56.2	94.1	53.2	1.122
Wednesday ..	11	29.372	59.8	55.2	W.	61.1	71.1	54.2	118.8	53.4	0.152
Thursday ..	12	29.319	61.4	56.7	W.	61.0	67.9	53.0	115.2	48.1	0.073
Friday ..	13	29.669	63.4	56.7	S.	60.8	65.2	53.1	94.9	48.4	0.355
Saturday ..	14	29.679	60.8	56.2	E.	59.9	69.8	48.9	126.1	42.6	—
		29.650	61.8	56.8		61.7	69.6	52.8	114.2	49.2	2.078

REMARKS.

- 8th.—Brilliant early, generally cloudy in afternoon, spots of rain in evening; rain 9.30 P.M. to midnight.
 9th.—Occasional gleams of sun, but generally overcast, with slight showers till 11, when 0.20 inch of rain fell in nine minutes, followed by bright sun till 3 P.M., then overcast, and showers between 6 P.M. and 8 P.M.
 10th.—Overcast all day, slight showers at 4.50 P.M., and steady heavy rain from 6.45 P.M., an inch having fallen by 3 A.M. on 11th.
 11th.—Continuous rain till 5 A.M., overcast till 9 A.M., and then sunny to noon, variable after, with high wind and occasional spots of rain.
 12th.—Windy and showery, cloudy, and sunny alternately.
 13th.—Gleams of sun at times, but storm rains at frequent intervals till 4 P.M.; fine and sunny after.
 14th.—Generally sunny in morning, cloudy afternoon and evening, spots of rain between noon and 1 P.M.

A wet week, and much less warm. The fall of rain on the 10th is the heaviest on one day since October 9th, 1893.—G. J. SYMONS.



CHLOROSIS OR YELLOWS IN PEACH TREES AND TOMATOES.

THE late Mr. R. Thompson says:—"The yellows [in Peach trees] is a disease little heard of, except in America, where it destroys whole orchards in a few years. It invariably manifests itself in trees growing on the Peach stock, and consequently in order to avoid it they should be worked on the Plum or on the Almond"—("Gardener's Assistant," first edition, 1859, page 556). This was written subsequent to the then late Mr. Downing's statement in his "Fruits and Fruit Trees of America," that this serious malady [the yellows] seems to belong exclusively to this country, and to attack only the Peach tree. Although it has been the greatest enemy of the Peach planter for the last thirty years [since 1830], rendering the life of the tree uncertain, and frequently spreading over and destroying the orchards of whole districts; still little is known of its nature, and nothing with certainty of its causes. Many slight observers have confounded it with the effects of the Peach-borer, but all persons who have carefully examined it know that the two are totally distinct. Trees may frequently be attacked by both the yellows and the borer, but hundreds die of the yellows when the most minute inspection of the roots and branches can discover no insect or visible cause."

Mr. Thompson's statement that yellows "invariably manifests itself in trees growing on the Peach stock" has received no confirmation during the last thirty years. On the Continent chlorosis affects Peach trees both on the Almond and Plum stock, and the disease, though not common, is not unknown in this country, where Peach trees are almost exclusively worked on Plum stocks.

What is yellows? "The first symptom in bearing trees is usually the premature ripening of the fruit. This fruit contains definite small red spots which extend to the pit. The next stage is indicated by very slender shoots, which branch the first year, and which start in clumps from the old limbs, bearing narrow and small yellow leaves. Later the entire foliage becomes smaller and yellow. In three or four years the tree dies. The disease spreads from tree to tree. It attacks trees of any age. Known at present only in regions east of the Mississippi, more particularly in the North-Eastern States. Peculiar to America, so far as known."—(Mr. L. H. Bailey). This (American) description and view of yellows differ somewhat from what I have seen of it in this country, where the disease manifests itself in the early stages of growth, the leaves assuming a pale green hue, becoming decidedly yellow when they are fully developed, then they have a pretty appearance through the veins, ribs, and midrib of each leaf being of a darker greenish colour, similar to but less decisive than in Golden-leaved Elder. This is mainly due to the greater density of those parts as compared with the thinner tissue of the leaf, for a minute section through a midrib is quite pale in colour under the microscope, and absolutely destitute of chlorophyll (green colouring matter of leaves). After a time the leaves fall, sometimes quite suddenly, especially if the house be fumigated; in other cases they remain until nearly the usual period of their falling naturally, and assume a purplish tint here and there on the yellow ground, not unlike the ripening tints of Gros Colman Vine leaves. In either instance the shoot is marked by sterility, the first not forming any blossom buds and few puny wood buds, and the latter has a number of blossom buds with a terminal growth bud and several smaller ones at the base. The shoot losing its leaves early generally fails

to produce any growth whatever the following year, but a tuft of young shoots spring from below on the two-years or older wood, and these are lean, long-jointed, and push laterals from most every joint. These shoots also are sterile so far as fruit is concerned, but they may live on, producing nothing but spasmodic growths and pale sickly-looking foliage. They, however, collapse suddenly in some instances, and not unfrequently the whole branch dies after the stoning of the fruit is completed without, as the saying is, cause or reason. This is a very serious matter, first one branch and then another going off until the tree is a mere skeleton, dying by inches, feet, yards. If we examine a collapsed growth or branch, there is no trace whatever of disease caused by micro-organisms fungi, or insects.

The affected shoots retaining their leaves in the year of apparent chlorosis cast every blossom bud in the next, and the wood buds only push a few tiny sickly leaves, and then die. Below the point of collapse a number of shoots spring from the older wood, latent buds even on the oldest limbs being called into activity. These mostly are gross, and start nearly every bud in the axils of the leaves, these (laterals) having pale green or yellowish leaves, large, but thin in texture. Such may live for a time—even years—yet sooner or later these erratic and gross growths fall away, die suddenly, sometimes before and at others after the fruit has ripened, the leaves falling prematurely, and the branch perishing. Indeed, the tree affected with yellows succumbs gradually, gets smaller by degrees till the end comes.

The foregoing are the two phases under which I have observed yellows in Peach and Nectarine trees. It seems more decisive in standard trees, those with 3 feet or longer stems, which are budded at the heights required to reach the trellis or form the head at a given point, than in dwarf trees or those employed for walls, or cordons, or as bushes or pyramids in pots. Rider trees succumb sooner than dwarfs trained to walls. This implies stock or stem influence, and might be usefully discussed, not only as regards the Peach on Plum stocks, but also the Pear on the Quince. It is, however, only a Mr. T. F. Rivers or a nurseryman of life experience that can handle the subject in a thoroughly practical and useful manner, therefore I pass this question of life and death interest to the cultivator with extreme reluctance and a yearning for information on this important matter—that of stocks on which the trees we cultivate are worked. In my experience I found a great difference in the trees from the stocks on which they were budded. On a certain stock Grosse Mignonne Peach is tender, very liable to mildew, and altogether unsatisfactory on walls, but on another stock it is the best Peach in cultivation for size, colour, and quality, remarkably healthy, and free from mildew and other kindred diseases. This, not in different soils and locations, but under an identity of conditions, therefore there was no question as to its being a case of stocks. I allude to Grosse Mignonne Peach because it is one of the oldest and the parent of varieties with hardier constitutions, though some, as Belle Beauce, are equally susceptible to injury from climatic and soil influences.

Now Grosse Mignonne is a yellow fleshed Peach; the yellow fleshed Peaches are tenderer—if I may be allowed the expression—in the highest evolution. Such is the case everywhere, in France, in this country, and in America. They are the most difficult to cultivate, the best when had at their prime. This is an outcome of cultivation—call it evolution or whatever we may please. It practically implies greater care, more favourable conditions, and a stricter and well defined regimen. This does not necessarily narrow but broaden effort—seedlings from Grosse Mignonne are hardier than it, and these are less prone to yellows, especially the wildlings in the virgin soils of Utah, so esteemed in California as stocks. Significantly also the Almond, from which Peaches, according to Darwin and Pliny, have been evolved, is esteemed in France as a stock, especially for light soils and dry climates. This being so, it follows that health is found in the species or variety nearest

the type or in the state nighest Nature, while disease is rifest in the oldest and highest cultivated. This is a very ancient fact. The cultivated Rose is subject to mildew, rust, and insects to a far greater extent than the Dog Rose; couch grass withstands rust and mildew attacks better than cereals grown for fodder or food. What does all this mean? Forcing! Cultivation, interfering with Nature by deep stirring, mixing of earths, sustaining and increasing the soil's fertility by the application of manures. The result is that certain crops are accelerated and increased, while others are absolutely surfeited—that is, they sicken and fall a prey to parasites. Then there comes a change of crops, called rotation, and a change from vegetable or animal manures to mineral, termed chemical or artificial. All this is dated from the dawn of history. The ancient Romans used lime as a manure for fruit trees; nitre was known in the time of Jeremias, and it all amounts to this: Cultivation must be conducted on the laws governing Nature, or departure therefrom will result in disease, and that proportionate to the extent of their disobedience.

Our French friends cultivated Peaches successfully long before us, and we some time in advance of our kinsmen across the Atlantic. Strange, but no less true, yellows made great havoc in American Peach orchards before its presence was recognised in this country, and scarcely was known in France. Yet there is nothing singular about these facts when we come to examine them closely. France is the home of chemical manures, England of "muck," and America of ashes. Chlorosis has been, to a great extent, prevented by a judicious use of animal and mineral manures in France, so that the same districts are as famous for Peaches as before the advent of the malady, and the French cultivators have proved that virgin soil is not an absolute necessity in Peach culture. With them it is only a matter of so much solid manure at intervals to supply the needed humus, and of chemical substances so applied as to keep the soil sweet and sustain the requisite fertility of the ground for the benefit of the trees, their health, and production of profitable crops. In this country it is the abundant "muck." If Grapes shank we are advised to cover the soil several inches thick with fresh cow manure because the soil is light and the Grapes shank for lack of support. In the case of Peaches it is always the cry—Lift the trees, lay the roots in fresh soil near the surface. It is the virgin loam from parks and pastures that has staved off yellows in England, but everything comes to an end; many cannot now procure fresh loam every time the Peach trees in some places go wrong, and it is there where they have the yellows most. Some, however, defy yellows by the use of chemical manures along with applications of organic matter. Peach trees grown in pots are occasionally afflicted with chlorosis, but if the cultivator is wide awake he takes advantage of the first signs of paleness in the leaves, and gives a sprinkling of Thomas' phosphate soot, superphosphate, and other mineral substances, and the trees soon put on a shining green colour. Those doing this are chiefly growers for sale. They know nothing about virgin loam, and care less, for it is with them a question of manufacturing a quantity of the best goods out of the commonest and readiest material. In America everybody considers wood ashes the best manure for fruits, but it does not save their Peach trees from the yellows.—

G. ABBEY.

(To be continued.)

ONIONS—SCARES AND THEIR LESSONS.

THE crop of Onions this year promises to be a most remarkable one. Probably breadths either of autumn or spring-sown have rarely looked better than now. The odd fact in relation to Onions is that only last year we were all at our wit's end seeking for and advising remedies of all descriptions for the maggot, and there was a sort of belief abroad that unless these remedies were found the days of spring-sown Onions were over, the crop doomed, the maggot reigning triumphant. The present condition of things shows us most clearly the folly of getting up a scare because for a season or two appearances seem to be against us. The most deadly of garden pests probably is the Potato fungus, and yet it

has no terror for us now. It was not so long since that it was gravely proposed to enact a special Act of Parliament to keep out the Potato beetle. The beetle, however, like the scare, was a fraud. The phylloxera was to destroy our Vines, but the insect proved to be chiefly an entomological curiosity; and as to the Vine fungus, or *Oidium Tuckeri*, it simply disappeared all at once, and gives very little trouble to anyone. The chief object these sort of pests serve seems to be to frighten poor gardeners out of their wits for a few years, then to die away, satisfied with what alarm they have caused.

I was exceedingly struck with what Mr. Davis of Manresa House Gardens told me recently with respect to his wonderful and giant Hamburgh Vine. Taking hold of the loose skin or bark of a branch he said, "You see I never strip the bark of my Vine," and I added, "What is your experience of ailments in relation to it?" and he said, "Just none at all. I have never had any trouble whatever with pests of any sort. That is, too, an experience of over thirty years." Is it not after all the case that many of these alarms and complaints started are circulated without sufficient reason? It is because I think so that I have gone a little wide of my original subject to draw attention to this fact, and I venture to think that if we heard rather less in the future about pests and enemies to garden crops we should get along quite as well, and have much less frequent cause for alarm.

The present condition of the Onion crop is a case in point, and shows us that after all Nature is as ready with her antidotes as she is with her banes. The Onion maggot is a defunct creature for this season, at least, simply because Nature has drowned it. Last year we had so much of warmth and sunshine that all the moth tribe, human and insect, enjoyed it immensely, and as a result the Onion moth was exceedingly active. It laid its eggs in myriads, and its creeping progeny was terribly destructive. The same warmth, which made life so enjoyable for the moths, also checked vegetable growth, and the two things operated to the detriment of our Onions. Still, humanity grumbled greatly over the heat and drought, so that this year, by way of equipoise, there has been a reverse state of things—just so much of rain as last year we had of drought, and as a consequence splendid growth of Onions and the extermination of the maggot, and yet humanity is not happy.

The moral of this maggot scare is that we should, whenever it crops up again, keep our heads cool. Still farther, as remedy not fly to quack medicines, but to drown the pest with cold water artificially furnished, just as Nature did the deed so thoroughly for us this spring. Two good results would follow from that action—killing the insects and causing the Onion breadths to grow with increased vigour, so that the plants would soon be out of harm's way did a few belated maggots still live.

Now we hear of fear lest the moisture that still falls occasionally should prevent the swelling of the bulbs and cause too much top growth. There is no reason to be alarmed on that head. Still, common prudence renders it desirable to perform the usual practice of bending down the tops, first gently pressing the necks to make them supple or yielding, rather earlier than is usual, as the check thus given to the ascent of sap will materially help to swell the bulbs.

So far as I have seen, however, I have found ample reason to believe that about the end of September there will be found not only a wonderful crop of Onions, but also, where duly thinned or otherwise planted for that purpose, some of the finest and heaviest bulbs ever seen. Where the soil was in the spring made very firm there are already seen much better results in the formation of bulbs than is the case where the soil was left untrodden and is light and loose. No doubt in every case so much of heavy rain has settled the soil down, but the hardening before the sowing is always good practice, as in the case of a hot dry season it checks maggot development, and in a wet season checks coarse top-growth. We have few vegetable crops that are more profitable, and with good culture, more productive, than is the Onion when bulbs are fully matured.—A. D.

THE NUTRITION OF ROOTS.

I HOPE the discussion on the above subject is not exhausted. What is more, I trust the matter has not exhausted the writers or readers of the *Journal of Horticulture*.

Cannot some scientific reader state for the benefit of others what food is taken from the soil by the plant; how the plant takes it into its system; what changes it undergoes, if any, before it reaches the leaves, or what functions it performs; what changes it undergoes in the leaf, and what are the compounds formed there; what becomes of the plant food, and of the matter objectionable

to the plant, or that which is not required? If this is put before us we shall know the requirements of the plant, and how to feed and treat it generally; also what plant food is contained in the soil; how there may be a deficiency; what there may be deficient in certain soils; how to correct this evil; what manures to give, or how to treat good, bad or indifferent soils; what to apply to bring about certain conditions which are favourable to soils and crops.

With correct scientific facts upon all these points we shall be in a different position to what we are in at this moment. We are told by Mr. Gilmour on page 424 that vapour will hold no plant food of any description, and he gives a demonstration—*i.e.*, the manure in a bucket and the clear condensed water upon a piece of glass placed over it—enough to satisfy him apparently that condensed clear water is pure and free from any plant food of any kind. If it contains plant food—this is what he says—then chemists cannot obtain water chemically pure by distillation.

Let me tell Mr. Gilmour that all soluble elements and compounds which volatilise at a lower temperature than water, and even those which require more heat to volatilise them may be found in the water condensed upon the glass. If he collects this water, and shakes some new slaked lime up in some clear water and allow it to settle, pour off the clear liquid, and add a little of this to the collected condensed water, he will find it will turn it milky. To another portion if he adds a little lime, then smells for ammonia, I think he will find it. As a second test let him add an excess of sodium hydrate, and gently heat, he will find ammonia, that is if there was any in the bucket of manure water.

Unless water is required chemically pure, distilled water will contain all organic elements or compounds that will volatilise at a lower or higher temperature than it takes to volatilise water. Upon a small scale, if a pint of water is distilled, only about an ounce of that is had chemically pure. First we should get all the volatile matter over with the water, when this has all passed over pure water may be obtained until the organic compounds are decomposed. Special precautions and methods or appliances have to be used to purify the steam from carbonic dioxide, ammonia, and other compounds or elements before it reaches the condensing coil, and this is not done for ordinary purposes, only where pure water is required for quantitative chemical analysis for those elements and compounds. Therefore Mr. Gilmour is at sea.

I will ask your readers to believe that water which is brought up to the surface by evaporation will contain a great deal of the organic and inorganic elements and compounds that are soluble; they will be held in solution until the rarefied water reaches the surface, when the water becomes more rarefied, and passing off it leaves all its solid inorganic and organic impurities upon or close to the surface of the soil. These being soluble they are carried down by the rain; the plant can and does appropriate this soluble matter, whether it is passing in an upward or downward position.

In manuring all classes of light soil no doubt it is a good practice to fill in the bottom trench with 6 inches of green manure; at the same time some manure should be incorporated with all the soil above this bed of manure, so that the roots can ramify and feed upon the food contained therein. If the season is a dry one any moisture that remains in the green manure will rise and bring up food that may be in solution, and afford nourishment to the plant. Deep-rooting plants can and do go down or send down roots for moisture and food.

If the season is wet then most of the soluble plant food will get washed out and carried into the subsoil never to return. Plants in these seasons get very sappy and grow grossly. Under these conditions mineral plant food should be given as a top-dressing, but no organic or nitrogenous manure should be used.

I trust some able pens will thoroughly thrash this subject out. I shall return to it, and give what information I can upon the composition of soils and plants, for the benefit of others or for the criticism of more able and scientific pens than my own.—G. A. BISHOP, *Wightwick Manor Gardens*.

It is a pity Mr. Raillem is so busy that he cannot reply "as fully as he could wish" to his correspondents on this matter. If he has anything further to say, now is the time to say it, while all that has been written on the subject is fresh in the minds of the readers of the *Journal of Horticulture*.

Mr. Raillem says (page 51) he withdrew the statement that plants can only assimilate vaporous moisture. This is what he calls withdrawing it. "I now gather that the root hairs of plants have the power by mechanical decomposition of getting at that vaporous form of liquid which alone they can assimilate" (page 409). If this is a withdrawal of the original statement I must be very stupid, for I cannot see it. However, Mr. Raillem is too busy to explain more fully, so I will pass on to his remarkable reasons for

believing that water does exist in an intermediate state in which it is neither vapour nor water.

Here again I must be very stupid, for I can see nothing in his illustration which is at all to the point. An ordinary atmosphere may contain perhaps 10 to 20 per cent. of moisture or vapour; in a Scotch mist the atmosphere may be half vapour, and a cloud that evolves large hailstones may be more, but I fail to see any reason in this for supposing that any of these atmospheres contain anything but vapour.—D. GILMOUR.

VIOLAS AT CHISWICK.

I COULD not help feeling amused at the remarks of your able correspondent "A. D." (page 31) *re* the new Violas at Chiswick. If we were all ready to accept his dogmatic diction I am very much afraid the Violas in the south would suffer in consequence. One would gather from his remarks he is under the impression the men of the north have one type of flower while the fanciers of the south incline to a totally distinct form. Such is not the case. The new type of rayless Violas introduced by Dr. Stuart of Chirnside seemed to have impressed "A. D." very unfavourably. Yet were he to grow them I feel sure he would alter his opinion on their merits as a garden decorative flower. Where they are planted as beds or even in lines their beauty is almost unsurpassed. Take, for instance, a bed of *Violetta* or *Blue Gown*, with charming carpet-like foliage and myriads of white and blue flowers. Such a bed must be seen to understand its real beauty.

I am quite ready to admit many varieties are not sufficiently distinct, but I cannot accept "A. D.'s" sweeping condemnation of the majority. At present, while the type is still in its infancy there is not sufficient diversity of colouring to make them valuable as exhibition Violas, neither will they ever be able to compete with the larger types, but no doubt in the near future classes at exhibitions will be provided for them. The London Pansy Society did include a few classes in the schedule this season, but the result was not a happy one, because the type is not generally known. I cannot agree with "A. D." when he tells us they look well on wired frames at exhibitions, for it is the worst form of seeing their true beauty. They are essentially decorative plants, and as such we must regard them.

I daresay the Viola does flourish best under the conditions named by your correspondent, but I would not have it thought for a moment the Viola is unsuited for our southern climate, for I can point out gardens that have been a mass of flowers throughout the summer, and will be so till the frost comes and cuts them off. To say six varieties are all that need be grown is absurd. If the selfs only are grown, what is to become of the Goldfinch and forms of *Duchess of Fife*? They are quite as effective for bedding purposes as many of the selfs, and far more popular. It is quite out of the question to judge the merits or otherwise of such plants from a single clump or two. To assert that six varieties of Violas would satisfy all requirements is analogous to saying six varieties of Carnations are all that we require, yet from "A. D.'s" point of view such is the case.—J. B. R.

CARNATIONS AT EDENSIDE.

THE name of Edenside will bring to the minds of many people thoughts of beauty and of peace. Peaceful indeed is the position—a pastoral vale, and flowers in their season give beauty. One would, and not unnaturally, expect to find the Carnations there to be in the front rank of excellence; and so they are. For upwards of thirty years Mr. Douglas has been labouring assiduously in the improvement of florists' flowers of almost all kinds, and not the least part of his energy has been expended on the Carnation and Picotee. That his efforts have been crowned with success is conclusively proved by the numerous sterling varieties that have been put in commerce by him, many of which, though now some years old, being still recognised as leading sorts. When, therefore, it was learned that he had taken some ground, and intended erecting houses solely for the production of florists' flowers, growers, both amateur and professional, were on the tip-toe of expectation that they soon see something good.

The Edenside Nursery is situated at Great Bookham, in Surrey, and may readily be reached on the South-Western Railway from Waterloo, and, of course, from the various stations down the line. There are now three houses erected, each 100 feet long and 18 feet in width. Two of these are at the present time filled with Carnations in bloom, and in almost endless variety, and the other about half stocked with the same kind of plants. The first structure that is reached from the entrance is by far the most handsome, being a light, yet withal, substantial one, built by Messrs. Foster & Pearson. There is a central step staging, and flat stages on each side, the former of which is lacking in the other two houses. The holding capacity of No 1 is excellent, there being close on, if not quite, 4000 plants therein in bloom at the present moment, the remaining two structures not, of course, providing accommodation for quite so many. In addition to these there are numbers of frames, principally occupied with Auriculas, both the show and alpine varieties being largely represented in such health as warrant the supposition that more will be heard of them when the year 1895 rolls in.

Though Mr. Douglas has been so successful a raiser of Carnations, it must not be thought that the collection is comprised of seedlings of his own raising alone, for such is by no means the case, in fact quite the contrary, as all the best varieties procurable, no matter by whom they

were introduced, are to be seen, and are accorded such prominence as their merits entitle them to. As some evidence of the enterprise of the man, mention may be made of the fact of his having secured the stock of Mr. Martin R. Smith's new seedlings, which include several of the all-popular "Malmaison" type, but of these more anon. As a consequence of other duties the proprietor of Edenside is not able to devote the whole of his time to the enterprise, as a matter of fact only a very small portion of it, but in his son, Mr. Jas. Douglas, jun., he has an able lieutenant, as is evidenced by the perfect health of the Carnations, which are entirely under his charge.

Vigorous growth, with numbers of stout layers, and an abundance of perfectly developed flowers are the chief characteristics of the plants. The size of the blooms has in no way developed into coarseness, the exquisite beauty and chaste delicacy of colouration having been maintained, and in some varieties, especially those raised by Mr. Smith, improved on. It is a matter of regret with many lovers of Carnations that though the flowers improve in some respects, there is amongst numbers of them a total absence of scent. Some people may maintain that this is no desideratum in a Carnation, but this, if the old Clove may be taken as a criterion, is a mistake, for despite numerous formidable rivals, it is still the most popular with the vast majority, though these are not all florists. From the point of view of the latter perfume does not count very high; but if, as is no doubt the case, it is desired to engender a love of Carnations in those who do not come under the mystic category of florists, another sense than that of eyesight, as provided by elegance of form and beauty of colours, must be appealed to and conquered, and this is sense of smell. Look at the rapidity with which Uriab Pike has leapt into popularity, think to what this is due, and one conclusion only can be arrived at—namely, that, good as it undoubtedly is as a flower, it is largely to its fragrance that it owes its high place in the admiration of so many people at the present time.

As will be surmised from the number of plants under cultivation, the varieties and colours are extremely diversified, and amongst them Mr. Smith's seedlings must be accorded a prominent position. So numerous are they that only a few in each section could be noted, and such will be mentioned. To thoroughly grasp the merits of the collection, however, it is necessary that a close personal inspection be made. To any and all readers of the *Journal of Horticulture* a courteous welcome will be extended, so all who can, should make it their business to go and see how the opinions on the varieties expressed below coincide with their own, and also see what a number there are worthy of a place in the choicest collection.

Let us commence with the self-coloured forms in the border section, and as The Burn is the first one seen on entering the house it shall be taken first. The plants are flowering profusely, and as a consequence are only of medium size, but where a glimpse is caught of a first flower some idea of its superb form and finish may be gleaned. The colour is a soft pleasing shade of pink, the fragrance emitted is delicious, and moreover, the calyx rarely, if ever, splits, which is a great consideration, though indiarubber bands may be bought so cheaply to put on the flowers that splitting is not taken into account by some large growers. Hayes Scarlet is well worthy of its name, carrying as it does fine blooms of the brightest colour. In the rich, dark crimson blooms of Mephisto is found a sort which is certain to be accorded popularity, and deservedly so, for it is excellent in every way. A pair of whites stand opposite each other, one on the central and the other on the side stage. They are named Miss Ellen Terry and Mrs. Martin Smith respectively. Both are grand in form, size, and substance; but the former appeared to be preferable from the chaste purity of the colour. For freedom of flowering there was little to choose, both, too, being very good growers. The reddish buff blooms of The Pasha cannot fail, by their perfect symmetry and delicate colouration, to elicit general admiration, nor can the blush-white flowers of The Waterwitch. The size of this variety is large, and the substance of the petals leaves little to be desired.

King Arthur commands attention by the excellence of its growth and the richness of the large scarlet flowers, as also does Lady Audrey Buller, of which the colour is almost the same, but the flowers are fringed and very sweetly scented. Louis Philippe, Miss Audrey Campbell and Duke of Orleans, form such a trio of yellows as does one good to see. The colour of the first named is dark, of Miss A. Campbell light, and of the last named a pure yellow. All are floriferous and of fine shape; but if only one were required the choice might well fall on Duke of Orleans as being the best of three excellent varieties. The large dark rose-hued blooms of May Queen are very striking, as also are the deep rose tints of Gladys. Nipbetos is a somewhat older variety, but still holds a foremost place with its perfectly formed pure white, freely produced blooms. The last of the self-coloured forms that can be mentioned is Oriflamme, of which Mr. Douglas was the raiser. The colour is very bright scarlet, large, and of fine form, with the additional recommendation of seldom bursting its calyx. Three fancy varieties of great merit are Miss Kruse, crimson and cream; Fanny Trommsday, white and lilac; and Sir Garnet Wolseley, yellow and brick red. Each of these is fine in form, distinct in colour, free in flowering, and of large size. Others might well be mentioned in this section, but these must suffice.

The plants comprising the bizarre and flake section are admirable in every way, and reflect the highest credit on their grower. As Mr. Douglas has paid more than ordinary attention to these forms, we are indebted to him for a great number of varieties, and amongst them may be mentioned Agricola, purple flake; Autocrat, pink-and-purple bizarre;

and Gregorius, scarlet flake, all of which are exceedingly handsome. Lady Mary Currie and Rosa Mundi are grand, and stand well to the fore in the rose flake division, and the same may well be said of Alisemonde and Sportsman among the scarlets. Charles Henwood is the best of the purple flakes, with Squire Whitbourn following very closely. There are great numbers of bizarre varieties, and as all cannot possibly be mentioned two of each section must be sufficient. Take the scarlets first, Robert Houlgrave and Jos. Crossland were particularly conspicuous, as also were Homer and Edward Rowan among the crimsons, and Harmony and Niobe as pink and purple bizarres will require some grand forms to supersede them.

The "Malmaisons," of which many are Mr. Martin R. Smith's new seedlings, are perfect as regards form and colour, but size appeared to be lacking, though this, of course, may be accounted for by the smallness of the specimens. A charming variety with very deep rosy cerise flowers is Princess May; while The Churchwarden, large in size and bright scarlet in colour, is grand. Another one somewhat similar in colour but of smaller size is Madame Arthur Warocqué. The silvery rose flowers of Sir Evelyn Wood are very chaste and pleasing, as also are those of Mrs. E. Hambro, which is pale rose in shade, the petals being curiously spotted. Mrs. Stuart Macrae, with large rose pink flowers, is one of the best; but none makes such a striking display as the old pink "Malmaison," with its large flowers and strong growth.

Attention may now be briefly turned to the Picotees, of which the collection is a finished one. Here as amongst the Carnations the health of the plants is all that could be wished, and almost without exception they are producing numbers of perfectly developed, chastely coloured flowers. The yellow ground section comprises some exceedingly handsome forms, of which the best are Acteur, Lord Rosebery, Ladas, Mrs. Tate, Stradrath Bail, and two superb unnamed varieties, numbered 301 and 308 respectively. There are some magnificent forms among the red-edged Picotees, two of the best being Brunette and one raised by Mr. Douglas and named Euripides. Those with purple edges are well represented by Diana and Jessie, both of which are superb. Rose-edged flowers are also in strong force, but two superior to Liddington's Favourite and Mrs. Sharpe it will be difficult to find.

It must not be thought that because mention is made of Carnations only that nothing else is grown; on the contrary, there are at Edenside large stocks of Auriculas, Primroses, Hollyhocks, all looking in the best of condition, while Calceolarias and Cinerarias receive the best attention. Mr. Douglas, jun., deserves a word of praise for the excellent health in which the Carnations are found, as also does Mr. C. Henwood for the good condition of the other plants, all of which are under his sole charge.—H.

BOX EDGING.

IN spite of the durability of stone or tile edging, its appearance is a long way behind Box in my opinion. When managed in a reasonable manner Box is the most pleasing edging we have. When allowed to grow 1 foot high and half that distance in width, no wonder that it should be condemned as not being suitable as an edging. In this state Box must be a harbour for slugs. Surely this is not the fault of the material, but rather the carelessness of the management in allowing it to grow in such an unsatisfactory state. In the early part of the year 1879 I planted over 1000 yards of Box edging in the kitchen garden here, and as yet it has not required replanting. In no case is it more than 4 inches high at the present time and about 3 inches wide. In some parts it is an inch less in both height and width. Clipping is done once a year, in the spring. Where objection can be taken to this edging is when the Box is planted in "higgledy-piggledy" fashion, and cut afterwards in an equally unsystematic manner—perhaps with a scythe, as I have seen done. If persons would only take some trouble in planting Box properly and keeping it in order afterwards there would be less room for complaint, and there is no reason why it should not last fifteen years in good condition. I doubt very much whether any kind of dead edging would last longer than that without resetting, and be of such a pleasing appearance into the bargain as Box.—E. MOLYNEUX.

FIGHTING OUR INSECT PESTS.

MR. DUNKIN (page 1) does well to draw attention to this subject at such an opportune time. I am positive that a loss of fruit crops is in many instances due to a want of quick action during the infantile stages of insect pests. Nothing illustrates the advisability of dealing promptly in this matter better than Peach trees that have become infested but slightly with green or black fly. Too often the use of an efficient insecticide is postponed for a few days, until the young leaves are curled around the shoots and are commencing to change in colour. It is wise to adopt some curative measure directly the first aphid can be detected, because more will quickly follow if neglect is practised. Too often we see Cherry trees in a sad plight through no other reason than neglect during the early stages of growth. Not only is the swelling of the fruit crop much hampered during the current season, but that of the following year is prejudiced also.

What I call a simple remedy, and one that never fails, is the following: Well soak 2 lbs. of good tobacco paper in hot water, afterwards straining it through fine canvas to prevent the syringe being choked. I then dissolve 2 lbs. softscap. These two ingredients are

sufficient for 40 gallons of water, used milkwarm. I apply the mixture to the trees in the evening with a hand syringe, to which is attached a fine nozzle, with a view to economising the insecticide. The following morning the trees are thoroughly drenched with clean water by aid of the garden engine. Of course if it is very early in the season I alter the time of applying the liquid to the trees to a warmer period of the day, so that the trees should not feel the effects of the washing through a cold night. To all readers who have not tried this simple remedy to rid their trees of insect pests I would say, Go and do likewise, and if the results do not justify the aim I shall be very much surprised.—PRACTITIONER.



ODONTOGLOSSUM RAMOSISSIMUM.

WHILST looking over a collection of Orchids recently I was pleased to find a plant of *Odontoglossum ramosissimum* in full bloom. This species is not very extensively grown, although it was introduced, I believe, many years ago. The individual flowers may not be so attractive as some of the better known *Odontoglossums*, but a large number of them on the inflorescence produces a striking effect. There are several varieties of *O. ramosissimum* in existence, but it was the type that I saw, and were your readers to see it also I feel sure it would be more generally grown.—SUBURBAN.

[The illustration (fig. 12) represents a spray of *Odontoglossum ramosissimum*, a beautiful Orchid worthy of extensive cultivation.]

ONCIDIUMS.

IN so large and widely distributed a genus as *Oncidium* there are naturally some plants that are difficult to grow. Taken as a whole, however, there are few large genera which have puzzled cultivators less, or that give greater satisfaction and pleasure to those engaged in their cultivation. What, for instance, can be more beautiful than really well-flowered plants of such kinds as *O. macranthum* and its varieties *O. Marshallianum*, *O. varicosum*, and others of this section? Or take those species which produce huge flower spikes, bearing myriads of small flowers, as *O. Cavendishianum*, *O. obrysatum*, and *O. incurvum*. In contrast to these we have many small-flowered species, as *O. Cræsus*, *O. concolor*, *O. cheiophorum*, and many others, all beautiful and interesting kinds. Most of these and many of the intermediate sorts are easily cultivated, and may safely be taken in hand by anyone interested in Orchids.

The species of *Oncidium* most difficult to cultivate will be found among those which come from the western tropics. These include *O. Forbesi*, *O. Lanceanum*, *O. papilio*, *O. hæmatochilum*, and others. Although these latter kinds are frequently met with in good condition, few, if any, cultivators can be said to have discovered the secret of continued success with them. They may do well for a few years in this country, growing vigorously and flowering profusely in the proper season, but after a time the growths annually become weaker and produce fewer flowers. It is then only a question of time before they cease to be of any real value.

I am convinced that the principal cause of failure with the majority of these Orchids is our artificial atmospheric conditions. What the peculiarity of their native climate is it is impossible to say, or we could endeavour to imitate it in our Orchid houses at home. I say endeavour advisedly, for although with modern improvements in glass structures we can balance our temperatures fairly well with regard to heat, air, and moisture, we cannot provide the ever-changing atmosphere which the plants naturally obtain. It may be also that some benefit accrues to the plants owing to the vicinity of larger kinds of vegetation. Again, the vapour arising from the decaying leaves of the trees may afford some help.

These climatic conditions we cannot for obvious reasons reproduce, and it behoves us to do the best we can with the means at our command. Given as congenial a temperature as possible, the next care must be to provide a suitable rooting medium. This should have unlimited capacity for aëration, but at the same time hold enough moisture for the needs of the plants. Some few *Oncidiiums*, such as *O. Jonesianum*, *O. pulchellum*, and *O. papilio*

may be best grown on blocks, but better results can be obtained in most instances by using pots, rafts, or baskets. Rafts are especially suitable for some of the warmer of the Brazilian species, notably *O. crispum*. This Orchid will not thrive in a large body of material, but on a raft lightly dressed with moss it is most satisfactory. The roots can then have an occasional drying for an hour or two in the middle of the day. It is a good deal easier to grow several small plants of *O. Forbesi* than one large specimen. For this reason division of the plants is desirable. Even if large specimens are required these can be obtained healthier and of a better shape by grouping several small plants in shallow pans than by keeping large pieces entire.

The amount of flower which many *Oncidiiums* produce is very large in proportion to the size of the pseudo-bulbs, and as they are usually of a lasting character they ought not to be allowed to remain on the plants until they fade. Many growers do not allow



FIG. 12.—ODONTOGLOSSUM RAMOSISSIMUM.

some species, as *O. macranthum* and *O. Marshallianum*, to flower oftener than once in two years, the season's rest being recuperative and very helpful to the plants.—H. R. R.

ROYAL HORTICULTURAL SOCIETY.

JULY 24TH.

THERE was a very fine display of plants, flowers, and fruit in the Drill Hall, Westminster, S.W., on this occasion, the large building being well filled with exhibits. Orchids were not quite so numerous as usual, but hardy flowers were well represented. The annual exhibition of the National Carnation and Picotee Society was held on this occasion, and a report of the show appears elsewhere in this issue.

FRUIT COMMITTEE.—Present: Philip Crowley, Esq. (in the chair); and Rev. W. Wilks, with Messrs. G. Bunyard, J. Smith, H. Balderson, G. Wythes, J. Willard, C. Herrin, Thomas Jones, J. Cheal, A. Dean, F. Q. Lane and J. Wright.

Although the Drill Hall was perhaps never so crowded as on the present occasion with meritorious exhibits, yet the duties of the Fruit Committee were comparatively light. It is true there were exhibits of considerable magnitude and excellence, for which medals were awarded, yet not many samples were placed on the Committee table.

Mr. J. Walker, High Street, Thame, sent a dish of fruits, and a bearing bunch of the Magnum Bonum Red Currant, large handsome

fruits resembling the Cherry and La Versaillaise, though it may possibly be distinct. It was recommended that it be sent to Chiswick for trial.

Mr. Owen Thomas sent from Frogmore a fine fruit of The Duke Melon, very white, tender, and juicy. Next came The Duchess, similar in character though better in flavour, but the aroma not quite developed. Frogmore Orange was next cut, and found extremely tender, in fact, over-ripe, probably a very good Melon when in its best condition. It was thought the flavour of these Melons might have been prejudicially affected by the absence of sun. They were good, but not quite good enough to meet the exacting requirements of the Committee.

Mr. G. Wythes sent an excellent dish of *Laxton's Latest of All* Strawberry grown by plants ten months old from the runner, planted last September. The fruits were firm, and those members of the Committee who had grown the variety during the last two years spoke highly of its quality, productiveness, and usefulness. A first-class certificate was awarded.

A dish of fine pods, and also bearing sprays, of *Veitch's Main Crop* Pea were placed on the table by Messrs. Veitch and Mr. G. Wythes. The pods are very large, dark green, seeds also green; plant prolific, and growing 3½ feet high. This variety was awarded three marks of merit in the Chiswick trials. A first-class certificate was awarded. Messrs. Jas. Veitch & Sons also sent a large fruit of an Indian Cucumber—a dark green club-shaped fruit, very thick, with yellowish tender flesh. It is a novelty, and may be useful for cooking and salads, and only lost a certificate by one vote.

Mr. C. F. Millar, The Nurseries, London Road, Chippenham, sent fruits of four new Tomatoes, but no award could be made, at least until they had been tried at Chiswick; and it was the same with a variety sent from Yorkshire.

Mr. H. W. Ward sent from Longford Castle a box of Carter's Daisy Peas, an excellent dwarf Pea, recommended to be grown at Chiswick. Messrs. H. Cannell & Sons sent eighty varieties of Peas grown under field cultivation. It was a great display, for which a silver Banksian medal was accorded. Messrs. Sutton & Sons sent about a bushel each of their Dwarf Mammoth Marrowfat and Exhibition Marrowfat Peas, also plants of the same varieties, the former about 2 feet, the latter 3½ feet high. The pods were of wonderful size, and the more remarkable as having been grown under field culture. A vote of thanks was accorded, and a trial at Chiswick recommended, certificates not being granted for Peas until after such trial.

On the side tables were some noteworthy exhibits. The most uncommon were Apricot trees in pots bearing excellent crops of fruit, grown and exhibited by Messrs. Wm. Paul & Sons of Waltham Cross. We shall be glad to publish particulars about their cultivation from Mr. William Paul in an early issue. A silver Knightian medal was awarded.

Messrs. James Veitch & Sons had a wonderful exhibit of hardy fruit, including early Pears and Apples, fine dishes of Currants, a heavily laden bush of Superlative Raspberry, dozens of cordon Gooseberries crowded with fruit from base to summit, the trees ranging from 2 to 4 feet high; besides there were 150 dishes of Gooseberries, the best varieties in cultivation being admirably represented. It was a wonderful display, meriting the silver-gilt medal that was unanimously voted.

Mr. G. Bunyard had also a most meritorious display of forty-eight choice varieties of Gooseberries. The fruits were remarkably uniform in size, bright and clear, producing quite an attractive appearance in the neat square punnets in which they were exhibited (small silver medal). Mr. Walker, Thame, had thirty-six plates of Gooseberries, but by no means temptingly displayed, yet the fruits were good, and a small silver medal was recommended. Messrs. Cannell & Sons sent specimens of Scarlet Six-weeks Turnips the colour of Radishes, and it was advised that the variety be tried at Chiswick.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); Messrs. J. Fraser, John Laing, Owen Thomas, H. Herbst, H. B. May, C. T. Druery, R. Owen, G. Stevens, C. F. Bause, W. C. Leach, H. Cannell, J. D. Pawle, J. Walker, G. Gordon, H. J. Jones, E. Molyneux, G. Paul, C. E. Shea, E. Mawley, H. Selte Leonard, and G. Nicholson.

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, had a magnificent group of single tuberous Begonias, tastefully arranged with Asparagus plumosus, small Palms and Ferns. The flowers of the Begonias were noteworthy for their size and variety of colour, the whole making a good effect (silver-gilt Flora medal). Messrs. Dobbie & Co., Rothesay, arranged a large number of Violas in sprays, the best of these being Lemon Queen, Iona (award of merit), Duchess of Sutherland, Miss Gibson, Sweetheart, White Flag, Lord Elcho, and Favourite. Some Sweet Williams, Pansies, and Sweet Peas were also shown by the same firm. The flowers of the Sweet Peas were beautiful, especially Miss Blanche Ferry, Emily Henderson, Firefly, and Dorothy Tennant (silver Flora medal). Messrs. R. Wallace & Co., Colchester, sent some splendid spikes of *Lilium longiflorum giganteum*, cut from the open air. Some of the spikes bore as many as seven and eight flowers. Messrs. Wallace also sent blooms of *Calochortus plummerosa* (first class certificate), and some *Gladioli* (bronze Banksian medal). Mr. Anthony Waterer, Knap Hill, Woking, sent a box of *Spiraea* Anthony Waterer, a variety that has been previously described in these pages.

Messrs. J. Veitch & Sons exhibited plants of *Spiraea callosa atrosanguinea*, *Diervillas*, *Retinospora squarrosa sulphurea* (award of merit), *Salvia officinalis aurea*, and *S. officinalis tricolor*. A very fine collection of *Spiræas* came from Messrs. G. Bunyard & Co., Maidstone, the

most noteworthy of these being *S. Douglassi*, *S. callosa*, *S. Billardi*, *S. Bumalda*, and *S. callosa alba* (silver Banksian medal). Hardy flowers were well shown by Messrs. W. Cutbush & Sons, whose collection included *Monarda didyma*, *Campanulas* in variety, Evening Primroses, Phloxes, and *Alströmérias* (silver Banksian medal). Mr. J. Walbourn, Cedars Nursery, West Kensington, sent a group of Carnations, *Liliums*, and other plants.

Mr. R. Davis, Yeovil, Somersetshire, contributed a collection of Begonias, large, handsome blooms, signifying that they were cut from plants of a good strain (silver Banksian medal). M. Louis Van Houtte, Gand, Belgium, sent a number of *Bertolonias* and *Sonerillas* of merit, some of the former having very attractive foliage (silver Flora medal). Mr. W. Rumsey, Joynings Nursery, Waltham Cross, staged eight boxes of Roses, the blooms of which were fresh and beautiful (silver Banksian medal). Cut blooms and plants of a border Carnation named *Pride of Reigate* were shown by Messrs. Ivery & Son, Reigate. It is a Clove-scented variety with rosy crimson flowers.

Messrs. H. Cannell & Sons, Swanley, sent a splendid collection of Carnations and Picotees. These were fresh and striking in appearance, especially Raby Castle, Midas, Duchess of Portland, Old Crimson Clove, Comte de Paris, and Ketton Rose. Plants of *Begonia Octavia*, covered with bloom, and other varieties, with some Stocks, were also shown by the Swanley firm (silver Flora medal). Messrs. J. Veitch & Sons, besides the hardy plants mentioned, had a hamper of *Fuchsia Ballet Girl* (award of merit) and *Selaginella viridangula*, for which a first-class certificate was awarded. Messrs. Veitch & Sons also sent a collection of beautiful Carnation and Picotee blooms in variety, with some striking *Caladiums*, several of which were accorded awards of merit.

Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, sent a large collection of Carnations, arranged in bunches with their own foliage (silver Flora medal). These included Princess Alice, Germania, Mary Morris, Duchess of Fife, Gloire de Nancy, and Raby Castle. An extensive and beautiful collection of hardy flowers came from Mr. B. Ladhams, The Shirley Nurseries, near Southampton, these making a very fine display (silver Flora medal). Mr. J. Douglas, Great Gearies, Ilford, sent a charming collection of Carnations and Picotees, and awards of merit were adjudged for The Burn, Ladas, Eudoxia, President Carnot, all of which are described elsewhere. Messrs. J. Laing & Sons, Forest Hill, S.E., sent an exceedingly fine group of *Caladiums*, securing award of merit for *Papuer*, *Itopoca*, and *Triomphe de Comte* (silver Flora medal). Messrs. Laing also had some new Begonias and *Sonerillas*, for which awards of merit were adjudged. Mr. H. B. May, Dysons Lane Nursery, Edmonton, had a group of choice Ferns (silver Flora medal), which included *Selaginella Lyalli*, for which a first-class certificate was awarded. This is described below. Mr. E. Molyneux, The Gardens, Swanmore Park, Bishops Waltham, sent a collection of Sweet Peas, tastefully arranged in bunches with Asparagus (bronze Banksian medal).

Dowager Lady Bowman, Goldwynds, near Dorking, exhibited bunches of hybrid *Streptocarpus* and sprays of *Desfontainia spinosa*, a plant not too frequently seen. Mr. Martin R. Smith, The Warren, Hayes, sent a magnificent group of Carnations in pots. Amongst the best varieties shown were Hayes Scarlet, Audrey Campbell, Braw Lass, Medæa, Lady Ridley, Cardinal Wolsey, King Arthur, Duke of Orleans, and Siguard (silver Flora medal). Mr. E. Burrell sent foliage and fruit of *Pterocarya caucasica*, a tree growing at Claremont. Moveable greenhouses were shown by the Horticultural Travelling Co., and these attracted attention.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); Dr. Masters, Messrs. J. O'Brien, R. B. White, H. M. Pollet, H. J. Chapman, G. Hill, T. Statter, H. Williams, S. Courtauld, H. Ballantine, F. Sander, and T. B. Haywood.

Messrs. B. S. Williams & Sons sent a number of plants, including *Odontoglossum Schleipereanum aureum*, and *Oncidium crispum grandiflorum*. Major Joicey, Sunningdale Park (gardener, Mr. J. Thorne), had a fine plant of *Cattleya gigas*, and one of *Anguloa Ruckeri*. A creamy white *Anguloa* came for naming from Mr. Pontia Ralli, Ashstead Park, Epsom, and Mr. T. Statter, Stand Hall, Manchester, had sprays of *Cattleya gigas* *Regalis*, and *C. granulosa superba*. Messrs. Hugh Low & Co., Clapton, contributed a small but interesting collection, amongst which *Oncidium Lanceanum*, *Lælia Amanda*, and some *Cypripediums* were conspicuous. Messrs. Lewis & Co., Southgate, also sent an effective group, including *Zygopetalum Gautieri*, *Oncidium macranthum*, *Habenaria carnea nivos*, *Cattleya Mendeli*, *C. Gaskelliana*, and *Lælia elegans*, and others (silver Banksian medal). Mr. O. J. Hollington, Forty Hill, Enfield, staged a plant each of *Cypripedium Millmani* and *C. Hottoni*.

Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, had a number of choice species and varieties. These included *Lælio-Cattleya Pallas*, *Lælio-Cattleya Zephyra*, *Sobralia Veitchi* (first-class certificate). Messrs. F. Sander & Co., St. Albans, had a group which included *Cattleya Rex*, *Lycaste Schonbrunnensis*, *Galendria lagaensis* (award of merit), *Catasetum Christyanum* (botanical certificate), and *Cypripedium macrochilum*. Mr. Hill, gardener to Lord Rothschild, Tring Park, exhibited blooms of *Cattleya Hardyana* and *C. Hardyana laversinensis*, for which first-class certificates were awarded.

CERTIFICATES AND AWARDS OF MERIT.

Begonia Lady Tyler (J. Laing & Sons).—A splendid double variety with large handsome crimson flowers (award of merit).

Begonia Beauty of Eynsford (H. Cannell & Sons).—A large growing pale yellow variety with double flowers (award of merit).

Bertolonia Comtesse de Kerehou (Louis Van Houtte).—An attractive variety with dark green-leaved, thickly spotted and veined blush pink (award of merit).

Bertolonia Triomphe de l'Exposition (Louis Van Houtte).—A small-leaved, red and green foliage, charmingly veined (award of merit).

Bertolonia margaritacea superba (Louis Van Houtte).—A brownish green variety, the foliage having regular silky white spots (award of merit).

Caladium Chelsea Gem (J. Veitch & Sons).—A very small leaved variety of a rich rosy red colour (award of merit).

Caladium Duke of York (J. Veitch & Sons).—A neat growing variety with crimson red foliage (award of merit).

Caladium Duchess of York (J. Veitch & Sons).—A dwarf habited variety with rose coloured leaves (award of merit).

Caladium T. W. Moore (J. Veitch & Sons).—A red leaved dwarf variety, the foliage being margined green (award of merit).

Caladium Papuer (J. Laing & Sons).—A striking variety with large grey leaves, veined red and blotched dark green (award of merit).

Caladium Triomphe de Comte (J. Laing & Sons).—This variety has handsome foliage, red veined and margined green (award of merit).

Caladium Itapoca (J. Laing & Sons).—A dark red-leaved variety of excellent appearance (award of merit).

Calochortus plummerosa (R. Wallace & Co.).—This is a charming flower, the colour being pale rosy purple, the centre covered with yellow hairs (first-class certificate).

Cattleya granulosa superba (T. Statter).—A fine form with a charming lip of white and rosy crimson colour (award of merit).

Cattleya Mendeli H. O. Traey (H. O. Tracy).—The sepals and petals of this form are blush coloured, the front portion of the lip rich purplish crimson, and the throat yellow (award of merit).

Cattleya Hardyana (E. Hill).—This is a handsome flower, the sepals and petals being bright rosy purple. The lip is large, with a rich purplish crimson lobe, the throat being yellow, veined brown (first-class certificate).

Cattleya Hardyana laversinense (E. Hill).—This is similar to the type already described, with the exception that the lip is much larger (first-class certificate).

Carnation Eudoxia (J. Douglas).—This is a large rose self variety, the blooms having a handsome appearance (award of merit).

Carnation The Burn (J. Douglas).—A charming pink border Carnation of excellent size (award of merit).

Carnation Lady Henry Grosvenor (T. T. Dranfield).—A bright rosy pink coloured scented variety (award of merit).

Carnation Mrs. Eric Hambro (M. R. Smith).—This is a pure white variety of a large size (award of merit).

Canna Celebri (H. Cannell & Sons).—A good variety, growing about 3 feet high, with large yellow flowers, rich crimson in the centre (award of merit).

Fuchsia Ballet Girl (J. Veitch & Sons).—A charming double variety of dwarf habit, the pendent flowers being very beautiful. The sepals are rose crimson, and the corolla creamy white (award of merit).

Galendra lagensis (F. Sander & Co.).—A slender growing species with medium-sized flowers. The sepals and petals are greenish brown, the lip being reddish brown and rose (award of merit).

Gladiolus J. H. Krelage (R. Wallace & Co.).—The flowers of this variety are rich crimson flaked white (award of merit).

Habenaria earnea nixosa (H. Lewis & Co.).—A pure white form of *H. carnosa*, which was figured and described in the *Journal of Horticulture* for September 28th, 1893.

Laelio-Cattleya zephyra (J. Veitch & Sons).—This is the result of a cross between *Laelia xanthiana* and *Cattleya Mendeli*, the former being the pollen parent. The sepals and petals are pale sulphur yellow, as is the lip, with the exception of a purplish crimson lobe (first-class certificate).

Odontoglossum citrosimum sulphureum (W. L. Lewis & Co.).—The sepals and petals of this creamy white, and the lip pale blue (award of merit).

Lycaste Schronbrunnensis (F. Sander & Co.).—A distinct species, with medium sized flowers. The sepals and petals are brownish red, the lip being white, tinted and spotted rosy pink (award of merit).

Plumieria alba (F. Moore).—A plant not frequently seen. The flowers are white and sweet scented (first-class certificate).

Picotee President Carnot (J. Douglas).—This is a splendid yellow ground variety, the flower being large and of excellent form (award of merit).

Picotee Ladas (J. Douglas).—An attractive variety with good sized flowers; pale yellow ground and bright rosy red margin (award of merit).

Retinospora squarrosa sulphurea (J. Veitch & Sons).—A neat growing Conifer of good appearance, the tips of the shoots being pale yellow (award of merit).

Rose Madame Pierre Cochet.—A Noisette Rose of good quality, rich apricot shade, glossy foliage (award of merit).

Sonerila Madame Van Langenhool (Louis Van Houtte).—The leaves of this variety are dark brown covered with small grey spots (award of merit).

Sonerila Souvenir de Madame Van Houtte (J. Laing & Son).—The leaves of this are dark brown covered with grey spots (award of merit).

Sonerila Francis Marehand (J. Laing & Sons).—The foliage is dark brownish green, heavily mottled grey (award of merit).

Selaginella viridangula (J. Veitch & Sons).—This is a strong growing species of an attractive appearance. The fronds are finely divided and rich green in colour (first class certificate).

Selaginella Lyalli (H. B. May).—A useful decorative species with finely cut dark green foliage (first-class certificate).

Sobralia Veitchi (J. Veitch & Sons).—This is said to be the first hybrid *Sobralia* raised, and is the result of a cross between *S. xantholeuca* and *S. macrantha*. It is a large, handsome flower, white tinted blush, the throat being lemon yellow (first-class certificate).

Sweet Briar Diana Vernon (Lord Penzance).—A charming variety with deep rosy pink flowers very sweetly scented (award of merit).

Trigida Lilacea (R. Wallace & Co.).—A pretty flower of large size and attractive colour, being deep red spotted white (first-class certificate).

Viola Iona (Dobbie & Co.).—This is a new variety of distinct appearance. The flower is large, upper petals pale blue, the lower ones blotched nearly black (award of merit).

POLYPODIUM SCHNEIDERI.

AT the exhibition held in the Temple Gardens in May last, Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, exhibited, among other Ferns, a beautiful plant of *Polypodium Schneideri*, and for which a first class certificate was awarded. This Fern is said to be a hybrid, the result of a cross between *Polypodium aureum*, a tropical species, and *P. vulgare elegantissimum*, a garden variety of the wild Polypody. As will be seen by referring to the illustration (fig. 13, page 85) it is a handsome plant, and being suitable for greenhouse culture, will doubtless become popular for decorative purposes. The arching bipinnate fronds are large, elegantly subdivided into lobes, and of a rich green colour.



EVENTS OF THE WEEK.—With the exception of a few northern Rose shows and local provincial exhibitions, but few events of horticultural interest will take place during the ensuing week. A meeting of the Royal Botanic Society will be held on the 28th inst., a Rose show at Bedale, Yorkshire, taking place on the same day.

— THE WEATHER IN LONDON.—The past week has been characterised by showery weather, rain falling heavily on several days. The temperature, however, has kept comparatively high, and crops have grown rapidly of late. Monday was dull, as was Tuesday, more or less, and much rain fell early on Wednesday morning.

— ROYAL HORTICULTURAL SOCIETY.—A special general meeting of Fellows of the Royal Horticultural Society was held at the offices, 117, Victoria Street, S.W., on Tuesday afternoon, 24th inst., for the purpose of adopting and confirming a new by-law on the subject of life composition in lieu of annual subscription. Sir Trevor Lawrence, Bart., presided over a very small audience. The President, after a few introductory remarks, moved a resolution to the effect that Fellows paying a life composition of 40 guineas, 25 guineas, or 15 guineas be accorded the same privileges as those subscribing annually 4 guineas, 2 guineas, or 1 guinea respectively. Mr. G. Bunyard seconded the movement, and after a brief discussion the new by-law was adopted, an amendment being rejected. A rider was also passed that the money paid in life composition be invested, and the interest thereof only be used for the purpose of carrying on the work of the Society.

— EXAMINATIONS IN HORTICULTURE.—For the third examination conducted by the Royal Horticultural Society during the present year, 126 candidates presented themselves in various centres in the United Kingdom, a small number it will be admitted. Eleven of these candidates gained over 200 out of a possible 300 marks, and were therefore placed in the First Class list. Mr. W. F. Reid, Addlestone, (vocation not stated), gained the highest number, 225 marks, winning the Society's silver-gilt medal, Mr. E. Caesar, Schoolmaster, Hale, near Farnham, being only four marks behind. Thirty-seven candidates are placed in the Second Class by gaining between 150 and 200 marks; forty-five in the Third Class by gaining between 100 and 150 marks; thirty-three failed to obtain 100 marks, and were therefore not classed. The result can scarcely be regarded as satisfactory, considering the expense and trouble involved in carrying out the scheme.

— THE MIDLAND CARNATION AND PICOTEE SOCIETY.—The exhibition of the Midland Carnation and Picotee Society will be held at the Botanical Gardens, Edgbaston, on Saturday, August 4th. Liberal prizes are offered in the schedule, which contains no fewer than forty-two classes, the majority of these being devoted to Carnations and Picotees. Mr. W. Dean, Dolphin Road, Sparkhill, Birmingham, is the Honorary Secretary, and from whom further particulars may be obtained.

— PROPOSED VIOLA CONFERENCE.—We are requested to publish the following:—The necessity for a Viola Conference is admitted on all hands and by everyone. The remarkable increase in the cultivation of Violas in recent years, the constant influx of new beginners to the ranks of growers, and the enormous number of new varieties now being introduced, are more than sufficient reasons for an effort being made, annually if possible, to formulate authoritative opinions on the best new and old varieties. Such opinions will serve the double purpose of indicating to new beginners what is best in Violas, and to raisers what flowers they must take for standards in their efforts to improve. Such work as that proposed to be undertaken by the Conference, if faithfully done, cannot but have an important and lastingly beneficial effect on Viola culture. The first Conference is to be held at the Edgbaston Botanical Gardens, Birmingham, on Friday afternoon and evening, the 3rd August, 1894. The subjects for discussion on the occasion are:—1st, "Large-flowered Varieties as Bedding Plants, and the best varieties for the purpose, according to colour," introduced by Mr. William Dean. 2nd, "Large-flowered Varieties for Exhibition Purposes," introduced by Mr. Wm. Cuthbertson and Mr. A. J. Rowberry. 3rd, "'Violetta' or Miniature Varieties," introduced by Mr. George Steel and Mr. George McLeod. Lists to be drawn up setting forth the opinion of the Conference as to the best varieties of each colour for bedding. Further particulars and information can be obtained from Mr. William Dean, Sparkhill, Birmingham.

— PACKING GRAPES FOR EXHIBITION.—I should like to supplement the practical hints upon this subject by an "Exhibitor," page 1 of the *Journal of Horticulture*, by saying that I have found ordinary steel knitting needles decidedly useful for securing the bunches to the show boards for travelling long distances by rail, or over rough roads by conveyance in carts not too well fitted with easy springs. By cutting the needles in two, sharpening one end, pushing this through the point of the bunch close to the stem, and by a gentle tap or two making it fast in the stand underneath the bunch, this prevents the bunch oscillating, and is thus a certain means of safe transit. No difficulty need be experienced in thrusting these needles through the point of the bunch amongst the berries, as they need not be put in in a perpendicular manner, being just as useful in a slanting direction. The needles are easily withdrawn when the show is reached by the aid of a pair of pliers. Especially when the stands are made at an acute angle these fixing pins are a valuable adjunct to the exhibitors' paraphernalia.—E. M.

— CULTIVATION OF VANILLA IN TAHITI.—The cultivation of Vanilla has been carried on in the island of Tahiti for several years, but is limited to a few districts only, that of Papara supplying more than half of the quantity sent into the market. The native mode of culture is, as a rule, simply to plant the cuttings of the vine under the shade of trees, and then to leave them to grow and twine round supports as best they can. Occasionally attention is paid to keep the vines trained round the trees and to prevent them from attaining a greater height than 9 feet, so that during the inoculating season the flowers may be reached without difficulty. Shade, though not dense, is absolutely necessary during the growth of the Vanilla vine to ensure a successful crop of beans. About one year from the time of planting the vine commences to flower, and the inoculation, which then takes place, must be carefully attended to; this is generally carried out by women and children, whose light hands are best suited for the delicate operation. In from six to nine months from the time of inoculation the bean will be ripe for picking and curing. The native method of curing is to keep the beans alternately indoors rolled in cloths, and outdoors during the day spread on mats exposed to the sun, for periods of three or four days at a time, until they are dried and ready for the market. The disadvantage, by drying on mats in the open, of having beans frequently wetted and deteriorated in value by sudden showers before there is time to get them under cover, has made itself apparent to many native planters who now dry their Vanilla in boxes with glass covers similar to those used at the Temarua plantation, in the district of Papara, which is under foreign management. In this plantation great attention is paid to trimming

the plants and keeping the ground clear from weeds; the vines are trained on well selected supports, and the process of inoculation is invariably carefully attended to. It may here be remarked that low prices in the market one season may render the native planter so indifferent to his interests that his plantations may be left entirely neglected the following year, the flowers even not being inoculated.—("Kew Bulletin.")

— POTATO DISEASE IN THE ISLE OF WIGHT.—The past week has been very wet and cold. There are still heavy hay crops lying about, some partially made, and others still left standing through lack of labourers to cut it. I have been watching every day for the Potato disease, and on Friday the 20th it made its appearance in a plot of Lady Truscotts, and also in a plot of Early White Beauty. I immediately had the haulm stripped and carted away to arrest its progress. I have heard of others being attacked in the neighbourhood, and two cottagers in a low lying district had theirs all cut off quite a fortnight ago, and nearly half of the tubers are decayed.—C. ORCHARD.

— POT MARIGOLD PRINCE OF ORANGE.—There is no other so brilliantly effective an orange flower in gardens that I know of and so attractive as is this common hardy pot Marigold. Even the rich orange African Marigold, so fine and bold in the autumn, does not after all convey to the eye so glorious an orange hue as do the broad flattish petals of Prince of Orange. I saw a large mass of it in the Reading seed grounds last autumn, where it was wonderfully striking. I have seen plants of it in bloom just recently in the flower borders at Claremont, where it was even amidst the heavy showers most beautiful. The old pale forms, and even the pretty striped yet inconstant Meteor, fail altogether to give so brilliant effect that is afforded by this fine double orange self variety.—A. D.

— AQUILEGIAS.—To those who, like myself, cannot afford the luxury of Orchid cultivation, I venture to recommend the culture of the Aquilegia, whose various forms—all of them extremely graceful and fascinating—are producing splendid effects in my garden this year. Among the finest of these are *Cerulea hybrida*, *californica hybrida*, *canadensis*, *Skinneri*, the primrose-hued *Chrysantha* (a native of California, which I understand *A. californica* is not), *A. glandulosa*, *A. siberica*, and *A. Stuarti*, of which the last mentioned was sent to me by its raiser, Dr. Stuart of Chirnside, to whom (though I do not know him personally), I am also indebted for several of his latest Viola productions. Mr. Harry Turner and many other florists are ardent cultivators of the Aquilegia, and affirm that it is a formidable rival of the Orchid. Aquilegias possess two most important attributes for garden decoration—great vigour of constitution, and marvellous floriferousness. In many instances their reign is of extraordinary duration, *Aquilegia chrysantha* blooming continuously for at least two months. DAVID R. WILLIAMSON.

— MONSTROUS CONE OF PINUS PINEA.—The Kew Museum is indebted to the Comte de Paris for a specimen of a monstrous development of a cone in this species, which so far as can be judged from previous published notices is in some respects unique. The cone, which is apparently fully developed and normal, has produced, says the "Kew Bulletin," from its apex a stout leafy shoot, which at first only 6 inches long, after severance from the parent tree lengthened to more than a foot, and produced three branches. The shoot is in fact in no way different from a normal branch, and the feature of interest about it is that it was able to continue its growth for some time at the expense of the nourishment derived from the cone from which it sprang. The circumstances are fully described in the accompanying letter from the Comte de Paris, who writes:—"I have in my possession what I consider as a very curious botanical phenomenon, and I would gladly present it to the Kew Museum. It is a frondiferous cone of the *Pinus Pinea*, out of the upper end of which has grown a young tree just as a Pine Apple grows out of the crown of that fruit. Generally these cones fall only after having discharged their seeds. This one fell on the ground (how I do not know) with the seeds still in it. It was picked up in a large Pinar or Pine forest which I own by one of my keepers a day I was out shooting. The young tree was then about 6 inches long. The woodmen of this country say they never saw anything like it. I took the cone home and left it on a table about the middle of February. It went on growing for a month, made a stem more than a foot long with three branches, and even threw out new shoots. About the end of March, although it was watered, it ceased to grow and died, although the needles did not fall and preserve their colour."

— ACCORDING to "Nature," one of the last acts of the late PRESIDENT CARNOT, a few hours before his assassination, was to confer on the well-known botanist, Dr. Saint-Lager, the dignity of Officer of Public Instruction.

— RIPENED WOOD.—Is not the above subject, upon which a correspondent addressed you (page 50) from the Emerald Isle, one of the fads and fallacies of this present age? Never during the century has all wood been so perfectly and thoroughly ripened as last year, and never in living memory has every crop, whether fruit or flowers, been so completely disappointing as this.—A SCEPTIC.

— RAINFALL IN CAMBRIDGESHIRE.—Mr. Arthur Bull sends from Cottenham his returns of the rainfall for the first six months of this year. January, 1.54; February, 1.44; March, 0.89; April, 1.55; May, 1.64; June, 1.74; total, 8.80 inches. The greatest falls on one day were:—0.38 on January 15th; 0.56 on February 18th; 0.41 on March 9th, 0.34 on April 18th, 0.70 on May 27th, 0.50 June 16th.

— FUCHSIA BALLET GIRL.—This is a variety with a great future before it, for it is unquestionably one of the best double white varieties in commerce. There are now in bloom at the Chelsea Nursery of Messrs. Jas. Veitch & Sons a number of plants in 48-pots, and very fine they look. They have been raised from cuttings rooted this spring, and are dwarf, sturdy, and literally laden with charming pendent blossoms. The stock is not yet extensive, but in the course of time when plants are more plentiful there can be little doubt that it will be much sought for, as it is a Fuchsia worthy of cultivation in the most exclusive collections.—NOMAD.

— SHIRLEY AND SURROUNDING DISTRICTS GARDENERS' AND AMATEURS' MUTUAL IMPROVEMENT ASSOCIATION.—At the last meeting of the above Society, Mr. B. Ladhams, F.R.H.S., presiding, an interesting and instructive paper on the "Cultivation of the Carnation and Picotee" was read by Mr. F. Nutt of Southampton, who is well known amongst Carnation fanciers as a most successful grower and exhibitor. Mr. Nutt staged a charming group of plants and cut blooms to illustrate his paper, and the Committee awarded him a certificate of merit for grand flowers of Squire Potts, S.B.; Martin Rowan, P.F.; Eminice, pink self; and Niphetos, white. His Martin Rowan was 4 inches in diameter. Mr. J. Rebbeck, amateur, staged twelve good blooms, and was awarded a certificate for one of Miss Clements, L.E.P. Picotee. Mr. Green, amateur, Freemantle, was highly commended for six blooms of Malmaison. Mr. B. Ladhams showed a very fine collection of Carnations and Picotees, and was awarded a certificate, and a similar honour was accorded him for *Eryngium alpinum*. His hardy perennials were also very fine. The subject for next month will be "The Vine," a paper by Mr. W. Mitchell of Chilworth Manor Gardens.—H. G. H.

— NEW TABLE OILS IN GERMANY.—Mr. A. C. Johnson writes in the "Kew Bulletin":—"On account of the great expense and difficulty in procuring pure Olive oil for table purposes, there have been many attempts made in Germany to produce from other substances than the Olive an oil which, having all the qualities that recommend the Olive oil, could be sold at a lower price. In southern Germany for some years past oil has been produced from the Beech Nut. It has given great satisfaction, but has not come into general use because the production has been small and the oil has never been pushed on the market. One reason why more has not been done in the production of this Beech Nut oil has been the great scarcity of the nut in certain years. The Beech Nut contains but 22.77 per cent. of oil, but when the nuts are plentiful the ease with which they can be gathered, the fact that there is absolutely no other expense except the pressing, and the good prices that have been received for the oil have made the production of the oil very profitable. It is only of late that the seeds of the Linden tree have been used for the production of oil. According to the report of Dr. C. Müller to the German Botanical Society, this oil has a number of excellent qualities, which would appear to make it certain that the Linden seed will hereafter be considered one of the principal sources for obtaining table oil. The Linden tree is a regular bearer, so that a large quantity of seed may be counted upon each autumn. The percentage of oil in the Linden seed is given at 58. It is maintained that the oil has a peculiarly fine flavour, free from all bitter or aromatic taste, and that it has the appearance of Olive oil. It belongs also to the oils which do not evaporate. Oil made from Linden seed will never become rancid. It has no tendency to oxygenate. It will stand a great degree of cold without freezing. Dr. Müller has exposed it to 3° F. below zero without being able to notice any change."

— HOLLYHOCK DISEASE AND PERMANGANATE OF POTASH.—Regarding my note on the Hollyhock disease on page 57, kindly inform your readers that it is permanganate of potash (the mistake was mine) I use, and am glad to say my plants are now thoroughly clean. I have tried it for red spider, but has no effect on them so far as I have seen.—JOHN CLARK, *Wemyss Castle Gardens*.

— THE FLORA OF FORMOSA.—We learn from the "Kew Bulletin" that Dr. A. Henry has added to his rich collections of dried plants from eastern Asia by the gift of a further collection from Formosa, embracing about 1750 numbers. Dr. Henry has not succeeded in reaching the mountains of the interior, which doubtless, judging from the Flora of Japan, support a rich endemic element; yet, from a cursory glance at a portion of this valuable addition to the herbarium at Kew, there is evidently a considerable percentage of novelties.

— BOURNEMOUTH GARDENERS' ASSOCIATION.—The sixth annual excursion of the members took place on Tuesday, the 17th, to Fonthill House, Tisbury. Mr. W. Goodall (head gardener) extended a hearty welcome on behalf of Mr. Morrison, the owner of the estate. A splendid luncheon was provided in a large marquee, erected on the lawn near the mansion, a pleasing feature of the gathering being the meeting of a number of gardeners who, through the kindness of Mr. Morrison, were invited to be present, amongst them being Mr. J. Macey, Fonthill Abbey; Mr. J. W. Harrison, Wardour Castle; Mr. C. Solman, Pyt House, Tisbury; Mr. T. Wilkins, Inwood House, Blandford; Mr. A. Cramond, Knoyle House; and Mr. H. Brown, Clouds, Salisbury. The beautiful grounds and gardens were much enjoyed, and hearty thanks accorded for the handsome reception and generous hospitality of Fonthill.

— DIANTHUS CÆSIUS.—This is one of our rare British plants, and is only found growing wild on the Cheddar Rocks in Somersetshire. Its natural habitat is old walls or in calcareous soil on rockwork, and is said not to grow very well in an ordinary flower border. In the gardens here it grows freely, and this year has flowered profusely. It is growing in an ordinary border with other plants, the soil of which is a light loam in a sandy subsoil. Several clumps were planted two or three years ago, but until this season only two or three flowers have been produced, which seems to prove that it will not flower freely until well established. In its natural state the flowers are produced singly, but in the border two or more are found on each stem, the individual flowers being about the size of a shilling. The colour is a rosy pink and sweetly scented, which makes it a desirable plant to grow where sweet-scented flowers are in demand for cutting, for it will be found very useful for filling small vases. A near ally to *D. cæsius* is *D. deltoides*, the maiden Pink, which has very small leaves and small scentless flowers, but looks well in clumps along front row of herbaceous borders. This, too, is a British plant, and grows wild on dry banks in this neighbourhood.—J. S. UPEX, *Wigganthurpe*.

— VIOLAS.—The Rev. David R. Williamson writes to us as follows:—"I have read with much interest Mr. Wm. Dean's latest contribution to the *Journal of Horticulture* (page 57) upon the subject of Violas, of which I have for some years been an extensive cultivator. I coincide with his selection of the best six Violas, provided that extreme hardiness of nature and immense productiveness are to be regarded as the predominating characteristics. But if perfect beauty and exquisite fragrance were to determine our choice, then we should be compelled to include among the very finest of those beautiful and highly decorative flowers the following varieties, which have never been surpassed—viz., Countess of Kintore, Countess of Wharnccliffe, and Duchess of Fife. These, however, are easily annihilated, as I know from experience, by a tropical season like that of 1893. This, I doubt not, is the reason why they have not been included in Mr. Dean's selection, which, as I have indicated, is from many points of view an admirable one. In a normal season the Duchess of Fife, the loveliest of all Violas, and perhaps the most fragrant, grows and blooms (as it is doing here at present) remarkably well. So also do the Countesses of Wharnccliffe and Kintore. Violetta and Sylvia, the most valuable of Dr. Stuart's beautiful miniature rayless Violas, whose charming aspect Mr. Dean has gracefully recognised in his article, came into bloom very late this year, probably owing, to some extent, to the comparative coldness of the early summer; but for this very reason they are all the more appreciated when they appear. I have not heard much recently of the White Duchess, which Mr. William Cuthbertson and other specialists anticipated would supersede in popularity the Duchess of Fife. This distinction, as I predicted, has not been achieved."

— **A NOBLEMAN'S FRUIT STORES.**—It is reported that "the Earl of Harrington has opened a fruit and vegetable store in Parliament Street, Westminster, for the sale of the produce of his estate at Elvaston Castle, near Derby, the experiment having been undertaken, it is understood, on the advice of his chief agent, Mr. Gilbert Murray."

— **COFFEE IN CENTRAL AFRICA.**—We learn from a daily contemporary that Mr. H. H. Johnston tells a wonderful story of the origin and growth of the Coffee plantations in Nyassaland. When, some sixteen years ago, Mr. Buchanan was going out to Central Africa as horticulturist to the Established Church of Scotland Mission the Curator of the Edinburgh Botanical Gardens presented him with a sickly little Coffee tree. This tree reached the Shiré Highlands alive, and being planted at Blantyre thrived mightily, flowered, bore fruit, and became the parent tree of the 5,000,000 which are now producing thousands of pounds' worth of berries. The mother tree, Mr. Johnston says, is still living in the gardens of the Scotch Mission at Blantyre.

— **DWARF PEAS.**—On a breadth of Carter's Daisy Pea Mr. Burrell has growing at Claremont I saw hanging the other day a really wonderful crop. Would that the pods and peas were of a deeper green, as in these days it is a fact that colour goes a long way in securing popularity. Still the variety serves to show what splendid Pea crops can be had from plants of very moderate height, for Daisy is there about 2 feet. English Wonder is another of these most valuable dwarf Peas. On rich ground, and staked, it grows about 16 inches in height and produces an immense quantity of pods, if rather shorter than Daisy yet greener and of the best quality. With these two, Chelsea Gem, Robert Fenn, a very fine but too little grown Marrow, and Omega, that best of all Laxton's Peas, we have dwarf sorts that cannot be excelled for relative productiveness and quality by any others in cultivation.—A. D.

— **HUYTON AND ROBY SHOW.**—On Thursday last the second annual exhibition of the above Society was held on the 19th in a field adjoining the new public offices. Last year the Society gave in prizes about £60, but at the present show the money was increased to £80, in addition to two handsome silver challenge vases for twenty-four and twelve Roses, the thanks of the Society being due to W. H. Crook, Esq., Hawthorndale, Huyton, and Joseph Royston, Esq., The Orchard, Huyton, for the two latter valuable prizes. As compared with last year the exhibition of flowers, fruit, and vegetables was greatly in advance, more particularly the Roses. The silver vase for twenty-four Roses was won for the second time by Mr. W. Wharton, gardener to Joseph Royston, Esq., thereby becoming his property, whilst that for twelve varieties was secured by Mr. R. Pinnington, gardener to Mrs. Banner, Blacklow House, Roby, who has also to win it twice in succession or three times in all before it becomes his own.

— **LABELS.**—In common, doubtless, with many others I have received a sample label from Mr. C. T. Druery of Gracechurch Street, and well known as an eminent "fernarian." It is made of some metal or slag $2\frac{1}{4}$ inches long by 1 inch wide, and stout. The written surface is coated with enamel, and is coloured green, on which appears the name in fine writing and in white. That the label is of a most enduring nature there should be no doubt, but we do know unfortunately that even the hardest of enamel does chip or flake under the influence of weather after considerable exposure. That, however, may not be a feature of this form of label. Barring that, as a suspended label it does seem to be specially useful and desirable. In the circular issued with the label the price as per sample seems moderate. The one before me is purposed to name an Apple tree, but would, fixed on a stout iron standard of any length, serve to name equally well any description of rock, border, or other fairly permanent plants; or suspended on some suitable material would do for all descriptions of fruit trees, choice trees and shrubs, or Roses. The difficulty here lies not in the label, but in the material employed for fixing it to the tree, and Mr. Druery may well exercise his ingenuity in that direction, for every gardener knows that even stout wire, whether plain or galvanised, in time decays. The label falls, it is lost in the soil or leaves, and is rendered useless. One objection applies to this label, as to all long labels. It is made to hang downwards, as there is a perforation at one end by which to affix it to the tree. Why not have the hole in the centre of one side of the label, so that when hung up the writing will run horizontally and easily readable, instead of vertically, always a nuisance? In that respect we have been slaves to custom long enough, for human beings are not endowed with indiarubber necks.—A. D.



THE TROPHY CLASSES AND MULTIPLICITY OF EXHIBITS.

OUR able and active correspondent Mr. C. J. Grahame has (page 54, July 19th) introduced a subject—a twin subject, to speak more correctly—of considerable moment to many exhibitors of Roses. Whether it would be prudent to reduce the number of varieties in trophy or other large classes can only be determined by a frank discussion by those rosarians who enter, or would like to do so, into the contests. It is not very difficult to see in many, if not most, stands of seventy-two, or even forty-eight varieties, that the requisite number of distinct blooms have only been brought together by—to employ a well-understood term—a "scramble." In these "big" classes hundreds of blooms are seen every year which in no proper sense are representative of the varieties; in fact, not a few are poor apologies for them. This is apparent to all rosarians, and has been for years; yet this very fact—the long continuance of such classes—would appear to suggest that there are good and substantial reasons for their existence. These reasons may—in fact, must—be well known to several leading rosarians, though they are by no means clear to all, and surely no harm could be done by giving them wide publicity.

There are no summer flower shows that equal in attractive force those which are composed exclusively or largely of Roses. This is evident by the number of persons who crowd round the stands; and therefore it goes without saying that everything which can be done should be done, not only to maintain but to increase the prestige of the exhibitions. This, it is conceivable, can best be accomplished by bringing together the greatest possible number of the best possible blooms by the largest number of exhibitors. Assuming that to be the object, can it be said it is fully met by the present system?

Again, are there examples of departures from the orthodox routine to afford guidance in the consideration of proposed changes? Experience is a potent teacher, and if changes have been made it would be instructive if the results were forthcoming. If there have been no departures carrying with them sufficient weight to afford useful guidance, then can evidence bearing on the subject be found outside the Rose world, but which may, or may not, be applicable in it?

It may be a far cry from Roses to Chrysanthemums—from July to November, but it may be as well to recognise the fact that there are Chrysanthemum shows, and that these have greatly increased in number, extent, in the excellence of products exhibited, and in public approval during recent years. Has this all-round gain been brought about by any change in the classes? It is certain there have been reductions in the number of varieties stipulated for. The old maximum of "forty-eight, distinct," has gone out of fashion, as also, to a large extent, have classes for thirty-six and twenty-four distinct varieties. The number of blooms remain the same, but thirty-six varieties suffice in many, if not most, forty-eight bloom classes; twenty-four varieties in thirty-six bloom classes; and eighteen varieties in classes for twenty-four blooms. This obviously permits of duplicates, and as obviously the stands are improved in weight and beauty. The change increased the number of exhibitors, resulted in more imposing displays, also an extension of public patronage, and a corresponding extension of trade in these plants. No doubt there was another effect which several old Chrysanthemum growers deplored—namely, excluding from the shows several varieties which, though charming in themselves, were lacking in size or some other property which did not enable them to show to advantage among their larger and more, we will say, "eye-catching" compeers. The same system is adopted with Carnations.

We are neither advocating, nor the reverse, a similar change in Rose classes. It would be premature, not to say presumptive, to do so. It is a question for experts, and we simply place certain modifications before them, pointing out in a judicial way the advantages and disadvantages resulting in the case of Chrysanthemums, and which might be expected to follow in the case of Roses under similar circumstances. It is for rosarians to consider in which direction there would likely to be a balance of advantages by the adoption of a change on the same lines, or in some other way if there should happen to be a consensus of opinion that a departure from existing methods of showing Roses is desirable.

In his other question—the monopolisation of prizes by exhibitors not only of great skill but with large means—Mr. Grahame brings to

the front a very ancient grievance. It has been felt and expressed in connection with all shows from time immemorial, and from some has been practically removed by special conditions appropriate to each case. It is equally with the classification of shows a legitimate subject for discussion, and our columns are open for the purpose.

Mr. Grahame, as he is fully entitled to do, has expressed his preference for articles under the "proper signatures" (names) of the writers. These are not our conditions, though we shall not mind how many writers accord with Mr. Grahame's desire. We have only one view on this subject, and it is this:—Anything penned with the object of causing personal discomfort to a controversialist should be done openly, not in ambush; but arguments of an impersonal character pertaining to subjects under discussion may, if the writers prefer, rest on their merits over what *nom de plume* they please. We append three letters on "The Trophy Classes and Multiplicity of Exhibits."

I AM glad that Mr. Grahame has raised both these points. They can be shown to be connected with each other. I do not know the past history of the National Society enough to say whether the second question has ever been grappled with, but if not, the fact is surprising. It is a sufficiently common principle in all kinds of competition, flowers as well as others, to limit the number of prizes that can be gained, and therefore, presumably, the entries that can be made. In school or university prizes this is generally done by limiting the times to once or twice for the taking of each prize by the same person, but in Roses this is unavoidable, because Nature herself here secures a division of fortune by different seasons. *Nunc mihi, nunc alii benigna*. The other method—of limiting the possible entries—is therefore the true alternative, and it follows as a proper corollary on the now established division into sections according to the number of plants grown. To secure the widest possible interest in the shows, and to aim at high prizes rather than at sweeping the board, is the object of every true rosarian.—G. E. JEANS.

MAY I be allowed to say how cordially I agree with Mr. Grahame respecting the two classes at the N.R.S.? but I would go further than he suggests, as I think his arguments apply to the nurserymen's classes as well as to those of amateurs. I have long been of opinion that the class for seventy-two is a mistake. Years ago perhaps this large class was advisable, as it was the only way in which new Roses could be generally made known, but this is not the case now. A smaller class, say sixty at the outside, would throw open the challenge vase to many more. If Mr. Grahame would agitate for reforms in the big classes both for amateurs and nurserymen he would, I think, be doing a real service to the N.R.S.—HENRY B. BIRON, *Lympne Vicarage, Hythe*.

I ENTIRELY agree with the suggestions made by Mr. Grahame in your issue of the 19th inst., and think that if the amateur trophy class was reduced from forty-eight distinct varieties to twenty-four it would produce far more competition and better flowers would be staged, as there can be no question that there are many amateurs who can cut twenty-four good blooms on a given day, when forty-eight would be impossible. There is also this fact in favour of reduction, viz., that it would give so many more members a chance of winning this coveted trophy, and not leave it, as it is now, at the mercy of the giants; for a society to flourish no one set of exhibitors should be studied to the detriment of the others, and in our case also the majority.

Three prizes I think are quite enough for one member to take at an exhibition, and there is no doubt that a limit must be enforced. This plan is I think better than restricting a competitor to entries, as this might reduce competition; or there is another plan, a kind of sliding scale—for instance, growers under 500, limit two prizes; 1000, limit three prizes; 2000, limit four prizes, and so on. In many horticultural societies the limit to all exhibitors are three prizes, and quite right too; it does away with "pot hunting."—HEPPEL H. GIFFORD, *Holyrood, Streatham, S.W.*

GLOUCESTER ROSE SHOW.

I WAS surprised not to see any report of the Gloucester Rose show in "our Journal." It was one of the best provincial shows of the season. Most of the celebrated rosarians were represented—nurserymen and amateurs. True, I did not observe our good friend the Rev. H. H. D'Ombraire there, or no doubt we should have had a glowing account of it. The Gloucester Committee and Secretary are worthy of all support. Their genial reception and hospitality to all exhibitors are good, and I trust, as our national provincial show is to be held there in 1895, all rosarians will give them the support they deserve.—T. HOBBS, *Bristol*.

[We hope so too. A report of the recent show would have been

readily inserted had it been received. No schedule or tickets were sent to us as a reminder of the show for the purpose of a report. We are very much obliged by your letter, are pleased to learn the show was so good, and quite certain the compliment to the officials is well merited.]

ROSE SHOWS.

NATIONAL ROSE SOCIETY AT HALIFAX.—JULY 19TH.

NOTWITHSTANDING the fears which were entertained a few weeks ago that there would be comparatively few good Roses this season, consequent on the damage done by frosts during May, the National Rose Society has had what must be termed a successful exhibition year. Even the most fastidious persons cannot be other than gratified on the whole with the three shows that have been held under the auspices of the above mentioned Society, or at any rate so far as the blooms were concerned. A brief retrospect of the exhibitions may therefore not be without interest. The flowers staged were of much better quality than was generally expected, this being particularly noticeable in the nurserymen's classes. In some respects the southern show held at Windsor was an advance on the exhibitions of Tea Roses that formerly took place in the Drill Hall at Westminster, the schedule of prizes prepared for that occasion having brought forth a larger number of competitors and a greater variety of exhibits. This is a step in the right direction, and encouraging to those who have hopes that next year the southern exhibition of the Society may be held in conjunction with a popular gathering and in a convenient locality.

Turning to the metropolitan meeting at the Crystal Palace it was extremely gratifying to know, as previously mentioned in these pages, that the exhibition was the largest ever held by the Society, except that of 1892. This result, in what cannot on any account be termed a good season for Roses, and when most of the northern growers were prevented exhibiting, was much better than even the most sanguine had anticipated, and it may be taken as a criterion as to the popularity of the Rose and the keenness of exhibitors. Moreover, it goes to prove that liberal prizes, to which some honour is also attached, usually produce a goodly display of exhibits and consummately afford interest to visitors. Evidence of this was forthcoming, among other shows, at Windsor, at the Crystal Palace a short time since, and at Halifax on Thursday, the 19th inst. As at the southern exhibitions so at the northern one, and although the latter was held under less favourable auspices, being situated in a manufacturing district, it did not fail to create enthusiasm amongst the leading growers, with the result that many of them were there represented.

This northern show of the National Rose Society was held in the grounds adjoining Spring Hall, Halifax, and in conjunction with the sixteenth annual exhibition of the Salterhebble and District Rose Society. No less than thirty-eight classes, irrespective of purely local exhibits, were provided, these being, as usual, divided in sections. For nurserymen there were seven large classes, one being for seventy-two, distinct, single trusses, but the one on which the chief interest was centred was for thirty-six distinct blooms, the winner of the first prize holding a challenge trophy value 50 guineas. From 1887, when the show was held at Edinburgh, to 1890, in which year Birmingham was honoured by the N.R.S., Messrs. Harkness & Sons won this Jubilee challenge trophy, thus being the victors for four consecutive years. At Hereford in 1891 Mr. Frank Cant was the winner of this coveted prize, Mr. B. R. Cant securing the honour at Chester in 1892. The hot season of 1893 again favoured the Yorkshire growers, who exhibited well at Worksop, but this year they were obliged to be content with second honours, the trophy going to Mr. B. R. Cant, whose flowers were much admired.

With respect to the amateur growers these were fairly represented, but, as at other exhibitions this year, not so strong as the professionals. There were twenty-two classes open to amateurs, about half a dozen of these being for exhibitors irrespective of the number of the plants they grow, whilst the others were reserved for growers who have only a restricted number of Roses. There were in addition the customary local division, and also the open classes for stands of blooms of different varieties. The exhibits in the whole of these made a good display, and much interest was centred upon them, the trophy class, of course, coming in for the most attention. The fight for the premier award, however, in this section is seldom as keen as in the nurserymen's class, although some good contests have been witnessed. In 1887 and the next year Mr. T. Hall succeeded in winning the amateurs' trophy, and the Rev. J. H. Pemberton followed as leader for three consecutive years. Dr. S. P. Budd, it may be remembered, came to the front with a fine stand in 1892, and Mr. A. Whitton, Bedale, was the winner last year. At Halifax there were nine competitors for this prize, which fell to Mr. E. B. Lindsell, who staged splendidly. The flowers were fresh, even, and well coloured, the stand being one of the best in the exhibition.

Many experts present expressed the opinion that the exhibition was a very fine one, the majority of the classes being well filled, and the blooms on the whole of excellent quality. Generally speaking, Hybrid Perpetuals were better than the Teas and Noisettes, the latter being somewhat small and rough, but it was said that "there never had been such a charming show of flowers in the locality." The local authorities were well satisfied with the results of their affiliation with the National Rose Society, and so, doubtless, are the officials of the latter body. Owing to the recent inclement weather, a few of the principal growers, it was noticed, were absent, but there were sufficient blooms present to

make a beautiful display. Fortunately, fine weather prevailed, and a large number of persons, estimated at 10,000, visited the exhibition.

NURSERYMEN'S CLASSES.

There were eight exhibitors in the class for thirty-six distinct, single trusses, open to nurserymen, the jubilee trophy going with the first prize. The competition was remarkably keen, excellent blooms being staged by all the growers who were represented in this class. After careful deliberation and patient judging Mr. B. R. Cant, Colchester, was, however, awarded the premier position with a stand of exceedingly fresh and even blooms. The varieties were:—Thomas Mills, Maurice Bernardin, Suzanne Marie Rodocanachi, Beauty of Waltham, Merveille de Lyon, Fisher Holmes (grand), Jeannie Dickson, Prince Arthur, The Bride, Abel Carrière (good), Jules Finger, John Stuart Mill, Madame Eugène Verdier, Duke of Edinburgh, Dupuy Jamain, Marie Baumann (fine), Dr. Sewell, Heinrich Schultheis, Her Majesty (very fine), Jean Lelievre, A. K. Williams, Salamander, Ulrich Brunner, La France, Caroline Testout, Xavier Olibo, Duke of Teck, Gustave Piganeau (grand), Mrs. J. Laing (excellent), Louis Van Houtte, Pride of Waltham, Jean Soupert, Marie Verdier, Alfred Colomb, Duchesse de Morny, and Earl of Dufferin. Messrs. Harkness & Sons, Bedale, were remarkably close to the first prize winners, showing a stand of exceedingly fresh and well finished flowers. The best of these were:—Ulrich Brunner, Duchess of Bedford, Mons. E. Y. Teas, Charles Lefebvre, Horace Vernet, Xavier Olibo, Marie Baumann, Victor Hugo, A. K. Williams, Dr. Andry, and Madame Cusin. Messrs. R. Mack & Son, Catterick Bridge, were third with a very even stand of neat blooms.

The largest class in the nurserymen's section was for seventy-two blooms, distinct, single trusses, and four of the leading growers exhibited. Mr. B. R. Cant repeated his success here again, showing that the southern Roses can still hold their own in other than unusually hot or early seasons. The flowers in this stand were not so fine as one usually sees in the large class at the metropolitan exhibition, but still they were good. The following varieties were staged—Gustave Piganeau, Luciole, Captain Hayward, Mrs. J. Laing, Duke of Fife, Lady Arthur Hill, Magna Charta, Anna Olivier, Reynolds Hole, Marchioness of Dufferin, Fisher Holmes, Baroness Rothschild, Jean Delmere, Madame Cusin, Le Havre, Marie Baumann, Crown Prince, Madame de Watteville, Charles Lefebvre, Ernest Metz, Edouard Herve, Madame Gabriel Luizet, Alfred Colomb, Suzanne Marie Rodocanachi, Ulrich Brunner, Merveille de Lyon, Jean Soupert, Madame Joseph Bonnier, Lady H. Stewart, Marie Finger, Pride of Reigate, Xavier Olibo, Marie Rady, Duke of Wellington, Madame Hoste, Général Jacqueminot, The Bride, Earl of Dufferin, Belle Lyonnaise, Star of Waltham, Heinrich Schultheis, Sultan of Zanzibar, Duchesse de Morny, Dr. Andry, Her Majesty, Madame Crapet, François Louvat, Marie Verdier, Duke of Edinburgh, Jeannie Dickson, John Stuart Mill, Souvenir d'un Ami, Horace Vernet, François Michelin, Eclair, Innocente Pirola, Beauty of Waltham, Catherine Mermet, Sir Rowland Hill, La France, A. K. Williams, Countess of Oxford, Prince Arthur, Alphonse Soupert, Comtesse de Ludre, Prince Camille de Rohan, Duke of Fife, Lady Mary Fitzwilliam, and Dr. Sewell. Messrs. Harkness & Sons followed, as in the trophy class, staging excellent blooms, Duke of Fife, Madame Haussman, Auguste Rigotard, Marie Finger, and Catherine Mermet being particularly fine. Messrs. Paul & Son, Cheshunt, were third with a stand of creditable blooms, including the best Hybrid Perpetual shown by a nurseryman in the exhibition, this being a grand specimen of Duchesse de Morny.

There were three exhibitors in the class for thirty-six, distinct, three trusses of each, and here Messrs. R. Mack & Sons were awarded the first prize. The varieties shown by these growers were Violette Bouyer, Prince Arthur, Sir Rowland Hill, Sultan of Zanzibar, Duke of Wellington, Suzanne Marie Rodocanachi, Prince Arthur, Général Jacqueminot, Victor Hugo, Marie Verdier, Ulrich Brunner, Caroline Testout, A. K. Williams, Duke of Fife, Duchesse de Vallombrosa, Louis Van Houtte, Marie Baumann, Madame Gabriel Luizet, Charles Lefebvre, Gustave Piganeau, Baroness Rothschild, La France, Comtesse de Ludre, Duke of Teck, Charles Darwin, Beauty of Waltham, Madame Hippolyte Jamain, Marie Rady, Margaret Dickson, Beauty of Waltham, Heinrich Schultheis, Duke of Edinburgh, Lady Sheffield, Mrs. J. Laing (very fine), Dupuy Jamain, John Stuart Mill, Merveille de Lyon, and François Michelin. Mr. B. R. Cant was second with fine blooms, as may be expected, the best of these comprising Beauty of Waltham, Benoit Comte, Comte de Raimbaud, and Madame Gabriel Luizet. The English Fruit and Rose Company, Ltd. (Cranston), Hereford, secured the third prize with well coloured and neat flowers.

In the class for thirty-six, distinct, single trusses, four exhibitors were forthcoming, and the competition was very keen. Mr. G. Prince here showed his superiority with a fine stand of blooms, rather small, but even and well coloured. The varieties were A. K. Williams, Mrs. J. Laing, Charles Darwin, Clara Watson, Duke of Edinburgh, Suzanne Marie Rodocanachi, Abel Carrière, Marquise de Castellane, Sénateur Vaisse, Gustave Piganeau, The Bride, Alfred Colomb, Madame Gabriel Luizet, Prince Camille de Rohan, Annie Wood (very fine), Reynolds Hole, Marie Baumann, Margaret Dickson, Général Jacqueminot, Madame Eugène Verdier, Duke of Teck, Her Majesty, Victor Hugo, Baroness Rothschild, Marie Van Houtte, Comtesse de Nadaillac, Baron A. de Rothschild, Beauty of Waltham, Xavier Olibo, Caroline Testout, Duke of Wellington, Jeanie Dickson, Horace Vernet, Etienne Levet, Benoit Comte, and Duc de Rohan. Messrs. D. Prior & Son followed closely with good, clean blooms, amongst which Duke of Fife, A. K. Williams,

Prosper Laugier, Victor Hugo, Gustave Piganeau and Lady Sheffield stood out prominently. Messrs. G. & W. H. Burch were third with a creditable stand, a fine bloom of Mrs. J. Laing being noticeable in this exhibit.

Six exhibitors tried their powers in the class for eighteen distinct varieties, three trusses of each, these forming a good display. Messrs. D. Prior & Son were again first with very fine blooms. The varieties staged were A. K. Williams, Suzanne Marie Rodocanachi, Horace Vernet, Ulrich Brunner, Merveille de Lyon, Fisher Holmes, Duchesse de Morny, Prince Arthur, Marie Baumann, Marie Finger, Mrs. J. Laing (fine), Alfred Colomb, Alphonse Soupert, Gustave Piganeau, Victor Hugo, Baroness Rothschild, Duke of Fife, and La France. Messrs. J. Jeffries & Sons, Cirencester, were second with fresh and well coloured flowers of Star of Waltham, Baroness Rothschild, A. K. Williams, and Comte Raimbaud, amongst others. The third prize went to Messrs. G. & W. H. Burch, who staged well.

Teas and Noisettes.—In the class for eighteen, distinct, single trusses, there were only two competitors, these being Mr. G. Prince and Messrs. D. Prior & Son, but the fight for the premiership was very keen. Mr. Prince, however, gained the leading position, showing a stand of excellent blooms. These were Comtesse de Nadaillac, Innocente Pirola, Miss Ethel Brownlow, Marie Van Houtte, Souvenir de S. A. Prince, Princess of Wales, Madame de Watteville, Hon. Edith Gifford, Souvenir d'un Ami, Golden Gate, Madame Cochet, The Bride (medal bloom), Ernest Metz, Niphotos, Jules Finger, Madame Lambard, Perle des Jardins, and Catherine Mermet. The best of Messrs. Prior's blooms were Anna Ollivier, Comtesse de Nadaillac, Miss E. Brownlow, and Francisca Krüger.

There were three stands in the class for twelve distinct, single trusses, Teas, open to nurserymen, and the flowers were not so good as might have been expected. Messrs. J. Burrell & Co., Cambridge, were awarded the first prize for a stand of neat and fairly finished blooms. These comprised Madame Hoste, Ernest Metz, Souvenir de S. A. Prince, Catherine Mermet, The Bride, Madame Cusin, Francisca Krüger, Souvenir de Paul Neyron, Ethel Brownlow, Madame Lambard, Innocente Pirola, and Souvenir d'un Ami. Messrs. G. & W. H. Burch, Peterborough, were a close second, showing Madame Cusin, Catherine Mermet, Madame Hoste, and Miss E. Brownlow in good condition. Messrs. J. Jeffries & Son, Cirencester, were third with creditable blooms.

AMATEURS' CLASSES.

The amateurs' jubilee trophy class, open to growers irrespective of the number of plants they grow, and for twenty-four distinct varieties, single trusses, brought out a keen competition, no less than nine growers exhibiting. The blooms, too, were fresh and remarkable for their brilliancy and evenness. Mr. E. B. Lindsell, Hitchin, Herts, as already remarked, here showed in his old form, and it is gratifying to see this grower securing at least one coveted prize, after his Roses suffered so much from the frost in May last. The blooms in this stand were Her Majesty, Fisher Holmes (good), Madame Haussman (fine), Victor Hugo, Caroline Kuster, Alfred Colomb, Mrs. J. Laing, Xavier Olibo (medal bloom), Etoile de Lyon, Louis Van Houtte, Souvenir d'un Ami, Gustave Piganeau (magnificent), Souvenir d'un Ami, Lady Sheffield, Maurice Bernardin, Merveille de Lyon, Prosper Laugier, Catherine Mermet, Prince Arthur, Princess of Wales, Ulrich Brunner, Madame Gabriel Luizet, La Rosière, Souvenir de S. A. Prince, and Comte Raimbaud. The second prize went to Mr. Walter Drew, Ledbury, Hereford, who had with others, excellent blooms of Her Majesty, Marie Baumann, Charles Darwin, Duchess of Bedford, Mrs. J. Laing, Ulrich Brunner, and Duke of Wellington. Mr. Thomas Hobbs, Lower Easton, Bristol, was placed third with a box of charming flowers.

The class for thirty-six distinct, single trusses, brought forth four exhibitors, all staging neat and well-coloured flowers. A piece of plate valued 5 guineas, presented by the Venerable Archdeacon Brooke, Vicar of Halifax, accompanied the first prize, which went to Mr. W. Drew. The varieties staged were Mrs. J. Laing, Dr. Andry, Alfred Colomb, Gustave Piganeau, Charles Darwin, Heinrich Schultheis, Jean Ducher, Horace Vernet, Baroness Rothschild, A. K. Williams, Lady A. Hill, E. Y. Teas, Souvenir d'un Ami, Marie Baumann, Merveille de Lyon, Earl of Dufferin, La France, Etienne Levet, Madame de Watteville, Prosper Laugier, Mrs. Sharman Crawford, Mrs. Laxton, Marie Verdier, Victor Hugo, Lady Sheffield, Duke of Edinburgh, Her Majesty, Duke of Bedford, Suzanne Marie Rodocanachi, La Rosière, The Bride, Louis Van Houtte, Madame Gabriel Luizet, Ulrich Brunner, François Michelin, and Exposition de Brie. The Rev. J. H. Pemberton was a close second with an excellent stand, Sénateur Vaisse, A. K. Williams, Madame Gabriel Luizet, J. D. Pawle, Horace Vernet, and Prosper Laugier being very fine in this exhibit. The third prize was secured by Mr. T. Hobbs, Bristol, who had creditable blooms.

A piece of plate valued 4 guineas, given by Mr. Rawson Shaw, M.P., went with the first prize in the class for eighteen distinct, single trusses, open to all amateurs. There were eight competitors for this award, which was won by Mr. James Parker, who had a stand of even blooms. The varieties shown were Dupuy Jamain, Merveille de Lyon, grand; Duke of Connaught, Charles Darwin, Madame Eugène Verdier, Camille de Bernardin, A. K. Williams, Jules Finger, Prince Camille de Rohan, Baroness Rothschild, François Michelin, Catherine Mermet, Lady Sheffield, Marie Rady, Victor Hugo, Mrs. J. Laing, Earl Dufferin, and Magna Charta. Mr. W. Boyes, Bank House, Derby, was second with a neat, even stand, showing Etienne Levet, Prince Arthur, Duke of Wellington, and Duke of Albany in excellent condition.

Mr. A. Whitton, Bedale, was third with good flowers, which included a splendid example of *Gustave Piganeau*.

Mr. James Parker, The Croft, Old Headington, Oxon, secured the first prize in the class for twelve distinct, single trusses, open to growers of less than 1000 plants, showing fine blooms. These were *Ulrich Brunner*, *Earl Dufferin*, *Souvenir de S. A. Prince*, *Marie Rady*, *Suzanne Marie Rodocanachi*, *Pierre Notting*, *The Bride*, *A. K. Williams*, *Mrs. J. Laing*, *Gustave Piganeau*, *Merveille de Lyon*, and *Louis Van Houtte*. Mr. T. Raffles-Bulley, Breck Hey, Liscard, Cheshire, was a close second;

Hausmann, *Margaret Dickson*, *Dr. Andry*, *Gustave Piganeau*, *John Stuart Mill*, *Baron Rothschild*, *Louis Van Houtte*, *Hon. E. Gifford*, *Earl of Dufferin*, *Etienne Levet*, *Marie Baumann*, *Jeannie Dickson*, *Prosper Laugier*, *La France*, *Prince Arthur*, *François Michelon*, *Merveille de Lyon*, *Lady Sheffield*, *Mrs. J. Laing*, *Dupuy Jamain*, *Alfred Colomb*, *Violette Bouyer*, and *Eugène Furst*. Mr. J. Mallender, Hodsock Priory, Worksop, was a very close second with a stand of excellent blooms. Mr. J. Brown, Longfield, Heaton-Mersey, Manchester, won with twelve distinct, single trusses, in the same section. The blooms were rather



FIG. 13.—POLYPODIUM SCHNEIDERI. (See page 79.)

the third prize going to Mr. Mahlon Whittle, Leicester. There were eight exhibitors in this class.

Mr. C. J. Grahame, Coombe Road, Croydon, was the only exhibitor in the class for nine distinct, single trusses, and the first prize was awarded. The varieties shown were *Ulrich Brunner*, *Comte Raimbaud*, *Marie Baumann*, *Suzanne Marie Rodocanachi*, *Marchioness of Londonderry*, *Mrs. J. Laing*, *Innocente Pirola*, *Duke of Wellington*, and *Comtesse de Panisse*.

The classes open to amateurs residing within forty-five miles of Halifax were well filled. For twenty-four distinct, single trusses, in the local division Mr. H. V. Machin, Worksop, won the first prize, and secured a silver medal for this stand, it being the best box of *Roses* exhibited in this section. The varieties were *Ulrich Brunner*, *Madame*

small, and comprised *Mrs. J. Laing*, *Prince Arthur*, *Caroline Testout*, *Marie Baumann*, *Innocente Pirola*, *Marquise de Castellane*, *Merveille de Lyon*, *Earl Dufferin*, *Général Jacqueminot*, *Madame de Watteville*, *François Michelon*, and *Ulrich Brunner*. Mr. H. Stewart, Worksop, was first with six single distinct trusses in this division, having fine blooms of *Mrs. J. Laing*, *Madame Eugène Verdier*, *Viscountess Folkestone*, *Ulrich Brunner*, *Her Majesty*, and *Fisher Holmes*. Mr. S. Morris Leicester, was second.

Mr. Walter Drew secured the leading award for eight distinct blooms three trusses of each, in the extra class open to all amateurs. These were *Ulrich Brunner*, *Mrs. J. Laing*, *Earl of Dufferin*, *Her Majesty*, *Louis Van Houtte*, *Souvenir d'un Ami*, *Marie Baumann*, and *Merveille de Lyon*. Dr. S. P. Budd, Gay Street, Bath, was second with good flowers; Mr.

T. Hobbs being third. The Rev. J. H. Pemberton was first with six distinct new Roses in the amateurs' section. The varieties shown were Mrs. Sharman Crawford, Caroline Testout, Salamander, Margaret Dickson, Madame Delville, and Mrs. Harkness. Mr. J. Bateman, Highgate, was second.

Mr. T. Raffles Bulley, Liscard, was first in the restricted class for six trusses of any Hybrid Perpetual or Hybrid Tea, showing Ulrich Brunner. Mr. J. Parker was second with Suzanne Marie Rodocanachi; and Mr. Mahlon Whittle third with Merveille de Lyon. Dr. S. P. Budd had the best nine single trusses of any Hybrid Perpetual in this section. Fine blooms of Alfred Colomb were shown by this exhibitor. Mr. H. V. Machin, Worksop, was second with well-grown examples of La France, the Rev. J. H. Pemberton, Havering-atte-Bower, Romford, following with Ulrich Brunner.

Teas and Noisettes.—In the class for twelve distinct single trusses of Teas and Noisettes, open to amateurs irrespective of the number of plants they grow, there were four competitors. The Rev. F. R. Burnside here again was to the fore with a stand of good blooms, all very neat and well finished. The varieties were Souvenir d'un Ami, Francisca Krüger, Madame Cusin, Innocente Pirola, Catherine Mermet (grand), Princess of Wales, Ethel Brownlow, Comtesse de Nadaillac, Madame Bravy (excellent), Caroline Kuster, Jean Ducher, and Anna Olivier. Dr. S. P. Budd, Gay Street, Bath, was second, the best flowers in the stand being Miss Ethel Brownlow, Catherine Mermet, and Madame Cusin. Mr. H. V. Machin, Gateford Hill, Worksop, was third with rather small but clean blooms.

Mr. James Parker, Headington, Oxon, was awarded the first prize in the class for nine distinct Teas or Noisettes, open only to growers of less than 500 plants of exhibition Roses. The flowers staged by this exhibitor were very fresh and well coloured, and comprised Catherine Mermet (medal bloom, very good), The Bride, Souvenir d'un Ami, Jean Ducher, Madame de Watteville, Anna Olivier, Comtesse de Nadaillac, Souvenir de S. A. Prince, and Innocente Pirola. Mr. Conway Jones, Gloucester, was a close second, showing, amongst others, good blooms of Catherine Mermet, Anna Olivier, Prince of Wales, and The Bride. Mr. James Parker, Hitchin, was third with an excellent stand. There were five exhibitors in this class, and all the flowers were good. It may be as well to say that according to the prize cards Mr. J. Parker, of Headington, was first, and Mr. J. Parker, Hitchin, third—a coincidence of names if they were correctly given.

There were seven exhibitors in the class for six distinct, single trusses, open to growers of less than 200 plants. Mr. G. Moules, Hitchin, was first with a stand of fine blooms, staging Anna Olivier (good), Etoile de Lyon, Souvenir d'un Ami, Madame Hoste, Catherine Mermet, and The Bride. Mr. Washbourne, Hucclecote House, Gloucester, was second; and Mr. J. T. Marsden, Delamere, Silverdale, Carnforth, third. In the extra class for amateurs, the Rev. F. R. Burnside secured the first prize for six distinct Teas, three trusses of each, showing Madame Cusin, Innocente Pirola, Souvenir d'un Ami, Caroline Kuster, Comtesse de Nadaillac, and Anna Olivier in splendid condition. There were no other competitors in this class. Mr. Burnside was also first in the class for nine single trusses any Tea or Noisette, showing Caroline Kuster. Mr. H. V. Machin followed with Hon. Edith Gifford; and Mr. W. Boyes was third with Souvenir de S. A. Prince. Mr. J. Parker was first with six blooms of any Tea or Noisette, staging neat blooms of Catherine Mermet. Mr. Conway Jones was second with The Bride.

MEDAL ROSES.

The best Hybrid Perpetual in the nurserymen's classes was a splendid bloom of Duchesse de Morny shown by Messrs. Paul & Sons, Cheshunt. Mr. G. Prince, Oxford, won the silver medal for the best Tea in this section, showing a magnificent flower of The Bride. Mr. J. Parker, Headington, secured the medal for the best Tea in the amateurs' section with a grand bloom of Catherine Mermet, and Mr. Lindsell had the premier Hybrid Perpetual, a fine example of Xavier Olibo.

OPEN CLASSES AND GARDEN ROSES.

The Teas and Noisettes were rather small in the open classes, but on the whole wonderfully fresh and well coloured considering the showery weather which prevailed for some weeks prior to the exhibition. In the class for twelve distinct, three trusses of each, there were four exhibitors, all staging good blooms. The Rev. F. R. Burnside, Hereford, however, was adjudged the winner of the first prize with a stand of small but charming blooms. These were Anna Olivier, Souvenir d'Elise Vardon, Innocente Pirola, Madame Cusin, Catherine Mermet, Souvenir d'un Ami, Ethel Brownlow, Caroline Kuster, Jean Ducher, Madame de Watteville, Francisca Krüger, and Souvenir de S. A. Prince, the latter and Ethel Brownlow being very good. Mr. G. Prince, Oxford, followed closely, the best in this stand being Golden Gate, Ernest Metz, Madame Cusin, and Madame Hoste. Messrs. D. Prior and Son, Colchester, were third with a creditable stand, Madame Lambard, Catherine Mermet, and Comtesse de Nadaillac being the best.

Mr. H. V. Machin had the best half dozen Teas and Noisettes in the extra section, staging Innocente Pirola, Prince of Wales, Souvenir de S. A. Prince, Hon. E. Gifford, Catherine Mermet, and Madame de Watteville. Mr. Henry Stewart, South Carlton, Worksop, was second.

Messrs. R. Mack & Sons had the best dozen blooms of any light Rose, staging splendidly grown Merveille de Lyon. The Rev. F. R. Burnside was second with Innocente Pirola, and Messrs. D. Prior & Son third with Souvenir de S. A. Prince. Mr. G. Prince won the first prize for a dozen blooms of any yellow Rose with perfect examples of Comtesse de Nadaillac. Messrs. Prior & Son were second with Maréchal Niel.

Messrs. Paul & Sons, Cheshunt, were the only exhibitors of a box of twelve new Roses, and the first prize was awarded. The varieties shown were Marchioness of Londonderry, Charles Gater, Madame J. Bonnier, Duke of Fife, Quassnach, Margaret Dickson, Mons. de Moran, Mrs. Paul, Bridesmaid, Violet Queen, Madame Cochet, and Duchess of Fife. Mr. G. Prince won a card of commendation for the new seedling Rose Clara Watson. This is a Hybrid Tea, white, suffused rosy peach, and is said to be a good grower.

There was a good display of blooms in the class for twelve single trusses of any light Rose, white ones being excluded. Messrs. D. Prior and Son won with magnificent flowers of Mrs. J. Laing, Messrs. Mack and Sons and Mr. B. Cant following with the same variety. It was noticed how well this Rose was shown throughout the exhibition. Messrs. D. Prior & Son won with twelve blooms of any crimson Rose, staging Alfred Colomb. Mr. G. Prince was second with Marie Baumann, and Messrs. G. & W. H. Burch were third with Earl of Dufferin.

Garden Roses made a fine display, although they were not so exhaustively shown as at southern exhibitions. Messrs. Paul & Sons were awarded the first prize for a fine collection, comprising eighteen bunches of the best decorative varieties. Amongst these were Marquis of Salisbury, Gustave Regis, White Pet, Perle d'Or, James Veitch, L'Idéal, and Camoens. Mr. H. V. Machin secured the leading award for twelve bunches of garden Roses, these including The Pet, Village Maid, Mignonette, L'Idéal, Annie Marie de Montravel, and Celestial. Mr. J. Mallender was second with an interesting collection.

The local classes were well filled, but the Roses were not of excellent quality. Mrs. Conway, Salterhebble, was first for twenty-four Roses, Messrs. Bottomley and Burton being second. Mr. J. Dinsdale had the best eighteen blooms, followed by Mr. E. Fieldhouse. These exhibitors, with Mr. James Sykes, were the principal prizewinners in the other minor classes.

Messrs. Perkins & Sons, Coventry, exhibited a large number of beautiful bouquets, for which prizes were awarded.

PROVINCIAL MEETING AT HALIFAX—A REVIEW.

YORKSHIREMEN are proverbial as sportsmen, so that those of us who travelled north on the 18th of July felt assured that everything would be done well at Halifax, and we were not disappointed. Having no Rose impedimenta worth speaking of, I left London by the midday train, travelling with our N.R.S. Secretary, Mr. Edward Mawley. On our arrival that evening we paid a visit to the Rose ground, and found everything in a more forward state than I have often known Rose arrangements to be on the morning of a show. I may here give very cordial testimony to the business aptitude and bonhomie of the local Secretary, Mr. Brooks, who certainly knows how to make everybody and everything comfortable. "Shipshape and Bristol fashion," as they say on the west coast, was the state of the tents and staging even on the 18th. Mr. Brooks' arrangements were capital, and I did not hear a single word of grumbling about anything or from anybody at this meeting.

The meeting of the Halifax Society has for years been held in Alderman Booth's grounds, which are convenient to the town and railway. On the day of the show the conveyances of the town seemed to have leagued together to help the show, not, as in many other places, to extract all they could out of the visitors. The consequence of this good feeling was that even by three o'clock a phenomenal attendance seemed likely, and the tents were getting uncommonly crowded by an audience who were intensely interested in everything. These Yorkshire folk are always very much in earnest in everything they do, whether it be racing, Rose growing, or business pure and simple. The visitors could not have been disappointed, as with the exception of the Crystal Palace meeting the show was the largest I have been at this year, and the entries were remarkable, there being, I think, 109 rosarians who intended to show, but some failed at the last moment. When I say that there were nine competitors for the amateurs' jubilee trophy I instance one "record." Now as to the exhibits, which I will take *seriatim* as far as my recollection goes.

The nurserymen's jubilee trophy was contested by Messrs. Benjamin Cant, Harkness, Mack, Prior, Paul, and others. The placing was in the order I name, but it might have been different had not Messrs. Prior's box, by a serious oversight, been badly placed by their representative for inspection by the judges. Those who judge cannot get on to tables to see the individual flowers, and an exhibitor, more especially when he has first-class Roses in his boxes, should stage them in a way to draw immediate attention to them. I have a great belief in first impressions in Rose judging, and although "pointing" at times upsets this theory, I have seldom found that the first careful inspection has been incorrect. The other exhibits of Messrs. Prior were of such a very high standard (this firm taking easy firsts for twelve of one variety and for trebles) that it showed plainly of what class their thirty-six for the jubilee trophy was certain to be—and was.

Mr. Cant and Messrs. Harkness had a very tough struggle for first place, the judges, men of the first rank in the N.R.S., took an hour in deciding between them. Weight carried the day. No one can grudge our great veteran rosarian the compensation of winning in the north what he missed in the south. Nor, I am sure, did his great northern competitors, after their wonderful success last year, feel this defeat, although 1894 has not been hitherto over-kind to them. Mr. Benjamin Cant was again ahead of Messrs. Harkness in the seventy-two, and Messrs. Paul & Son took third place. I may here mention that neither Messrs. Dickson of Newtownards nor Mr. Frank Cant were able to

show at Halifax, which was a matter of general regret. The storms of the previous week had injured Messrs. Dicksons' flowers beyond recovery, and Mr. Frank Cant I believe preferred Trentham to Halifax. The absence of these great growers was a real disappointment to many of us, as was also that of Messrs. Merryweather of Southwell and Mr. George Mount of Canterbury, the weather had destroyed their flowers.

In the large treble class for thirty-six varieties, Messrs. Mack of Catterick took first place with one of the finest exhibits of that class that I have ever seen. It was staged most effectively *en masse*—i.e., box above box on a slope, and the trebles were almost perfect. I am unable now to recollect the varieties shown, but there was apparently not one imperfect treble, and several were exceptionally good. It was a real treat as regards colour and arrangement. Mr. Benjamin Cant was second, and Messrs. Cranston of Hereford third.

In the smaller nurserymen's classes for thirty-six, distinct, Mr. Prince of Oxford, Messrs. Prior, and Messrs. Burch were placed. There were several other good exhibits in the class, notably those of Mr. Burrell of Cambridge, and Messrs. Jefferies of Cirencester. I have already mentioned Messrs. Prior's beautiful and perfect lot of trebles in the class for eighteen varieties, which he won easily; Messrs. Jefferies and Messrs. Burch taking the other places.

In the Tea classes Mr. Prince and Messrs. Prior divided honours for eighteen varieties, but an amateur, Mr. Burnside of Birch Vicarage, Hereford, defeated all comers in the twelve treble Tea classes, showing Roses superior to either Mr. Prince or Messrs. Prior. In the smaller professional Tea class Mr. Burrell of Cambridge was first with very nice flowers, and Messrs. Burch and Jefferies took the other places.

There was a large and good competition for Roses of one variety but I do not think any of the boxes were of surpassing excellence, with the notable exception of Messrs. Prior's boxes of Mrs. John Laing and Ulrich Brunner, for which they gained two firsts; their box of Mrs. John Laing was as fine as any box of twelve of one variety staged this year, and would have been "hard to beat" in any year. Messrs. Mack had a very good box of that ugly Rose Merveille de Lyon, and also one of Mrs. John Laing. Their exhibits throughout the show were of very high merit, and did credit to Yorkshire. The nurserymen's medals were given to a very fine specimen of Duchesse de Morny, shown by Mr. George Paul of Cheshunt, and to The Bride staged by Mr. George Prince.

As I have already mentioned, the amateur competition was very large and keen, and here it was that the greatest interest to many at the show was centred, as Mr. Lindsell was believed to be at last able to exhibit in the form somewhat approaching what we are accustomed to. Anticipation, and indeed I may say a general hope, was not disappointed, as the champion of 1890 to 1893 emerged from his temporary eclipse with a brightness that was pleasurable to all of us, winning for the first time the Jubilee trophy in a strong competition with a fine exhibit, and not only taking this trophy, but also the amateurs' medal, for a splendid specimen of Xavier Olibo, the best H.P. in the show. Walter Drew, of Ledbury, was second with a good box, which, however, was many points below the first; and Mr. Thos. Hobbs, the (to me) new exhibitor from Bristol, took third. To prove that the winner must have had good flowers, I may mention that amongst the remaining six unplaced were Dr. Budd of Bath, Mr. Machin of Gateford Hill, and Mr. Whitton of Bedale, the winner last year of this trophy, although they all had good exhibits, notably Mr. Machin; but when there are only three places and nine strong exhibitors, some good men must be left out!

In the class for thirty-six varieties, Walter Drew was first; Mr. Pemberton of Havering, Essex (who has had bad luck this year, like many of us), second; and Mr. Hobbs again third. This Bristol rosarian seems safe to come into more prominent notice ere long.

In the classes under 2000, two exhibitors of the name of Parker (not related), one of Hitchin, Herts, and the other hailing from Headington, Oxford, took the majority of prizes, and James Parker of Headington won the Tea Rose medal with a good Catherine Mermet. I believe this rosarian is at present only a small grower, so that his success is very creditable to him; if he has the opportunity he should take up Rose growing as a business, as it is evidently congenial to him, and he has found out not only good ground, but the way to grow Roses. Other exhibitors who are deserving of mention were Mr. Boyes of Derby, who must have been a very close second in the class for eighteen varieties; Mr. G. Moules, a third successful exhibitor from Hitchin; and Mr. Harcourt Landon of Shenfield, near Brentwood, a gentleman who is encouraged and urged on by a keen enthusiasm and interest which is very pleasant to see. There cannot be too many enthusiasts in the N.R.S., more especially if that enthusiasm does not degenerate into an omnivorous appetite for prizes. I should personally like to see the effect for a year of an absence of money awards to amateurs. We should then know who were the real amateurs and enthusiasts, who sought fame and honour alone.

Mr. Machin took first prize for a very good and fresh exhibit of garden Roses, staged with great taste. Mr. George Paul won a similar prize in the open class.

After the judging the Halifax Society's Committee entertained everyone connected with the show in a very hospitable way, in fact I have seldom found our provincial hosts anything but anxious to treat their visitors in the kindest way. I am happy to say that any departure from the golden rule, proverbial and honoured amongst Britons, to "welcome the coming, speed the going guest," is universally deprecated. We certainly had no complaint to make on this or any other score at Halifax, and those of our party who returned together on the evening

of the 19th unanimously agreed we had a very pleasant and enjoyable visit to Yorkshire.—CHARLES J. GRAHAME.

P.S.—Since writing the above I hear on good authority that 10,000 persons visited the show, and that the gate receipts, principally in three-penny pieces, came to about £150. It is pleasing to know that this provincial meeting of the N.R.S. was of material benefit to the Salterhebble Society, which promoted it; as it no doubt will further stimulate interest in the local Society it may also be of advantage to them in the future. Although not exactly within my province as merely an expert on Rose questions, I think I ought to mention the perfectly wonderful collection of beautiful and varied bouquets staged by Messrs. Perkins of Coventry, which won about twelve first prizes; they would have caused a sensation at any meeting in the Metropolis.—C. J. G.

MANCHESTER.—JULY 21ST.

THE grand exhibition of Roses held in the gardens of the Manchester Botanical and Horticultural Society at Old Trafford on the above date was on the whole a success. Following the meeting of the National Rose Society at Halifax so closely, it was naturally expected that many of the leading growers would be present, and in this respect the anticipations were realised. The blooms also were of excellent quality, particularly those shown in the nurserymen's classes. Liberal prizes were offered, and these resulted in bringing out a fine display; but it cannot be said that the arrangements were as good as they might have been. The classes were mixed, and some difficulty was experienced in finding any special one. A lesson in this matter might well be taken from Halifax, where the classes were placed in a most orderly manner.

NURSERYMEN'S CLASSES.

In the class for seventy-two, distinct varieties, open to nurserymen, there were six exhibitors, and the competition was very keen between some of the leading growers. Mr. B. R. Cant here, however, repeated his Halifax success by securing the first prize. The flowers staged rather small, but remarkably clean, even, and well coloured. The varieties were Marchioness of Dufferin, Duke of Fife, Mrs. Baker, Maurice Bernardin, Princess of Wales, Victor Hugo, Pride of Reigate, Le Havre, Alphonse Soupert, Earl Dufferin, Gloire Lyonnaise, Sir Rowland Hill, Alfred Colomb, Général Jacqueminot, E. Y. Teas, Louis Van Houtte, Gustave Piganeau, Duke of Teck, Marie Verdier, Xavier Olibo, Madame de Watteville, Comtesse de Ludre, Comtesse de Panisse, Abel Carriere, Duchesse de Morny, Fisher Holmes, Madame Gabriel Luizet, Madame Victor Verdier, Innocente Pirola, Comte de Raimbaud, Mrs. J. Laing, Duke of Edinburgh, Ernest Metz, Camille Bernardin, Niphetos, Lady Helen Stewart, Her Majesty, Countess of Oxford, The Bride, Jean Soupert, Edouard Herne, Auguste Rigotard, Caroline Testout, Reynolds Hole, Madame Cusin, Ulrich Brunner, Pride of Waltham, Prince Arthur, François Michelin, Ella Gordon, Dr. Andry, Charles Lefebvre, Comtesse de Serenye, Beauty of Waltham, Horace Vernet, John Stuart Mill, Heinrich Schultheis, Dupuy Jamain, Lady Sheffield, Salamander, La France, Eclair, Catherine Mermet, Senateur Vaisse, Merveille de Lyon, Duke of Wellington, Marguerite de St. Amand, Dr. Sewell, Marie Finger, Marie Baumann, Suzanne Marie Rodocanachi, and A. K. Williams. Some of the flowers had a few spoiled petals, but on the whole they were, as before said, exceedingly good. Messrs. Harkness & Sons, Bedale, followed closely, the blooms in this stand being on the whole of excellent quality. The most noticeable were A. K. Williams, Her Majesty, Duke of Teck, Madame Verdier, Beauty of Waltham, Suzanne Marie Rodocanachi, The Bride, Marie Baumann, and E. Y. Teas. Messrs. Paul and Sons, Cheshunt, were accorded a third position, with small but neat flowers; the fourth prize going to Messrs. R. Mack & Sons, Catterick, who had a stand of creditable blooms.

The class for thirty-six distinct Roses, three trusses of each, was very strongly contested, no less than eight competitors entering. Messrs. D. Prior & Sons, Colchester, however, were to the front in this class with splendid blooms, and all well staged. These comprised Baroness Rothschild, Black Prince, The Bride, Ulrich Brunner, Mrs. J. Laing, Horace Vernet, Ernest Metz, Gustave Piganeau, Duke of Fife, Camille Bernardin, Marie Finger, Magna Charta, Alfred Colomb, Merveille de Lyon, Suzanne Marie Rodocanachi, Niphetos, A. K. Williams, Duchesse de Morny, Dowager Duchess of Marlborough, Victor Verdier, Pride of Waltham, Rosieriste Jacobs, Lady Sheffield, Etienne Levet, Her Majesty, Prince Camille de Rohan, Countess of Oxford, Auguste Rigotard, La France, Fisher Holmes, Madame de Watteville, François Michelin, Marchioness of Dufferin, Marie Baumann, Heinrich Schultheis, Prince Arthur. Mr. B. R. Cant had to be content with a second position in this class, but the flowers staged by this grower would have won a first prize in any ordinary contest. The best of them were Senateur Vaisse, Duke of Wellington, Le Havre, Countess of Oxford, Camille Bernardin, and Louis Van Houtte. Messrs. Mack & Sons were third with fine flowers, and Messrs. Harkness & Sons fourth.

There was only one exhibitor in the class for eighteen Teas or Noisettes, three trusses of each, this being Messrs. D. Prior & Sons. The first prize, though, was awarded for a stand of fairly good blooms. The varieties were Souvenir d'un Ami, Madame Hoste, Souvenir d'Elise Vardon, Innocente Pirola, Maréchal Niel, Madame Lambard, Madame de Watteville, Marie Van Houtte, The Bride, Horace Vernet, Anna Olivier, Amazone, Ernest Metz, Niphetos, Madame Cusin, Souvenir de S. A. Prince, Francisca Krüger, and Caroline Kuster. Messrs. Prior and Sons were also awarded the first prize in the class for twelve Teas or Noisettes, there being no other competitor. The varieties shown were

Ernest Metz, Innocente Pirola, Jules Finger, Niphetos, The Bride, Catherine Mermet, Souvenir de S. A. Prince, Adam, Souvenir d'Elise Vardon, Madame Hoste, Madame Bravy, and Madame de Watteville. The flowers were past their best. Messrs. Perkins & Sons, Coventry, secured the first prize for three bouquets of Roses, showing one made up of Niphetos and its own foliage, the others being yellow and red Roses, with sprays of Maidenhair Fern. There were no other competitors in this class.

In the class for six trusses of any white Rose there were five entries, and Messrs. R. Mack & Sons were adjudged the first prize for a splendid stand of Merveille de Lyon. Messrs. Perkins & Sons were second with the same variety, Messrs. D. Prior & Sons being third with Souvenir de S. A. Prince. There were seven boxes in the class for a dozen blooms of any crimson Rose. Mr. B. R. Cant was here first with twelve splendid flowers of A. K. Williams. Messrs. D. Prior & Sons were second with Alfred Colomb, and Messrs. Mack and Sons third with Marie Baumann.

AMATEURS' CLASSES.

In the class for thirty-six distinct, single trusses, open to amateurs, there were seven entries, and the competition was keen, excellent blooms being noticeable in all the stands. Mr. W. Drew, Ledbury, was first with a very fine stand, comprising La France, Prosper Laugier, Baroness Rothschild, Ulrich Brunner, Lady Sheffield, Salamander, Her Majesty, Gustave Piganeau, Madame Cusin, Louis Van Houtte, Jean Ducher, Dr. Andry, Suzanne Marie Rodocanachi, A. K. Williams, Niphetos, Earl Dufferin, Madame de Watteville, Mrs. Jowett, E. Y. Teas, Merveille de Lyon, Charles Darwin, Madame Eugène Verdier, Alfred Colomb, sport from Duchesse de Morny, Marie Rady, The Bride, Charles Lefebvre, François Michelin, Star of Waltham, Souvenir d'un Ami, Marie Baumann, Francisca Krüger, Victor Hugo. The Rev. J. H. Pemberton, Romford, was a good second with excellent blooms; Mr. E. B. Lindsell, Hitchin, third; Mr. A. Whitton, Bedale, being fourth.

In the class for twelve distinct, three trusses of each, there were five competitors, and the Rev. W. H. Jackson, Bedford, was placed first with a stand of neat flowers. These were Marie Baumann, Mrs. J. Laing, Gustave Piganeau, Marie Finger, Pierre Notting, Madame H. Pierre, Emilie Hausberg, Beauty of Waltham, Captain Christy, Duke of Wellington, La France, and Star of Waltham. The Rev. J. H. Pemberton was a good second, the best flowers in this stand being Suzanne Marie Rodocanachi, Camille Bernardin, A. K. Williams, and Marie Baumann. Mr. W. Boyes, Derby, was third, and Mr. A. Whitton fourth, all showing well finished flowers.

The Rev. F. R. Burnside, Hereford, secured the first prize for a dozen Teas or Noisettes. The flowers were neat and even, and the varieties shown comprised Innocente Pirola, Madame Cusin, The Bride, Souvenir d'un Ami, Jean Ducher, Caroline Kuster, Catherine Mermet, Anna Olivier, Comtesse de Nadaillac, Princess of Wales, Madame de Watteville, and Hon. E. Gifford. Mr. W. Drew was second with a stand of rather small flowers, the Rev. W. H. Jackson being third. There were five competitors in the class. The Rev. F. R. Burnside was also first in the class for twelve blooms of any yellow Rose, showing Caroline Kuster in excellent condition. The Rev. W. H. Jackson was second with Francisca Krüger.

Two competitors only were forthcoming in the amateurs' class for twelve Teas or Noisettes, three trusses of each. These were the Rev. F. R. Burnside and the Rev. W. H. Jackson, to whom the first and second prizes were awarded respectively. Mr. Burnside's flowers were very fine, and comprised Comtesse de Nadaillac, Innocente Pirola, Catherine Mermet, The Bride, Madame Cusin, Anna Olivier, Francisca Krüger, Caroline Kuster, Souvenir d'un Ami, Hon. E. Gifford, Jean Ducher, Souvenir d'Elise Vardon. Mr. Jackson's flowers were smaller, and not so even in appearance, the best being Anna Olivier, Ernest Metz, Catherine Mermet, and Hon. E. Gifford.

Five growers exhibited in the class for twelve flowers of any white Rose, and the Rev. W. H. Jackson won with a dozen fine examples of Merveille de Lyon. Mr. W. Drew was second with Niphetos, and Mr. H. V. Machin third with Hon. E. Gifford. The Rev. J. H. Pemberton was first with a dozen crimson Roses, staging fine blooms of Ulrich Brunner. Mr. A. Whitton was second with the same variety, and Mr. Boyes was third with Suzanne Marie Rodocanachi.

A section open to residents within twenty miles of Manchester did not produce very satisfactory results, the blooms being for the most part small and indifferent compared with others in the exhibition. In the class for twenty-four distinct Roses, Mr. Charles Burgess, Plumley, was first, showing a stand of uneven flowers. The best of these were Baroness Rothschild, Victor Hugo, and Horace Vernet. Mr. J. Brown, Heaton Mersey, was second, and Mr. P. S. Jackson, Ashley, third. Mr. J. Brown was first with a dozen single trusses, distinct, showing Alphonse Soupert, Madame de Watteville, Marie Baumann, Général Jacqueminot, and Earl of Dufferin in fairly good condition. Mr. Burgess was second, and Mr. Jackson third. Miss Lord, Ashton-on-Mersey, and Mr. J. Brown, sent bouquets of Roses, and were adjudged equal firsts for good arrangements.

MISCELLANEOUS EXHIBITS.

Miscellaneous exhibits were not particularly numerous, but those shown were of excellent quality. Mr. Henry Eckford, Wem, Salop, contributed a splendid collection of Sweet Peas, comprising fifty varieties. Many of these were of striking colours, being charmingly arranged in masses, with sprays of growth. Conspicuous amongst other varieties were Captivation, Duchess of York, Lady Beaconsfield, Distinction,

Her Majesty, Lady Grizzel Hamilton, Splendour, Stanley, Emily Eckford, and Mrs. Joseph Chamberlain. Handsome pods of new culinary Peas were also staged by Mr. Eckford. Miss Hopkins, Mere Cottage, Knutsford, had a collection of Violas in choice varieties, tastefully arranged in sprays. Amongst other kinds were Sylvia, Bridesmaid, Duchess of Sutherland, York and Lancaster, Skylark, and Goldfinder. Miss Hopkins likewise sent hardy flowers in variety, which made an excellent display.

Messrs. W. Clibran & Son, Altrincham, contributed a very fine collection of hardy flowers, which included admirable bunches of Funkia, Sieboldia elata, Malva moschata alba, Lathyrus latifolius alba, Iceland Poppies, Irises, Phloxes, Gaillardias, and Liliums. From the same firm came a number of boxes of Roses, the flowers being well finished and excellently coloured. The best varieties amongst these were Mrs. J. Laing, Gustave Piganeau, Madame Gabriel Luizet, Marie Baumann, Earl Pembroke, Beauty of Waltham, Baroness Rothschild, La France, Duc de Rohan, and Alfred Colomb. Dicksons (Limited), Chester, also had a similar group of Roses and hardy flowers. The former included splendid blooms of Madame Gabriel Luizet, Marie Baumann, Baroness Rothschild, Horace Vernet, Mrs. J. Laing, and Fisher Holmes. Boxes of Tea and Moss Roses from Chester were admired, the same applying to the hardy flowers. These exhibits were arranged in a circular group in the centre of the large glass structure in which the exhibition was held.

Messrs. Dickson, Brown, & Tait, Manchester, had a number of Roses in boxes and cut hardy flowers. The blooms of the former were fresh and bright, especially Alfred Colomb, A. K. Williams, Mrs. J. Laing, and Général Jacqueminot. A very fine Cockscomb named Glasgow Pride was exhibited by this firm, the herbaceous flowers being also worthy of more than a passing notice. Messrs. Dickson & Robinson, Manchester, sent two boxes of Roses, all fine blooms of the leading varieties.

HORTICULTURAL SHOWS.

PERSHORE.—JULY 19TH.

THIS show was favoured with fine weather and a large attendance. Situated as it is in the centre of the chief fruit and vegetable growing districts in Worcestershire, it is not surprising that these products formed the greater part of the display, although stone fruits were not so abundant as usual owing to the lateness of the season.

Mr. J. H. White, nurseryman, Worcester, was awarded a gold medal for an extensive exhibit, consisting of Roses, Liliums, Begonias, Gladiolus The Bride, and herbaceous flowers. Messrs. W. B. Rowe also had a good display, which included some fine Gloxinias. Begonias and Gloxinias were also well staged in competition.

In the fruit classes some meritorious exhibits were staged. For a collection of eight dishes, Mr. Crooke, gardener to Lady Hindlip, was well first, Mr. Child, gardener to the Earl of Coventry, being second. For black Grapes first honours were awarded to Mr. Wilson, gardener to Mrs. Hunter, his Black Hamburgs and Madresfield Court Grapes being splendidly finished. Canon Coventry (Mr. Frowd) was second, and Lord Deerpark (Mr. James) third. Canon Coventry was well first for two bunches of Muscat of Alexandria, splendid in size and finish. Peaches, Nectarines, and Melons were well staged by the above competitors.

Vegetables were shown extensively, Messrs. Crooke and James being the chief winners for collections. Classes were also provided for market growers which were creditably filled. The cottagers' exhibits fully maintained the high reputation which they have already acquired. —W. H. W.

TRENTHAM.—JULY 19TH.

IN the course of a very few years the annual shows of the Trentham and Hanford Horticultural Society have attained much more than local fame. This is largely due to what may be termed the spirited yet judicious policy of the directorate, while the beautiful surroundings of the princely home of the Duke of Sutherland draws the inhabitants of a populous district to enjoy the privilege of a promenade through the pleasure grounds and gardens, which is kindly afforded and never abused. Also, it must be added, Mr. Peter Blair's connection in the horticultural world brings some of the best products of the best men into the competition for the generous prizes, that are open to all who can win them, come from wheresoever they may.

The chief features of the Trentham shows are (1) the groups of plants arranged for effect, (2) Roses and cut flowers generally, (3) fruit mainly grown under glass, (4) vegetables placed in competition for prizes offered by leading seedsmen, and (5) the garden products of the cottagers of the district. Almost everything, therefore, that is grown in gardens, large and small, is represented in the exhibition except elephantine specimen plants. For these there is no provision, and the visitors have plenty to see for their money without them, and are well satisfied. It is a pleasing sight to see them streaming in in thousands, first packing the tents, then enjoying the music and flowers in the grounds. These and the gardens generally, it should be said, are in admirable condition, many improvements having been effected of late, while others are in progress and still more projected. The Duke and Duchess of Sutherland are garden lovers, imbued with a disposition to make the best of their splendid patrimony. They like to see the people around them prosperous and happy, and travelled specially from London for the show, returning to town the next day. Only the general character of the exhibition can be referred to, and the prizewinners and

products indicated in some of the leading classes. To enumerate them all would amount to preparing a catalogue of names only of local interest.

The effect groups claim the first attention. These were, as usual, arranged in what may be paradoxically described as irregular squares; space, 300 square feet. The premier prize of £20, and a silver cup value 10 guineas, was won without any doubt by Mr. J. Edwards, gardener to the Duke of St. Albans, Bestwood Lodge, Notts, and was perhaps his best effort in this direction. The group was rich yet free, composed mainly of Palms, Bamboos, Alocasias, and Crotons as foliage plants, in the best of health, relieved with light touches of flowers—Orchids, Anthuriums, Lilliums, Francoas, and Gloxinias, with tufts of scarlet-fruited *Nerteras* nestling in the mossy margin. If there was a fault in the group it was in a slight overcrowding at the base of the central mound, but there was not much the matter. The group won, and we heard of no one questioning the verdict. Mr. Finch, gardener to W. Marriott, Esq., Birmingham, was second, winning the £20 prize with an arrangement similar in design (as indeed they all were)—a central mound and fine Palm, corner groups smaller, with isolated plants between and dwarfed under and around them. The group was lightened by gauze-like *Gypsophilas*, but was not improved by tufts of blue *Lobelias*. Mr. A. Webb, gardener to J. H. Manners Sutton, Esq., Kelham Hall, was third, winning £13, a free and effective association of well grown foliage plants, and fine tufts of *Nertera*, but a few more flowers were needed for producing the best effect. Mr. J. Roberts, gardener to C. A. Wright, Esq., secured the remaining prize of £9, the central mound of *Malmaison* Carnations under a lofty Palm forming the chief feature, and was perhaps a little overdone. The total value of the prizes in this class was £72 10s. Another year the floral artists who compete for such substantial prizes must try and originate a new idea in arrangement. With the same materials a Mr. John Wills would have improved any of these groups in half an hour; for beautiful as they were, it cannot be denied that they bore the stamp of formality in that they were all based on the same idea, as if borrowed from some former prizewinning collection. Two local exhibitors, Mr. B. Smith, gardener to J. T. Maddock, Esq., and J. Williamson, Esq., arranged two creditable groups, and secured prizes of £5 and £3 respectively, but the former used too many blue *Lobelias*, the colour rarely harmonising well with others in the best floral arrangements, and *Lobelias* are best in the flower garden.

Roses occupied a large extent of space, and though many excellent blooms were staged the stands were not, on the whole, so heavy as those of last year; indeed, they could not be expected to be so on the day of the National Rose Society show at Halifax. Messrs. Perkins (Coventry), The Hereford Fruit Company, Townsend (Worcester), Merryweather (Southwell), and Rev. W. H. Jackson (Stagsden Vicarage) appeared to be the chief prizetakers. In the class for forty-eight distinct varieties there were four competitors, Messrs. Perkins securing the premier position, prize £6 and a special value 6 guineas, with a meritorious contribution, the Hereford firm being second, and Mr. Townsend third. The same number of exhibitors staged thirty-six distinct blooms, and the competition was close. Here Mr. Townsend was first, winning £5 and the National Rose Society's gold medal with fresh but not large blooms, followed in close order by Messrs. Perkins and Merryweather. Messrs. Perkins were first with twenty-four blooms, and Mr. Jackson with twelve Teas and Noisettes, followed closely by Mr. Merryweather. In the class for twelve blooms of any dark velvety Rose Messrs. Perkins was first with what appeared to be *Horace Vernet*, Mr. Townsend being in a similar position in the corresponding light class with *Catherine Mermet*, Mr. Jackson a dangerously close second with *Merveille de Lyon*.

A first prize of 12 guineas was offered for the most decorative arrangement of Roses, occupying a space not exceeding 12 feet long by 5 feet wide, with second and third prizes, value £5 and £3 respectively. Very little taste was displayed except by C. Chandos Pole, Esq., Wirksworth, whose exhibit represented a study in rose and white, with Ferns interspersed, after the manner of a decorated dinner table. If the donor of the chief prize, Mr. Richardson, can see his way to offer it again a better competition may be expected, now that the way is pointed out. The winners of the smaller prizes had ordinary boxes of blooms with a few bunches and Ferns behind them. Both of them can do better another time. Quality of blooms and crowded bunches count little in a class of this nature.

Mr. Turner showed his *Crimson Rambler* Rose, around which visitors clustered, also a superb stand of Carnations, in which the scarlet bizarre *Dr. Hogg* and the scarlet flake *Charles Turner* were in brilliant condition. Only one other class of cut flowers can be noticed—namely, "a collection of border flowers, annuals and shrubs excluded" (this is explicit) to occupy space 15 feet by 5 feet. The first prize (10 guineas) was won by Messrs. Outbush & Sons, Highgate, the margin of *Uriah Pike* Carnation presumably turning the scale against those formidable competitors, Messrs. Clibran & Son, Altrincham (second), and Messrs. Harkness, Bedale (third), all the collections being extremely close in merit, and all too crowded for showing the large and handsome bunches to the best advantage.

Before leaving the floral department mention must be made of a splendid group of Tuberous Begonias staged by Messrs. J. Laing & Sons, as fresh as if in the nursery at Forest Hill—an object lesson in good packing. Four of the varieties (all doubles) were certificated—namely, *Duchess of Sutherland*, pale rosy salmon; *Duke of Sutherland*, glowing crimson; *Duchess of York*, warm cerise; and *Laing's Triumph*, very large, rosy scarlet.

Fruit is always fine at Trentham. That the collections were of high merit on the present occasion is testified by the fact of Mr. J. McIndoe having the second place. Many splendid bunches of black Grapes were exhibited, also fine white Grapes, but several of the Muscats required a little more time and sun for high finish. Peaches, Nectarines, and Tomatoes were admirably represented. Only a note of a few classes could be taken before being wedged out by the surging crowd, and no chance of getting wedged in again. Attempts to do so were met by stern looks and repelling scowls, before which the timid cockney quailed. In the class for nine dishes Mr. F. Gleeson, gardener to C. E. Keyser, Esq., Warren House, Stanmore, was the premier exhibitor, winning the £10 prize with a very strong collection, including a handsome bunch of Bananas (*Musa Cavendishi*), excellent Black Hamburgh and Muscat Grapes, fine Royal George and Barrington Peaches, with equally good Stanwick Elruge and Lord Napier Nectarines, also a good Pine and a handsome Melon, the finest collection of fruit exhibited this year up to date. Mr. McIndoe was second with heavy Grapes, fine Pears, Peaches, Nectarines, and Melons, but a rather small Pine. Mr. Read, gardener to the Earl of Carnarvon, Bretby, was a good third, Grapes and Nectarines being excellently staged. Mr. W. Elphinstone, gardener to E. Miller Mundy, Esq., Shipley Hall, Derby, was too strong for all-comers in the class for six dishes, winning well with fine Black Hamburgh and Foster's Seedling Grapes, excellent Peaches and Nectarines, a good dish of Strawberries, and a fine Melon. Mr. Gleeson a good second, and Mr. Bowerman a close third.

The class for four bunches of Grapes in two varieties brought out seven competitors. The contest for the premier position rested between Mr. Craven, gardener to T. J. Grant Morris, Esq., Allerton, Liverpool, and Mr. Elphinstone. The former had magnificent Hamburgs and handsome, but not quite so well coloured, *Madresfield Courts*, the latter splendid Cannon Hall Muscats but not exactly at their best, and good Hamburgs but not equal to the Allerton bunches, and Mr. Craven won, it was said, by "half a point," whatever that is. It is pretty certain no one ever saw such a thing, but if intangible it was worth £2 to Mr. Craven, as the first prize was £5 and the second £3. Mr. Frowd, gardener to Canon Coventry, Worcester, was third with heavy bunches of Black Hamburgs and Muscat of Alexandria. There was great and good competition in the class for three bunches of Black Hamburgh, Mr. Wilks, gardener to Mrs. Meaken, Cresswell Hall, being first with admirably finished examples, Mr. Craven a good second, and Mr. G. Reynold, Gunnersbury, third, good, but not perfectly ripe. Mr. W. Elphinstone out-distanced his competitors with Muscats, of which many fine bunches were staged, but as a rule more time was needed for perfect ripening. The best Melon came from Hutton Hall, the finest Peaches from Trentham Gardens, and the best Nectarines from Keele, and the first prize Strawberries from Gunton Park. Mr. Gilman, Ingestrie Gardens, exhibited half a dozen Queen Pines in superb table condition and worthy of a medal. Mr. T. Wilkins took most of the chief prizes for vegetables, and the cottagers acquitted themselves well.

Here the timid cockney has to stop his narrative, for the crowd elbowed him out of the tent, and what was worse when he went to the luncheon marquée the crush was so great that he could not get in. A great event is the Trentham luncheon. It is generally attended by two or three Mayors and many notabilities. On the present occasion it appeared more popular than ever. It was said that even all the judges could not gain admittance (no room), and when one who had to respond to a toast was sought for he was found (too late) in an easy chair in Mr. Blair's parlour, resting after a good luncheon all to himself in the pretty and hospitable residence. This judge was not a meek young cockney, but old enough to know his way about, and he averred that he did not bribe the servant in Mrs. Blair's absence at the show, though he was for the time monarch of all he surveyed on a table laden with good things. He will have to be looked after if he is at Trentham another year, or he will be feasting again all alone in his glory while his friends are airing their eloquence in the tent.

NEWCASTLE-ON-TYNE.—JULY 18TH, 19TH, 20TH.

THE above summer show was held on the dates mentioned in the Recreation Ground, North Road, Newcastle-on-Tyne. The locale was a new departure; hitherto the exhibition has always been held in the Leazes Park. The new place is much better adapted for the purpose of an exhibition, as other attractions can more readily be enjoyed. The show as a whole was very good, and in many departments equalled, if not surpassed, former exhibitions. Fruit was especially good. Table decorations were as usual one of the salient points of the exhibition, and contributed largely to the pleasure of the visitors. Nurserymen's exhibits were also an important feature.

For a group of miscellaneous plants Mr. J. McIntyre was first. The arrangement was a new departure, consisting of mirrors placed horizontally, and Palms built up with a base of rockwork, representing hillocks, had a telling effect, and plenty of colouring plants, such as *Anthuriums* *Schertzerianum* and *Andreanum*, *Cattleya Moesia*, *Cypripediums* and *Dracenas*, made the whole arrangement a most artistic combination. Mr. V. Allen, Blandford Street, Newcastle, was second; and for an amateur a very good arrangement.

For eight plants in bloom, Mr. E. H. Letts, gardener to the Marquis of Zetland, Aske Gardens, Richmond was first. Mr. John Morris, Felling, was second. Mr. E. H. Letts was first also with foliage plants, showing perfect specimens. For six exotic Ferns, too, Mr. Letts was first; Mr. J. McIntyre being second. For three Crotons, Mr. E. H. Letts received premier prize. Mr. J. McIntyre was first for *Dracenas* and

Begonias, and Messrs. Nicholas and Bell for Ericas and Lilliums. For twelve pots of Sedums or Sempervivums, Mr. J. Richardson was first; and for twelve pots of alpine plants, Mr. F. Edmondson.

Table decorations were, as we have mentioned, a great feature of the exhibition, and occupied the entire length of one of the tents. The competition was keen and numerous. Mr. J. McIntyre was first. For a vase or epergne there were six entries. Mr. F. Edmondson was first. Baskets of cut flowers and hand bouquets were also well shown.

Roses were very good. For forty-eight Roses, dissimilar, Messrs. Harkness & Son, Bedale, were first; Mr. G. Prince, Market Street, Oxford, was second; and Messrs. R. Mack & Sons, Catterick, Yorks, third. The winning stand included good blooms of Marie Rady, Alphonse Soupert, Duc de Rohan, Merveille de Lyon, Victor Hugo, Beauty of Waltham, Auguste Rigotard, Madame Cusin, A. K. Williams, and Etienne Levet.

For thirty-six Roses Mr. G. Prince was first with The Bride, Baron de Rothschild, Chas. Lefebvre, Madame de Watteville, Clara Watson, Alba Rosea, Salamander, and Innocente Pirola. For yellow Roses Mr. Prince was first with Marie Van Houtte. For twelve Roses, any variety, Mr. Prince was also first, and for twelve Tea-scented Roses, as well, including Bridesmaid, Etoile de Lyon, Souvenir d'un Ami, Jean Ducher, Comtesse de Nadaillac, Golden Gate, The Bride, Madame Cusin, Catherine Mermet, Souvenir de Thérèse Levet, and Prince of Wales.

For eighteen bunches of hardy herbaceous or border flowers, Messrs. Harkness & Son were first, Mr. Thos. Battersby was second, Mr. F. Edmondson was third. Pansies were well and numerous shown. Mr. A. Irvine was first for twenty-four Show varieties, also first for twenty-four Fancy Pansies. For twelve bunches of stove or greenhouse flowers Mr. F. Nicholas was first. For twelve Pinks and twelve Carnations the veteran exhibitor, Mr. T. Flowdy, Newcastle, was first.

The competition in fruit was large and keen considering the time when the exhibition was held. With eight dishes there were five competitors, Mr. J. McIndoe, gardener to Sir J. Pease, Bart., Hutton Hall, Guisborough, being first; the Muscat of Alexandria and Black Hamburg Grapes were fine even bunches, large in berry, fine coloured, and perfect in shape; large Lady Beatrice Pine, Magdala Peaches, Pitmaston Orange Nectarines, Black Tartarian Cherries, and Clapp's Favourite Pears constituted the other dishes. Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Gardens, Derby, was second with also a good collection which contained Muscat of Alexandria, Muscat Hamburg Grapes, Queen Pine, Dymond Peaches, Hero of Lockinge Melon. Mr. J. Hunter, gardener to the Earl of Durham, was third. For four dishes, Pines excluded, Mr. J. McIndoe was again first, and Mr. Hunter and Mr. Goodacre took the remaining positions.

For four bunches of Grapes Mr. J. Hunter was first with well coloured and finished bunches of Black Hamburg and Gros Maroc. For two bunches of white Grapes Mr. J. McIndoe was first with Muscat of Alexandria, and for two bunches (any variety) the same exhibitor was first with Golden Champion. For black Grapes (two bunches) Mr. J. Wood, gardener to E. Hopper, Esq., Riverside, Morpeth, was first with bunches well finished and very ripe; the same exhibitor was also first with black Grapes (any variety), which included Muscat Hamburg and Madresfield Court. For green-fleshed Melon Mr. D. Williams, Duncombe Gardens, York, was first. Scarlet Melon, Mr. J. Hunter first. For Peaches and Nectarines, Mr. Goodacre was first, also for Tomatoes, showing Sutton's Perfection, grand.

The miscellaneous exhibits included plants and seeds from Messrs. W. F. Gunn, Sunderland; Wm. Fell & Co., Wentworth Nurseries, Hexham, Coniferæ and herbaceous plants; Little & Ballantyne, Carlisle, a grand collection of Crotons and foliage plants; W. & J. Birkenhead, Fern Nursery, Sale, Manchester, an endless variety of Ferns; John Laing & Sons, Forest Hill, Begonias; Joseph Robson & Son, Hexham, North American Coniferæ; and Wm. Harriman & Co., Limited, Finkle Street, Newcastle, an artistic stand of art pottery. Mr. A. Irvine, Kyles of Bute Nurseries, Tighnabruich, sent a stand of Violets and Pansies; Kent & Brydon, Darlington, herbaceous plants; Laing & Mather, Kelso, N.B., Carnations; and Mr. J. Douglas, Great Bookham, Surrey, new Carnations. The classes in the other sections were also well filled, and made an interesting display.—BERNARD COWAN, F.R.H.S.

NATIONAL PINK SOCIETY.

NORTHERN SECTION.

THE fifth annual exhibition of the National Pink Society (Northern Section) was held in the gardens of the Manchester Botanical Society on Saturday, the 21st, in connection with the show of Roses, a report of which appears elsewhere in this issue. The Pinks on the whole were better than those exhibited at the southern shows some weeks since, two or three very fine stands being noticeable. The entries, however, were not quite so numerous as might have been expected, but when grouped together the blooms made an interesting display.

The leading class was for twelve blooms of laced Pinks in not less than six varieties, and in this there were five exhibitors. Mr. M. Campbell, Blantyre, N.B., was awarded the first prize, staging fine and well-laced flowers. These were Boiard (2), Alex. Gibson, Ne Plus Ultra, Adelaide (2), Mrs. F. Hooper, Seedling, Tottie, Emily, The Rector, and Bertha. Mr. A. R. Brown, Birmingham, was placed second with good flowers, but not quite so well finished as those in the first prize stand. The best of the blooms shown by Mr. Brown were Arthur Brown (premier red-laced Pink in the show), The Rector, Maggie, Captain

Kennedy, and Amy. Mr. J. Edwards, Moston, was third; Mr. J. W. Bentley, Stakehill, fourth; and Mr. E. Shaw, Moston, fifth, all showing well.

There were five competitors in the class for six laced Pinks, and the first prize was won by Mr. A. R. Brown, who had Minerva, Amy, Bertha, Arthur Brown, Harry Hooper, Captain Kennedy, all in excellent condition. Mr. M. Campbell was second with fine blooms; Mr. Bentley being third, Mr. Shaw fourth, and Mr. Edwards fifth. Mr. Campbell's stand contained a splendid flower of Boiard, which was adjudged the prize as the best purple laced Pink in the show.

In the class for six blooms of laced Pinks, in not less than three varieties, Mr. Campbell was first with Boiard (2), Emily Alex. Gibson (2), and a seedling. Mr. Brown was second with good flowers, Arthur Brown, Bertha, and Minerva being very fine. The third prize went to Mr. Bentley, fourth to Mr. Edwards, and fifth to Mr. Shaw.

The class for three blooms of a purple laced, a red laced, and a black and white brought out four competitors. Mr. Brown secured the leading prize, showing Bertha, Minerva, and a seedling. Mr. Bentley was second, and Mr. M. Campbell third, the latter appearing to have finer flowers than those either in the first or second stand, but less evenly marked. Mr. Edwards was fourth.

There were six competitors in the class for a single bloom of any purple laced Pink. Mr. Campbell was awarded the first and second prizes for Boiard, and third for Samuel Barlow. Mr. T. Lord was fifth with Emily; and Mr. Brown fourth and sixth, showing Bertha in each case. Mr. Brown secured first, second, fifth, and sixth prizes in the class for a single bloom of any red laced Pinks, showing Minerva for first and second, John Ball and Ernest for fifth and sixth. Mr. Campbell was third with Reliance, and fourth with a fine seedling.

The best red laced Pink in the show was a fine bloom of Arthur Brown, shown by Mr. A. Brown, Birmingham; and, as already mentioned, Mr. Campbell won the prize for the best purple laced with Boiard.

Mr. M. Campbell was the only exhibitor in the class for a collection of miscellaneous Pinks, but was awarded the first prize. The border Pinks shown by this exhibitor include Mrs. Lakin, Ann Boleyn, Souvenir de Soll, Maude, Lord Lyons, and several seedlings. Flowers of Uriah Pike Carnations and Souvenir de la Malmaison Carnations were also exhibited by Mr. Campbell, whose stand made a good display.

Certificates were awarded to Mr. Brown for a red laced seedling named "Arthur Brown"; and to Mr. Campbell for "Miss Nish" and "Alexander Gibson," two fine red laced seedlings.

VIOLAS AND PANSIES AT THE WOLVERHAMPTON SHOW.

MR. PAUL LUTZ, of Wolverhampton, who is greatly interested in Violas and Pansies, offered a handsome gold medal as a first prize for a collection of Violas and Pansies in a space 20 feet by 3 feet, and two excellent exhibits were staged, the premier award being won by Mr. Septimus Pye, Catterall, Garstang, with three tiers of Viola sprays running along the back, and Fancy and Show Pansies along the front. Amongst the Violas some of the best were Pride of Etal, bright lilac with white centre, and fine; President, very similar to Bridesmaid, but a little lighter in colour and fine; Carissima, white top petals, the lower petals pink and lilac, fine; Sydney Martin, lilac striped with purple; Mrs. C. F. Gordon, a Countess of Kintore flower with darker centre, fine; Maggie A. Todd, rosy purple with light margin; Cordelia, a fine rayless self; Blue Garter, pale cream bordered with light maroon; Mauve Empress, soft lilac clouded with white, a little rayed and fine; H. W. Stuart, a rich coloured striped flower; Duchess, white and pale pink with deeper coloured centre, fine form; Edina, dark violet centre, with a broad border of grey, extra fine; Hibernia, rich violet with white top petals; Con o' Neil, a rich coloured distinct striped flower; Mr. Lord, snow white, with small yellow centre, rayless and fine; Sweetheart, creamy white, the top petals bordered with pink; Primulina, pale primrose with yellow centre and rayless; Duchess of Rothesay, greyish white with a medium dark blotch, fine form; Mrs. Fergusson, snow white, with bright yellow eye and rayless; Sweet Lavender, purple tinted lilac with small whitish centre, distinct and fine; Lass o' Gowrie, a distinct blotched flower of good form; Duke of Clarence, almost black, with a metallic grey top petal, very distinct and fine; Beautiful Snow and King of the Whites, of the Sylvia type and much alike; Blue Gown, light purplish mauve, a rayless variety; Erin, rich crimson and lighter shaded stripes, fine; Lovelight, a charming flower, white bordered with bright lilac and rayed centre; Charmer, the "Mearns" type, but a finer flower of fine form; and Craigie, rich plum coloured lower petals, light top petals, fine form.

Mr. Pye also exhibited some new miniature Violas, amongst them the best were blooms of Violetta Blue Bell, bright purple lilac, rayless, and of perfect form. This was named Blue Bell, but as there is an old variety similarly named and of somewhat similar colour, and a small flower, sent out a long number of years since by Mr. R. Dean, it will be best to prevent confusion to call this variety always Violetta Blue Bell. He had also Violetta Mary, creamy white, with large yellow blotch; and Violetta Pet, pure white, with small yellow centre. In this exhibit the following new or Fancy Pansies were, fine—Rev. J. Scott, extra fine, light purple top petals, with wire margin of white, grand blotch; Isa Fergusson, a distinct light flower; W. H. Clark, rich gold ground, with superb blotch; Miss L. S. Davidson, a light flower of fine quality; M. Watson, a beautiful light flower; Miss Stirling, creamy white ground, with superb dense blotch and clouded top petals, extra fine, and awarded a

certificate. W. Stewart, a bright reddish orange and yellow, and a fine blotch; and Mrs. A. Irvine, a beautiful white self, with large solid blotch.

Mr. Lister, florist, Rothesay, was second with also a fine display, but rough weather in the Glasgow district and a longer journey had told upon his blooms. Amongst his finest *Violas* were Mrs. Webster, with a rich dark blotch bordered with grey (a certificate); Mrs. Cameron, a beautiful shaded puce and lilac and dark blotch (a certificate); and several leading varieties. His Fancy Pansies included the following:—W. A. Green, a bronzy maroon blotch, with cream and bronze margin, fine form (a certificate); Annie Ross, a superb flower, with a very fine maroon blotch, with creamy yellow narrow margin; Celtic Gem, a large deep yellow, with large blotch, fine; Miss Ford, a fine dark purple blotch with white margin and rich violet marked top petals; Allan Cameron, a distinct flower, with large solid blotch and carmine tinted top petals (a certificate); Maggie R. S. Cocker, Mrs. M. Cuthbertson, Edward Kellett, very distinct; Mrs. Lister D. McGregor, a splendid large blotched, with primrose margined top petals flushed with pink; and Queen's Park Gem, a light flower, with superb blotch, and a very refined flower.

There was also a class for smaller collections in a space 10 feet by 3 feet, and here Mr. M. Campbell, florist, Blantyre, N.B., was first with an admirably arranged stand of leading kinds of *Violas* and Pansies. Amongst the latter the following Fancies were very fine:—Annie Ross, George Fergusson, Alice Russell, Mrs. C. E. Scarse, Mrs. Train, James S. Irvine, John Rosier, fine and distinct; C. B. Renshaw, Agnes Mabel, Wm. B. Smellie, Mr. Robert Thompson, extra fine; Alexander Nivisen, a distinct, extra fine, light ground flower; H. B. Smith, John Findlay, Maggie Watson, James Campbell, Beauty, Maggie Bell, with blue purple top petals and white border, and very fine solid blotch with white margin. Amongst Mr. Campbell's *Violas* the Duchess of Devonshire is very distinct, white with blue lilac central blotch, which extends into the lower petals. Certificates were also awarded to Mr. S. Pye for *Violas* Border Witch, a charming light flower, and Pride of Etal. —W. D.

NATIONAL CARNATION AND PICOTEE SOCIETY.

(SOUTHERN SECTION.)

At the Drill Hall, Westminster, on Tuesday, July 24th, the members of the above Society held their annual show, and it was in point of numbers and quality of exhibits a great success. The Carnations were superb, the colours being fully developed, and the form and finish leaving little or nothing to be desired. Picotees, too, were extremely beautiful and proved the best culture. We append a list of the prize-winners in the principal classes so far as we were able to find them, this in some cases being an impossibility owing to the manner in which the exhibits were staged.

There were four competitors in the class for twenty-four Carnations, in not less than twelve distinct varieties. The flowers shown were very fine, those of Mr. Rowan, Clapham, being superb. The varieties staged were John S. Hedderley (2), Mrs. Rowan, Wm. Skirving (2), G. Melville (2), Thalia, M. Rowan, Mrs. Gorton, Tom McKeath, Gordon Lewis (2), Sportsman (2), Constance Graham (2), Robt. Houlgrave, Master Fred, Sarah Payne, John Buxton, and two seedlings. Mr. J. Douglas, gardener to Mrs. Whitbourn, Great Gearies, was a very close second. Amongst the best of his flowers were Phoebe, Miss Constance Grahame, Chas. Henwood, and Autocrat. Mr. Chas. Turner, Royal Nurseries, Slough, was third with a good exhibit; and Mr. F. Hooper, Bath, fourth.

For twelve Carnations, dissimilar, Mr. Chas. Phillips, Reading, was first with blooms of Thalia, Chas. Henwood, E. Adams, Rob Roy, Jos. Crossland, Mrs. May, Robt. Houlgrave, Phoebe, Admiral Curzon, Sportsman, Lovely Mary, and Fred Phillips, all in good form. Mr. A. J. Sanders, gardener to the Viscountess Chewton, Bookham, was second; Mr. A. Medhurst, Oxford, third; Mr. Geo. Chaundy, Oxford, fourth; Mr. J. Walker, Thame, fifth; Mr. R. Vesey, Clapham, sixth; Mr. A. Greenfield, Sutton, seventh; and Mr. S. Fear, Enfield, eighth.

The first prize for six Carnations, distinct, was won by Mr. F. Nutt, Southampton, with Martin Rowan, Jos. Lakin, Wm. Dean, Thalia, Ed. Schofield, and Squire Potts in splendid form. Mr. W. L. Walker, Reading, was second with shapely and brightly coloured flowers; Mr. T. Anstiss, Thame, third; Mr. A. Jordan, gardener to L. Hart, Esq., Sutton, fourth; and the Rev. L. R. Flood fifth. In the class for twenty-four Picotees, not less than twelve dissimilar, Mr. C. Turner was a capital first with J. B. Bryant (2), Clara Penson, Madeline (2), Favourite (2), Sylvia (2), Madame Richer, Esther (2), Mrs. Sharp, Lady Jane Churchill (2), Brunette, Little Phil (2), Lady E. Vander Weyer, Dr. Epps, Jessie, Lady Gordon Cathcart, Mrs. Payne, and Gazelle. Mr. Rowan was a very good second, Mr. Douglas third, and Mr. F. Hooper fourth.

Mr. Phillips was a fine first for twelve distinct Picotees, showing Little Phil, Nellie, Muriel, Cordelia, Zerlina, Favourite, Mrs. Barrett, Mr. Payne, Mrs. Beal, John Smith, Mrs. Gorton, and Morna. Mr. A. Medhurst was a good second, Mr. A. J. Sanders third, Mr. A. Greenfield fourth, Mr. R. Vesey fifth, Mr. G. Chaundy sixth, Mr. W. Toby, Brompton, seventh, and Mr. J. Walker eighth. For six distinct Picotees Mr. Nutt was first with Favourite, Little Phil, Esther, Amy Robsart, Isabel Lakin, and Thos. William, in good form. Mr. C. Harden, Ash, near Dover, was second; Mr. A. Jordan third, Mr. J. Rebbeck,

Southampton, fourth, Mr. W. L. Walker fifth, Mr. J. W. Foulkes, Chester, sixth, and the Rev. S. R. Flood seventh.

The classes for single specimen blooms brought very strong competition. For a scarlet bizarre Mr. C. Turner was first with Dr. Hogg, Mr. M. Rowan second with Robt. Houlgrave, Mr. Hooper third and fourth with E. Adams, and Mr. A. J. Sanders fifth with Robt. Houlgrave. For a crimson bizarre Mr. Douglas was first and third with Phoebe, Mr. Rowan second and fourth with J. S. Hedderley, and Mr. Medhurst fifth with Master Fred. For a pink bizarre Mr. A. J. Sanders was first with Ed. Rowan, Mr. Rowan second and third with Wm. Skirving, Mr. C. Turner fourth with the same variety and fifth with Rifleman. For a purple flake Mr. Hooper was first with Jas. Douglas, Mr. Nutt second with Billy Henderson, Mr. Rowan third and fourth with G. Melville, and Mr. Douglas fifth with Chas. Henwood. For scarlet flake Mr. C. Turner was first and second with Constance Grahame, Mr. Rowan third with the same variety and fourth with Sportsman, and Mr. Nutt fifth with Constance Grahame. For a rose flake Mr. C. Phillips was first with Rob Roy and second with Thalia, Mr. Rowan third with Rob Roy and fourth with Jessica, and Mr. Douglas fifth with Thalia.

The single specimen Picotees were very numerous, and included some grand varieties. For a red heavy edged Mr. Douglas was first with Gannymede, Mr. Rowan second with Brunette, Mr. Phillips fourth with the same variety, and Mr. Douglas fifth with Ne Plus Ultra. For a red light edged Mr. Douglas was first and third with Mrs. Gorton, Mr. Rowan second with the same variety, and fourth with Thomas William, and Mr. Phillips fifth with Mrs. Gorton. For a purple heavy edged Mr. Rowan was first with Muriel, Mr. Turner second and Mr. Douglas third and fifth with the same variety, and Mr. Turner fourth with Beauty of Cheltenham. For a purple light edge Mr. Nutt was first with Pride of Leyton, Mr. Douglas second and third with Annie Lord, Mr. Rowan fourth with Mary, and Mr. Nutt fifth with Mrs. Kingston. For a rose heavy edged Mr. W. L. Walker was first with Madeline, Mr. Turner second with the same variety, Mr. Douglas third with Little Phil, Mr. A. J. Sanders fourth with the same variety, and Mr. Rowan fifth also with Little Phil. For a rose light edged Mr. Nutt was first with Ethel, and was the only competitor. For a heavy scarlet edged Mr. C. Turner was first and third with Madame Richer, Mr. Sanders fourth with Mrs. Sharpe, and Mr. Rowan fifth with the same variety. For a scarlet light edged Mr. Turner was first and second with Favourite, Mr. Nutt third, Mr. A. Medhurst fourth, and Mr. A. J. Sanders fifth, all with the same variety.

In the class for twenty-four selfs and fancies, not less than twelve distinct, Mr. C. Blick, gardener to M. R. Smith, Esq., Hayes, was first with superb examples of King Arthur (2), Peregrine, Cardinal Wolsey (2), Germania, Little John (2), Lady Wantage, Duke of Orleans, Lady Marie Currie, Fiery Cross, Rose Unique (2), Mrs. Jno. Bligh, The Dey, Miss Audrey Campbell, Magpie, Water Witch, Eudoxia (2), and Mrs. E. Hambro (2). Mr. Chas. Turner was a highly creditable second, Mr. Douglas third, Mr. Rowan fourth, Mr. F. Hooper fifth, Mr. J. Walker sixth, Mr. A. Smith, High Wycombe, seventh, and Mr. H. W. Weguelin seventh.

For twelve distinct Selfs or Fancies, Mr. A. Jordan was a good first with Esmarch, Alice Ayres, The Hunter, King of Scarlets, The Burn, Ermania, Artemus, Van Dyk, Primrose League, Niphotos, Ketton Rose, and a seedling. Mr. C. Phillips was second, Mr. T. E. Henwood third, Mr. A. J. Sanders fourth, Mr. R. Vesey fifth, Mr. A. Medhurst seventh, and Mr. A. Spurling, Blackheath, eighth.

The first prize in the class for six Selfs or Fancies, distinct, went to Mr. J. F. Kew, Southend, who staged Mrs. L. Jameson, Niphotos, Dodwell's 943, Sunset, and two seedlings. Mr. Nutt was second, Mr. Harden third, Mr. Greenfield fourth, Mr. W. L. Walker fifth, Mr. J. W. Foulkes sixth, Mr. T. Anstiss seventh, and Mr. Rebbeck eighth.

Mr. Douglas was a splendid first in the class for twelve distinct yellow ground Picotees with Harlequin, Ladas, Mrs. Sydenham, Mrs. Douglas, Mr. Dranfield, and seven seedlings. Mr. T. E. Henwood was a good second, and Mr. A. Medhurst third. For six distinct yellow ground Picotees Mr. C. Phillips was first, Mr. F. Hooper second, Mr. Nutt third, Mr. J. F. Kew fourth, Mr. A. Jordan fifth, Mr. J. Walker sixth, and Mr. Fear seventh.

The first prize for twelve specimens, distinct, in pots not exceeding 8½ inches in diameter, Mr. C. Blick was a splendid first with Harmony, Mephisto, Eudoxia, Mrs. Seymour Bouverie, Hayes' Scarlet, Miss Jekyll, Mrs. Eric Hambro, Waterwitch, Cardinal Wolsey, Lady Audrey Campbell, Sir John Lubbock, and Sir John Falstaff. Mr. Douglas, the only other competitor in this class, was awarded the second prize.

The classes for vases, sprays and buttonholes of Carnations were well filled, and exquisite taste had been displayed in the manipulation of the flowers.

Mr. Jordan was first in the class for twelve blooms, each with a spray of Carnation foliage, Mr. Douglas being second, Mr. F. Hooper third, and Mr. Goble, Ryde, fourth. There appeared to be only one competitor in the class for six blooms with a piece of foliage, and this was Mr. Greenfield, who was accorded the first prize.

Mr. J. Douglas gained Mr. Martin R. Smith's special prize for the best self-coloured border Carnation with Lady Mary Currie, and Mrs. Jonas was second with a rose pink kind. The first prize for six self-coloured Carnations, not less than six trusses of each, was won by Mr. H. W. Weguelin, Mr. Hooper being second, and Mr. Goble third. Mr. Weguelin also took Mr. Smith's special prize for nine varieties of flake bizarre or fancy Carnations with a good exhibit. Mr. Douglas

was second, Mr. Goble third, Mr. F. Hooper fourth, and Mr. J. Walker fifth.

The premier Carnation in the show was a superb example of J. S. Hedderley, staged by Mr. M. Rowan, who also had the premier Picotee in Muriel.

Certificates were awarded to Mr. H. G. Smith, 21, Goldsmith Street, Drury Lane, for Carnation Jim Smyth, bright scarlet, and to Mr. J. Douglas for yellow ground Picotee named Mrs. Douglas.

THE RIGID TREE POPPY (DENDROMECON RIGIDUM).

THIS is a Californian plant, a native of the dry rocky coast ranges from San Diego to Clear Lake, and found most abundantly south of Point Conception, and on Santa Rosa Island. The flowers are yellow, with all the characters and intensity of colour of a true Poppy. They



FIG. 14.—DENDROMECON RIGIDUM.

are terminal on the numerous twiggy branches produced by the straw-coloured older wood. It grows from about 3 to 8 feet in height with leaves of a bluish colour from 2 to 3 inches long. The two very concave sepals, like most members of the order, fall off very early after the opening of the flower, which spreads widely in the early hours of the day, but assume a more cup-like form after noon. The two forms are given in our engraving. The plant is perfectly hardy in England, but somewhat difficult to grow. Discovered in California by Mr. David Douglas, it was first grown from seed sent by Mr. W. Lobb to Messrs. Veitch & Sons. It is somewhat variable in the character of its leaves, and undoubtedly a handsome plant when well grown, a valuable feature being the length of time during which flowers are produced. At the present time only a few plants are known to exist in England. The engraving (fig. 14) has been prepared from a sketch made at Kew.



HARDY FRUIT GARDEN.

Outdoor Figs.—Crowding the current summer shoots is not conducive to securing well-ripened wood for future bearing. Where too many are thus placed thin some out entirely, prune a few suitably placed to five or six leaves, retaining the rest at full length, nailing or tying them in to the wall or trellis. The fruiting shoots are pinched at a few leaves above the fruit, such shoots being afterwards cut out when the Figs have been gathered, the succession shoots taking their place.

Strawberries.—Young plants should not be allowed to develop runners too freely. Secure a number of the best plantlets early from good fruiting plants, the first the runners produce being the best, and, as soon as these are rooted, detach the wires from the parent plants, at the same time, or previously, cutting away all other runners.

Destroying Old Beds.—Directly the fruit is gathered is the best time to destroy old beds. It is not profitable to retain exhausted plants when fresh beds can be established so easily. The old stools may be pared off close to the ground surface, allowed to wither and dry, then burning them, spreading the ashes on the land. They may also be cut off as digging proceeds, burying them at the bottom of the trench. It is not advisable to plant Strawberries again on the same ground, but if this cannot be avoided the soil must be very liberally manured, as well as deeply dug before planting time arrives.

Planting Out Forced Plants.—If these have been kept thoroughly moist in a cool shady position since the fruit was gathered, the foliage will be free from red spider and the growth comparatively healthy. Planted out now on a well-manured piece of ground, they will form fine crowns for next season's fruiting outdoors. Have the balls moist when planting and sink them just below the surface, making the soil firm about them. In dry weather they must have abundance of water. Surround each plant with a mulching of manure, which will prevent undue evaporation from the vicinity of the roots.

Filberts and Cob Nuts.—Superfluous spray and succulent growths now being produced in the interior of trained bushes must be removed. They shade the fruitful parts and prevent a circulation of air. Gross growing shoots are usually robbers, and, if allowed to extend, soon destroy the balance of the trees. Remove suckers which rise freely from the roots, and keep the ground clear of weeds by hoeing the soil in dry weather.

Raspberries.—Cut out the old canes immediately the fruit has been cleared off and thin out the weakest of the new growths. Remove suckers, planting the strongest elsewhere if more plants are wanted. Liquid manure may be beneficially applied between the rows of established plants to aid the development of the new canes. In the absence of liquid stimulant mulch with good manure and water freely. The Raspberry is a gross feeder, therefore its food supplies must be liberal to secure heavy crops.

Thinning Fruit.—The contrast between perfect and ill-shaped specimens is now apparent as the fruit is swelling fast. Thin out all the deformed and undersized examples of Pears, Apples, and Plums, even where the crop may be scanty. The two latter are large enough for cooking, though the inferior specimens may not be worth using.

Watering Fruit Trees.—Old and free cropping trees ought not only to have the fruit freely reduced in numbers, but the trees should be further assisted with copious supplies of water and liquid manure, especially if growing in light, shallow, and somewhat impoverished soil. Moisture and food in reach of the roots improves the size and flavour of the fruit, as well as benefiting the trees for the following season.

Summer Pruning.—Continue shortening to four to six leaves the foreright and side shoots on wall, espalier, pyramid, and cordon trees, also Red and White Currant bushes, if not already done. Thin out at every opportunity much of the wood which crowds the interior of Gooseberry bushes, or rests upon the ground. Clear away suckers springing from the roots. Plum tree suckers are also very troublesome, and need constant attention in digging them up as deeply and cleanly as possible. Thin out the current year's shoots of Morello Cherries, training the rest in shortly when the trees have been cleared of fruit and the old bearing wood has been cut away.

Renewing Mulching.—Roots of fruit trees near the surface soon absorb the virtues of light manurial mulches, and it may be desirable to add more with a view to maintaining coolness and moisture about the roots. It does not answer to attract roots near the surface without constantly maintaining the soil moist, which is most economically effected by half-decayed manure. A light dressing given from time to time through the summer shields the roots from the drying effects of hot sunshine, at the same time contributing to their support.

Destroying American Blight.—The woolly aphid, or American blight, is prevalent this season on Apple trees. An attempt should be made to exterminate some of it at least. The effort may be mostly directed to the old wood, where, in nooks and crannies of the bark, the insects are found beneath their white fluffy covering. The most effectual means of destroying the insects and all traces of them is by the aid of a painter's brush dipped in petroleum and shaken, then applied

to the infested portions of wood. If any affected young shoots are dressed over the brush must be nearly dry, as the sappy wood and green leaves too readily absorb the oil and receive injury.

FRUIT FORCING.

Peaches and Nectarines.—*Early Forced Trees.*—Those which were started by or before the new year, whether the varieties consist of the very early, such as Alexander and Waterloo Peaches, with Advance or Early Rivers Nectarines, or such as Hale's Early, Stirling Castle, Royal George and Dymond Peaches, with Lord Napier and Goldoni Nectarines, have been cleared of their fruit some time. They have also had the wood on which the fruit was borne removed, also superfluous growths, so that those retained have abundance of light and air for perfecting the fruit buds and the maturity of the wood, which is encouraged by clean foliage and proper supplies of nutriment. The trees must be cleansed of insects if necessary by the prompt employment of an insecticide and duly supplied with water, or in the case of weakly trees liquid manure at the roots. A light mulching will also tend to keep the roots near the surface and prevent the premature ripening of the foliage. The buds will be sufficiently plumped and the wood enough ripened to allow of the roof lights being removed, which should not be further delayed. This is an old and commendable practice, not the least of its advantages being the thorough moistening of the border by the autumn rains. Where the roof lights are not removeable air should be admitted to the fullest extent; and a little whitewash syringed on the roof lights where the panes of glass are large and when the sun's rays are powerful, such as occurs during bright weather, will be useful in preventing the over-maturity of the buds and their dropping at a later period.

Succession Houses.—Trees started in February have mostly been cleared of their fruit, but some are still ripening and need free ventilation. As the fruit is removed cut out the wood that has borne it, and thin the growths where too close, or where they are so near each other that the foliage cannot have proper exposure to light and air. Cleanse the trees from dust and red spider by forcible syringing, employing an insecticide against it and scale. Keep the border moist, supplying liquid manure if the trees have cropped heavily and are enfeebled. This helps them to recuperate and plump the buds. Stop all laterals to one joint, or allow a little extension if the trees have the blossom buds prominent and the leaves have been infested with red spider, with a view to continuing the root action and at the same time divert the sap from the principal buds, which must not be forced into growth. When the buds are well formed and the wood duly matured remove the roof lights.

Trees Swelling their Fruit.—Those started in March and only given sufficient heat to insure safety for the blossom and fruit from frost, or maintain a steady progress in cold periods, have the fruit in an advanced state for ripening. The leaves should be drawn aside and the fruit raised by means of laths across the trellis, so that the apex will be exposed to the light. Water inside, also outside borders where necessary with liquid manure, and keep the surface lightly mulched with short, rather lumpy manure, but avoid heavy coatings, especially of matter likely to form a soapy mass, and exclude air. Commence ventilating early; in fact, leave a little air on all night, syringing by 7 A.M., and through the early part of the day ventilate freely. When the sun loses power in the afternoon reduce the ventilation, and raise the temperature to 85° or 90° about 4 P.M., with a good syringing and damping of surfaces, but it must be done with judgment, for when the water hangs for any length of time on the fruit during the last swelling, it is liable to damage the skin, causing it to crack, or, if not that, it may impart a musty flavour. Therefore have the fruits dry before nightfall, and when the day is likely to be dull omit the morning syringing. Directly the fruit commences ripening cease syringing, but afford moisture by damping available surfaces, especially the border whenever it becomes dry, ventilating rather freely, and sufficiently at night to insure a free circulation of air.

Late Houses.—In order to assist the swelling of the fruit observe the conditions laid down in the preceding paragraph. To accelerate the ripening, if required, ventilate rather freely in the early part of the day and till one o'clock, then conserve the heat by reducing the ventilation so as to secure a temperature of 80° to 85°, and at 4 P.M. close the house, syringing well, and no harm will come if the heat rises to 90° or 95°, ventilating about six o'clock so as to let the pent-up moisture escape, and reduce the temperature gradually. Tie down growths as they advance, allowing no more than are necessary for next year's fruiting and for furnishing the trees, letting all have space for development and the full exposure of the foliage to light and air. Keep laterals stopped to one leaf, also those of growths retained to attract the sap to the fruit. If there are any gross shoots which push growths from the leaf buds, cut them back to where the buds remain intact, or if likely to disarrange the equilibrium of the trees by the unequalisation of the sap, remove them altogether. They only tend to promote gumming, imperfect setting, and certain casting of the fruit in stoning. Draw the leaves away from the fruit, raise it from the under side of the trellis, and let it have as much sun and air as possible. Peaches are not much prized unless coloured, the flavour corresponding thereto, other conditions being favourable.

Vines.—*In Pots for Early Forcing.*—Those that are to be started in November should now have the wood thoroughly ripe, and the buds plump. If not, keep the house rather warmer by day, say 80° to 85°, closing early so as to raise the temperature to 90° or 95°, and throw the house open at night. Afford sufficient water, for liquid manure will

help to plump the buds to prevent the foliage flagging, and the latter cannot have too much light. Keep lateral growths well in check, leaving no more than are absolutely necessary to appropriate any excess of nutriment, and to prevent the eyes starting. When sufficiently ripened, as they are when the wood is brown and hard and the buds prominent, they should be removed to a position outdoors, standing them on slates or boards in front of a south wall or fence, securing the canes to the face of the wall, and having some waterproof material to throw heavy rains from the pots. In this position they will soon rest, even if the leaves are not actually shed. When the leaves turn yellow and give indications of falling reduce the laterals, and when the leaves are all off prune the Vines, the laterals being cut off close, and the canes cut back to the length required. Afterwards remove them to any airy, cool, dry place until required for forcing. Do not keep them dust dry at the roots, and place some dry protective material about the pots to save the roots from frost, in case it should gain access to the structure.

Earliest Forced Vines.—These will now require a dry atmosphere to thoroughly ripen the wood, but it will not be necessary to employ fire heat. All laterals and late growths must be kept stopped, and complete rest afforded by having the house cool and comparatively dry. The borders inside may require water, but if they have been mulched it may not be necessary, whilst the outside borders may need covering with dry straw or bracken to throw off heavy rains. This is absolutely necessary to secure complete rest, so essential for Vines long subjected to forcing. A too moist condition of the soil tends to late growth, but there must be sufficient moisture to maintain growth on the laterals in order to prevent the premature ripening of the foliage. In most cases it will be sufficient to allow a moderate extension of the laterals. Where the Vines are in an unsatisfactory condition prepare for lifting at an early date, procuring fresh loam and clean drainage, so that the work can be done quickly when started. There is no danger of losing a crop, only operate upon a portion of the border at once, say the inside border one year, and the outside the following. It is desirable to lift the roots and lay them in fresh soil nearer the surface whilst the foliage is on the Vines, therefore work of this kind ought not to be delayed in the case of Vines that are to be started early in December, which will need pruning by the middle of September, or in the case of lifted Vines a little later.

Vines not Regularly Subjected to Early Forcing.—Those which have not been hitherto started early will need as soon as the crop is off to be thoroughly cleansed by syringing or the application of an insecticide, and if there is any doubt about the ripeness of the wood or the plumping of the eyes it will be necessary to keep the house rather close by day, but with sufficient ventilation to cause evaporation and allow the moisture to escape. Give no more water to the border than will prevent the foliage becoming limp. If the weather prove moist and cold employ fire heat in the daytime to maintain a temperature of 70° to 75°, with moderate ventilation, and turn the heat off at night to allow the pipes to cool, increasing the ventilation so as to ensure a thorough draught; this will soon cause the wood to harden and the buds to plump, inducing rest, which for Vines that are to be started in December should be complete from the middle to the end of September. When the wood is ripe ventilate fully day and night.

THE BEE-KEEPER.

APIARIAN NOTES.

THE WEATHER.

THE week ending the 20th has been very changeable with cold winds. During four nights the thermometer registered 43°, 45°, and two 50° respectively, and in the daytime varied between 60° and 68°.

On the 15th the test hive hitherto gathered 2 lbs., losing about three-quarters during the night. The bees appeared to be busy on the 18th, but gathered nothing beyond the amount lost on the evening of the 15th, and that weight was from pollen.

A Punic swarm came off on the 15th, and has been fed since. At eight o'clock on the morning of the 20th I observed the base of three pillars of propolis started to contract the entrance, the bees building from above and below at the same time, and by eleven o'clock the four arches were nearly completed. The propolis must have been stored previously as no bees were on the wing.

THE HEATHER.

I took my Carniolan nuclei to the Leadhills on the 14th. They are placed at an altitude of about 1400 feet, and were carried to an isolated place about a third of a mile from the highway to a hollow well up the hill side. In less than ten minutes after its release a bee returned with pollen. So much rain had fallen in the morning, and recommencing later in the day, I failed to see a worker from the wild Thyme, which is odoriferous and gorgeous, as also will be the Heather in a few days if sunshine comes. There has been little of the latter burned for two seasons, so that there will be many thousands of acres unbroken for the bees to gather honey from it.

BEES STINGING.

"A Young Bee-keeper" wishes to know if there is anything to put on the hands and exposed parts of the person to prevent bees stinging. There are many preparations sold to prevent bees stinging. One sold as a cure for the sting of bees is alum and water. I have known linseed oil keep them off the hands. Acetic acid and vinegar are used by some persons. Rubbing exposed parts with honey is better than anything I am acquainted with; a veil for the face, and the sleeves rolled up are better, but best of all is to work with the bees, so that they will not sting. Children romp about my hives, which come within 4 feet of the house door, and people pass near them, and no one to my knowledge has been stung this year. One day lately when looking on at a pupil of mine (whom I visited) manipulating his bees, he had used no preparation, nor was he veiled, not a bee offered to sting until an intruder presented himself, and striking at the bees made them inclined to sting. So I retired, and signalled to my pupil to discontinue manipulation. Had we not acted so the bees would have become furious.

Never manipulate hives unless it is necessary to do so, and in that case put a little carbolic acid on a feather, drawing it over and inside the entrance a little, then on the ends and tops of the frames, or shut them in for a few seconds, rapping (as if driving bees), on the hive until they have filled themselves, then they will be gentle. After they are subdued finish what is to be done before leaving them, for if left for a little they will be very vicious when you return. A little smoke blown into the hive also subdues them, but smoke being detrimental to bees and the contents of the hive, I never use it.—A LANARKSHIRE BEE-KEEPER.



* * * All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Diseased Tomatoes (Yorks).—The Tomatoes are affected with *Cladosporium lycopersici*, a disease which was illustrated and described in the *Journal of Horticulture* for July 5th of this year. In a reply there given you will find the best means of preventing and curing it detailed.

Royal Horticultural Society (Head Gardener).—Persons desirous of becoming Fellows of the Royal Horticultural Society must be proposed and seconded by existing Fellows, the election then resting with the Council. A list of terms and privileges can be obtained from the Secretary of the Society, 111, Victoria Street, Westminster, S.W.

Insects on Cucumbers and Melons (Inquirer).—If you mean you want something other than tobacco paper for fumigation you might try the Lethorion cones, which have been frequently advertised, and have gained the approval of many cultivators. They are supplied by nurserymen, seedsmen, and dealers in horticultural requisites. We have no work on lawn tennis, and therefore are not in a position to recommend one with its price.

Grape Leaves Spotted (W. O.).—We find neither the "white insect" nor any form of parasite on the leaves. They have every appearance of being scorched, but the spots evidently commence in a very minute yellow speck, which extends in a circumferential manner till it becomes quite a large spot. This is characteristic of the downy mildew (*Peronospora viticola*), which, unfortunately, has appeared in this country, and in the way your leaves represent; but we cannot find the least trace of any fungoid growth, either internally or externally. The leaves otherwise are in excellent health, and it is possible the syringing is the whole and sole cause of the mischief, the tissue having been weakened and unable to bear the altered circumstances. We can only suggest the admission of a little air constantly, early attention to the ventilation, so as to have the foliage dry before the sun acts powerfully upon it. Another season we should certainly dispense with the syringing of the Vines from the Grapes setting, having freer recourse to damping for sustaining the requisite moisture. Damping in the

morning and at closing time in the afternoon is better practice than syringing the Vines until the Grapes begin to colour, an old and bad system.

Apple Trees Against Walls Dropping their Fruit (F. N. M.).—The fruits of both the Cox's Orange Pippin and Ribston Pippin are abortive. This is characteristic of fruits grown in dry positions—more so of the hardier fruits as Apples and Cherries, also Pears of the bardier sorts, the trees blossoming splendidly, but setting little fruit, and that setting falling when about a quarter grown. This is due to imperfect or non-fertilisation of the blossoms, the warm position bringing on the flowers too rapidly, and the pollen does not attain maturity; in fact, the stamens are sterile in most cases. The remedy is to cross-fertilise the blossoms, taking pollen from the varieties that afford it freely, and apply it to the stigmas with a camel's-hair brush. In addition to this, the trees should be well supplied with water at the roots, especially next the wall if the soil becomes dry in July or August up to September inclusive, so as to ensure the perfect development of the blossom buds, and when the buds commence swelling in the spring another thorough supply should be given if the soil be dry.

Grapes not Colouring (An Old Subscriber).—The difference in colouring of the Grapes on different Vines can only be accounted for from the varying condition of the soil and crop, though it is sometimes affected by the constitution of the Vines. Thus, the Grapes on one Vine colour well and those near remain red. On examining the soil it will generally be found that the border varies in staple, due to the components being mixed variably, and so the medium is physically different in some parts to others. The soil seems to be of a heavy and close nature. This is not in itself a defect, provided it contains abundance of gritty matter in the shape of small stones, lime rubble, or sand, and is over good drainage, as strong soil is more sustaining than light, and less exacting in respect of water. Of this the Vines have had far too much in your case. Every fortnight or three weeks is quite often enough to water Vines under such circumstances, giving a thorough supply each time. The proper way to water Vines is to examine the soil, and when it is getting rather dry afford a thorough soaking, so as to moisten the soil down to the drainage. It can clearly require no more until it is again becoming dry, when it must receive the needful attention. Being guided by ascertained wants is far better than having stated periods for watering. We should not consider it prudent to have the hose pipe running water on a Vine border for half a day at a time, nor use an engine for distributing water in a vinery three times daily. The practice of stopping the leading cane 1 foot from the top of the house is the correct one, as it allows for a little lateral growth.

Grapes Shanked (H. W. N.).—The Muscat was badly shanked, completely gone in the stem of the bunch as well as in the footstalks of the berries, the Black Hamburgs being less affected, but in an early stage of shanking. We found nothing of a fungoid nature, but the usual accompaniment of decay, viz., *Aspergillus glaucus* and other fungi. There is the usual needle-like bacterial bodies in the berries, but what connection these have with shanking, if any, we are unable to determine. The point of the greatest importance is that the seeds are defective, and that indicates a deficiency of mineral food for the formation of the stone. There seems to be plenty of gritty matter in the soil, and its mechanical condition—such as Vines ought and no doubt do thrive in—as the leaves indicate ample substance and good management. It appears, however, to contain a large amount of humus, possibly from the previous use of stable and cow-shed manure, and the greater prevalence of the shanking this year than usual is probably a result of the use of nitrogenous manures—nitrate of soda and guano. Instead of using these substances it would be advisable to have recourse to others such as lime, of which we advise a dressing forthwith, slaking before applying and having cool. Four ounces per square yard is a sufficient dressing, sprinkling it on the surface after stirring lightly with a fork, to allow water to entry freely, which should follow the lime dressing so as to wash it into the soil. This will provide that element for nitrification, but it is necessary to apply other substances, which may be given in the following mixture:—Bone superphosphate six parts or 1 lb., nitrate of potash three parts, sulphate of magnesia two parts, gypsum one part, and sulphate of iron one-fourth part. All the ingredients must be in fine powdery condition, dry (and kept dry for use), thoroughly mixed and applied at the rate of 4 ozs. per square yard. One dressing may be given when the Vines are started, another when they are in full leaf or just before flowering, a third when the Grapes are finished thinning, and a final one—1 lb. in all per square yard—when the Grapes are about three parts grown, or before they commence colouring. The drainage, we presume, is effective, and the border in other respects in good condition. If there be anything wrong in those respects the better plan would be to lift the Vines, provide proper drainage, and lay the roots in fresh compost, not covering them deeply.

Fungus on Nectarines (A. A.).—The Nectarines (very good fruit) are infested by the "speck" fungus (*Monilia fructigena*, Pers.), which attacks Apple, Cherry, Pear, and Plum, but it is most destructive to stone fruits, especially Peaches, Nectarines, and Plums. It is, as a rule, more prevalent while the fruit is ripening—that is, after stoning or during the so-called swelling period. The fungus grows in circles and becomes confluent, white (from the tufts of erect hyphæ) where the filaments are active, or around the circumference, and afterwards assumes a dingy ochraceous red (as in the central part), which is more or less depressed. On subjecting a portion of the juice of the fruit immediately below the surface of this part to microscopical examination

we found millions of bacteria as closely packed as possible, and here and there some spores of the micro-organism, which we mention in order that all affected fruit may be at once consigned to the flames, for it is possible that these bodies may be the cause of the human ailment having some analogy to cholera; indeed, the germs are identical with those producing fruit-diarrhoea. The affection on the wood is the most difficult to deal with, as it is on this part that the fungus passes the winter, independently of the spores, and is perennial by its mycelia. This permeates the tissues, and acts intermittently, being active in summer and quiescent in winter. It becomes active in spring, causes Cherry trees to gum, especially Morello, at the base of the young wood, also on the young shoots, one and two-year-old wood of those and Peach and Nectarine trees, for which there is no remedy but to cut away all the growths now showing the "mildew" and burn them. You may also as soon as the fruit is gathered spray the trees with pure sulphate of copper solution, 1 lb. to 80 gallons of water, operating in the evening, for if done in the morning the leaves, especially young, are apt to scorch. Besides, Peach foliage is very susceptible of injury from copper solution, otherwise 1 lb. to 50 gallons of water is more efficacious; but the point is to secure a thin film of the copper solution on every part of the trees, and then a much less quantity of copper suffices. This will rid all external growths of the fungus, but the cutting away of affected parts that in the wood is imperative, and when the leaves give indications of falling lift the trees, for the wood is lean, long-jointed, and sappy, though some of it is in good condition. Another season you may spray the trees with ammoniacal carbonate of copper solution when the fruit is nearly half grown. Bordeaux mixture must not be used on Peach or Nectarine trees, as when made with the greatest care it often injures Peach foliage severely. Repeat the carbonate of copper solution in a fortnight to three weeks. This will in most cases be sufficient to preserve the fruit from attacks, but the best thing is to get rid of it by operating as advised on the wood. A method of preparing carbonate of copper solution is given in last week's "Correspondents" column of this Journal, p. 70.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (C. J. S.).—1, *Verbascum Chaixi*; 2, *V. punicceum*; 3, *Bocconia cordata*; 4, *Thalictrum aquilegifolium*; 5, *Heteronoma bifrons* (Brazilian plant); 6, *Spiraea*, no flowers, possibly *chamaedrifolia*. (M. B.).—*Spiraea corymbosa*, introduced into England about the year 1819. (Normanton).—1, *Aubrietia purpurea*; 2, *Polemonium coeruleum variegatum*; 3, *Eulalia japonica*; 4, *Antennaria tomentosum*; 5, *Aubrietia Hendersoni*; 6, *Aubrietia græca*. (Enquirer).—*Lysimachia vulgare*. (A. M.).—*Spergularia arvensis*, the Corn Spurry. (H. M. H.).—1, *Veronica decussata* var. *alba*; 2, *Inula Helenium*; 3, *Epilobium angustifolium album*; 4, *Spiraea Billardi*; 5, *Oenothera Lamarckiana*; 6, *Rose Champion*. (An Old Subscriber).—2, *Olearia Haasti*; 3, *Ceanothus azureus*; 4, *Mimulus cardinalis*; 5, *Mesembryanthemum striatum* var. *roseum*; 6, *Viburnum lantanoides*. (Hop).—*Origanum sipyleum*.

COVENT GARDEN MARKET.—JULY 25TH

SUPPLIES lighter, owing to the rains, with business dull from the same cause.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Cherries	2 6	to 5 6	Lemons, case	10 0	to 15 0
Currants, Black, half sieve	3 0	0 0	Peaches, per doz.	1 0	8 0
" Red, " " " "	2 6	3 0	St. Michael Pines, each	2 0	6 0
Grapes, per lb.	1 0	2 0	Strawberries per lb.	0 0	0 0

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Beans, Kidney, per lb.	0 6	to 0 9	Mushrooms, punnet	0 9	to 1 0
Beet, Red, dozen	1 0	0 0	Mustard and Cress, punnet	0 2	0 0
Carrots, bunch	0 3	0 4	Onions, bushel	3 6	4 0
" new, bunch	0 9	1 0	Parsley, dozen bunches	2 0	3 0
Cauliflowers, dozen	1 6	3 0	Parsnips, dozen	1 0	0 0
Celery, bundle	1 0	1 3	Potatoes, per cwt.	2 0	4 0
Coleworts, dozen bunches	2 0	4 0	Salsify, bundle	1 0	1 5
Cucumbers, dozen	1 6	3 0	Scorzonera, bundle	1 6	0 0
Endive, dozen	1 3	1 6	Shallots, per lb.	0 3	0 0
Herbs, bunch	0 3	0 0	Spinach, bushel	1 6	3 0
Leeks, bunch	0 2	0 0	Tomatoes, per lb.	0 4	0 8
Lettuce, dozen	0 9	1 0	Turnips, bunch	0 3	0 4

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blooms	1 6	to 3 0	Myosotis or Forget-me-nots, dozen bunches	1 6	to 2 0
Asters (French) per bunch	0 9	1 0	Orchids, per dozen blooms	3 0	12 0
Bouvardias, bunch	0 6	1 0	Pansies, dozen bunches	1 0	2 0
Carnations, 12 blooms	0 9	1 6	Pelargoniums, 12 bunches	4 0	6 0
" doz. bunches	2 0	4 0	Pelargoniums, scarlet, doz. bunches	2 0	4 0
Cornflowers, doz. bunches	1 0	2 0	Pinks, various, doz. bnchs.	1 0	3 0
Crassula, per bunch	0 9	1 3	Poppies, various, dozen bunches	0 6	1 0
Eucharis, dozen	1 6	3 0	Primula (double), dozen sprays	0 6	1 0
Gaillardia, dozen bunches	1 0	2 0	Pyrethrum, dozen bunches	3 0	6 0
Gardenias, per dozen	1 0	4 0	Roses (indoor), dozen	0 6	1 0
Gladiolus, dozen sprays	1 0	2 6	" (outdoor), doz. bnchs.	3 0	8 0
Lily of Valley, doz. sprays	1 0	1 6	" Tea, white, dozen	1 0	2 0
Lilium candidum, dozen bunches	12 0	18 0	" Yellow, dozen	2 0	4 0
" Ditto dozen blooms	0 4	0 6	" Safrano (English), doz.	1 0	2 0
Lilium longiflorum, per dozen	2 0	4 0	" Maréchal Niel, doz.	1 6	4 0
Maidenhair Fern, dozen bunches	4 0	6 0	Stephanotis, dozen sprays	1 0	2 0
Marguerites, 12 bunches	1 6	4 0	Stocks, dozen bunches	2 0	4 0
Mignonette, 12 bunches	1 6	4 0	Sweet Peas, dozen bunches	1 0	3 0
Moss Roses (English), doz. bunches	6 0	12 0	Tuberoses, 12 blooms	0 4	0 6

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ (golden) dozen	6 0	to 12 0	Hydrangea, per dozen	9 0	to 18 0
Arum Lilies, per dozen	6 0	12 0	Ivy Geraniums	4 0	6 0
Aspidistra, per dozen	18 0	36 0	Lilium auratum, doz. pots	18 0	30 0
Aspidistra, specimen plant	5 0	10 6	" Harrisii, per dozen	12 0	24 0
Calceolarias, dozen pots	3 0	6 0	" lancifolium, dozen pots	12 0	18 0
Crassula, dozen pots	12 0	30 0	Lobelia, per dozen	3 0	4 0
Dracæna terminalis, per dozen	18 0	42 0	Lycopodiums, per dozen	3 0	4 0
Dracæna viridis, dozen	9 0	24 0	Marguerite Daisy, dozen	6 0	12 0
Ericas, per dozen	9 0	24 0	" yellow, doz. pots	6 0	18 0
Euonymus, var., dozen	6 0	18 0	Mignonette, per doz.	4 0	8 0
Evergreens, in var., dozen	6 0	24 0	Musk, per dozen	2 0	4 0
Ferns, in variety, dozen	4 0	18 0	Myrtles, dozen	6 0	9 0
" (small) per hundred	4 0	8 0	Nasturtiums, per dozen	1 6	4 0
Ficus elastica, each	1 0	7 6	Palms, in var., each	1 0	15 0
Foliage plants, var., each	2 0	10 0	" (specimens)	21 0	63 0
Fuchsia, per dozen	4 0	6 0	Pelargoniums, per dozen	6 0	12 0
Heliotrope, per dozen	5 0	8 0	" scarlet, per doz.	3 0	6 0

Roots in variety for planting out in boxes or by the dozen.

TRADE CATALOGUES RECEIVED.

George Bunyard & Co., Maidstone.—*Descriptive Catalogue of Roses, Bulbs, and Strawberries.*

Laxton Brothers, Bedford.—*Illustrated Catalogue of Strawberries and Small Fruits.*

Thos. Methven & Sons, 15, Princes Street, Edinburgh.—*Catalogue of Bulbous Roots for Spring Flowering.*

J. Peed & Sons, Roupell Park Nurseries, West Norwood.—*Bulb Catalogue.*



CO-OPERATIVE DAIRY FACTORIES.

Now that the woes of Essex landowners and tenant farmers have been given such prominence, it seems a suitable time to call attention to the situation and its possibilities, to show how by judicious co-operation new, if not old tenants, may render that forlorn county so prosperous that it may become a pioneer in modern agricultural improvement. What is the situation? Thousands of acres of heavy land have ceased to be profitable for the cultivation of Wheat. Why? Because under its burden of tithes, rates, and taxes it cannot compete with land in foreign countries that is practically free from such burdens. It is obvious, therefore, that the land itself is not at fault, and the question arises, To what purpose can it be turned profitably? The correct answer is plain enough, and as self-evident as are the reasons for it. Clay soils form the best pastures, and knowing this the Scotch farmers who have migrated from Ayrshire to Essex have given preference to the heavy land for the production of milk. They have laid it down to temporary, not permanent, pasture, under a six or eight years' shift, so that from one-sixth to one-eighth of each farm is ploughed in rotation each year. Their leader, Mr. P. McConnell, has told us how "By this means the total amount of actually ploughed land is permanently reduced, as for every lea field broken up there is one laid down; at the same time, the 'vegetable soul' of the soil is renovated by the formation of a young turf, while the weeds disappear more or less."

As suggestions are being made just now in a vague and misleading manner as to the best mixture of Grasses for Essex clays, we give once more Mr. McConnell's selection of seeds, which he has found to answer so well, and which is the outcome of several years' close observation and experiments. The quantities per acre are:—

Perennial Rye Grass	13 lbs.
Italian Rye Grass	5 "
Cocksfoot	5 "
Timothy	3 "
Meadow Foxtail	2 "
Red Clover (broad)	3 "
Perennial Clover (broad)	3 "
White Clover	2 "
Alsike Clover	2 "
Trefoil (or Lucerne)	2 " —40 lbs.

In this mixture all the finer Grasses are wisely avoided, the five coarse strong-growing Grasses with the Clovers being admirably calculated to yield a heavy bulk of nutritious herbage under the judicious and regular application of manure.

The object of the Scotch farmers was the production and sale of milk. In this they have been so successful that their example has been followed, with the usual result of over-production and falling prices to the producer, while the consumer has still to pay full price. For the extension of dairy farming on a large scale to be successful now, the milk must be turned to account for making butter and cheese—not in farmhouses, but in co-operative factories, established and carried on entirely by the farmers themselves, just as is being done so successfully in Ireland. The conditions and method of procedure there are entirely applicable to practice in Essex. The site of the factory must be where within a radius of two or three miles all the milk from 500 to 800 cows can be had—preferably the higher number. Less than 500 cows will not answer, will not pay expenses; more than 1000 cows renders the concern unwieldy and difficult to manage; so that we may regard 800 as the more safe and convenient number, which might be exceeded as experience brings confidence and facility of management. Buildings and plant cost together about £700, which is raised by each farmer becoming a shareholder, by taking a £1 share for every cow he intends supplying factory milk from, calls of 2s. per share being made at the outset, and from time to time as required. The milk is entered both in the shareholders' and factory books when delivered. It is tested daily by the lactometer, and its degree of richness entered in the ledger against each shareholder's name. At short intervals three gallons of each man's milk is churned separately and the number of ounces of butter booked. Payment is made in accordance with these entries—payment by results, which acts as the best possible incentive to the farmers to strive for the improvement of both quantity and quality in the milk—to breed well, feed well, shelter well; to do their utmost for the promotion of health in the cows, as bringing wealth to themselves. Payment for milk received, working expenses, and to a reserve fund for depreciation of plant, is followed by one of 5 per cent. interest on share capital, and the surplus is divided among the shareholders according to the recorded quantity and quality of the milk supplied by each of them. It is claimed that the value of the produce of the shareholders' cows is increased by 30 per cent., that they are paid the best price for their milk, and that their butter commands as high a price as the Danish butter in the London market.

That the trade in high-class butter is capable of indefinite extension is certain; the gigantic proportions attained by the Australian butter during the last five years in this country proves it. But we never shall do anything approaching it with farmhouse butter, which comes in dribbles upon the market, mainly inferior, always uncertain in quality. To the butter merchant uniform quality is of the first importance; assure him of this, and if the supply is large and steady he will notice the butter. Add to this decided superiority of quality, and not only will he become an eager purchaser, but the supply will never equal his demands.

It appears to us that the chief obstacle—the initial difficulty in the way of such an undertaking, is a want of trust and mutual good faith—we hardly like to hint of a lack of enterprise among farmers. In Ireland a few men joined forces and set the first co-operative creamery going to such good purpose that others soon followed. All honour to the pioneers, say we. If only a similar start could be made in Essex, depend upon it the plague spots of farmed-out land now clustering so thickly upon her surface would vanish before the advance of intelligent enterprise and energetic co-operation. More than this, many a struggling dairy farmer now selling his milk at about half value to the greedy, unscrupulous middleman, would gladly seize the happy chance to obtain a fair price for his produce, and much less would be heard of an overdone milk trade.

WORK ON THE HOME FARM.

Much of the long and strong straw growth of an exceptionally heavy corn crop has been beaten down by recent heavy thunder showers, which means additional expense in reaping at harvest time, and some injury to Wheat in bloom. Rain has also done much harm to hay in process of making. It is true that some hay was saved in prime condition, but there is still much hay in cock and swathe, still much grass unmown as we write this note on July 17th. Again have we had proof of how much bulk of crop and time of mowing depends upon condition of soil. We have seen haymaking as forward in Cumberland as in Kent, while there were plenty of meadows unmown in the south midlands. Now is the time to look into this matter in view of pasture improvement for another season.

The possible autumnal drought with its resultant scarcity of herbage on pastures has been—is being kept steadily in view, as well as the provision of cattle and sheep food in winter and spring. Cabbage and Kale are both full crops, and are growing fast now, as also are Mangolds and Turnips. Land under sheep folds is now being turned to account for late Turnips for a late spring supply, and for Rye for an early autumn crop of green food available for flock and herd as may be required. Do not forget that we have now very little more than two months left us for really free growth, and it is only such a nimble crop as Rye that can be sown now to be of any use in autumn. We give this timely warning because often in a hot dry August attention is turned to catch crops when it is too late to obtain them. Sow any such crop on land rich in fertility. Where sheep have been folded on Tares, Trifolium, Sainfoin, or seeds, there is certain to be enough fertility near the surface for a start, and when the plant is well started it can always be kept going by timely use of nitrate of soda.

With an abundant aftermath the milk yield is well sustained and butter is at its best. Now is the time to fill enough glazed jars or pans with butter for winter use. The most important points are careful churning so as to quite separate the butter grains from the caseine, to ensure its keeping well, next to salt for flavour with brine made by dissolving 2 lbs. of salt to a gallon of water, poured into the churn after the last washing of the butter, and left among the butter for fifteen minutes, and last to fill each jar at once and not gradually.

OUR LETTER BOX.

Calves for Grazing (Somerset).—The price of calves is so much affected by locality and other circumstances that we can hardly be sufficiently definite in our answer for your purpose. Weanier calves may be purchased at prices ranging from 30s. upwards, and if grazed roughly on pasture, as you appear to suggest, they might be worth £4 or £5 by next April. You mention six or seven months, which means next January or February. To sell in either of those months would be premature, and would probably involve having to accept very little more than you gave for them. If, on the other hand, you can afford them perfect shelter from cold and wet, and can give them crushed corn or other dry nourishing food in addition to the pasture, they would then keep in such plump condition that you could sell them at any time. To purchase calves and turn them out to pasture, without other food or provision of shelter, would be most unlikely to answer. As autumn comes on they would have hoose, fall off in condition, and some might die. On the whole we think you would do much better to purchase about a score of strong, healthy lambs, for which you may have to give full 30s. apiece. Avoid small, weak, cheap lambs, you could do no good with them.

METEOROLOGICAL OBSERVATIONS.

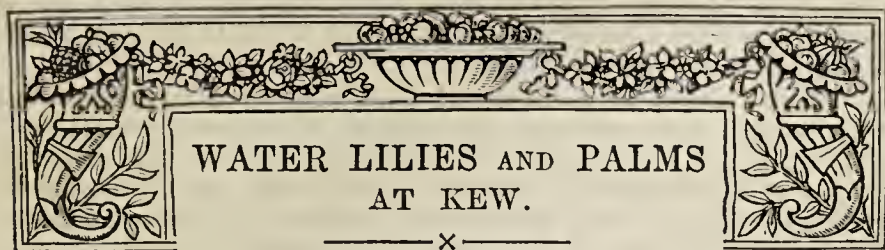
CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet

DATE.		9 A.M.					IN THE DAY.				Rain.
1894.	July.	Barometer at 32°, and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday ..	15	29.858	58.8	56.8	W.	59.9	65.1	52.2	82.9	48.0	0.022
Monday ..	16	29.970	58.1	56.0	S.	59.6	63.4	51.9	90.1	47.1	0.098
Tuesday ..	17	29.812	62.7	56.9	W.	59.1	68.7	56.2	114.4	53.1	—
Wednesday ..	18	29.681	59.0	53.9	W.	59.3	67.3	54.8	121.2	51.9	—
Thursday ..	19	29.765	61.4	56.3	W.	59.9	69.9	53.6	118.0	49.1	0.062
Friday ..	20	29.956	63.2	57.2	W.	59.9	70.7	51.8	123.7	48.0	0.090
Saturday ..	21	29.823	61.1	59.7	S.	60.2	73.2	55.3	117.4	55.1	—
		29.838	60.6	56.7		59.7	68.3	53.7	109.7	50.3	0.272

REMARKS.

15th.—Overcast almost throughout, with frequent slight showers.
16th.—Overcast with frequent drizzle, and rain at 3 P.M. and between 8 and 9 P.M.
17th.—Fine and frequently sunny, but spots of rain in the afternoon.
18th.—Bright early; generally overcast from 9 A.M. to noon, frequent sunshine later, but spots of rain at 4.30 P.M.
19th.—Generally cloudy, with one or two sharp showers in morning; generally sunny after noon.
20th.—Fine and generally sunny, but a good deal of cloud.
21st.—Rain from 2 A.M. to 8 A.M., and almost continuous drizzle or rain till 11 A.M.; fine after with frequent sunshine.
The temperature very similar to the previous week, rain not nearly so heavy, but on whole a damp and cloudy week.—G. J. SYMONS.



JUST as librarians take their holidays in other libraries, and a bus driver when he has a day off duty mounts to the box-seat of a brother of the whip, so gardeners are reputed to recreate themselves when a day can be snatched from "damping-down, putting the air on," and the other mysteries of the vocation, by visiting the scenes of the triumphs of other brethren of the craft. It is no doubt a part of the plans of no inconsiderable number of the readers of "our Journal" to take advantage of the approaching Bank Holiday to run up to London for a day or two. Such of them as do not make special arrangements to visit Kew during the forenoon hours at other times of the year should take the opportunity of the public opening of the Gardens at ten o'clock on Monday next to go early before the crowd musters, and see the Water Lily house, which is now in its beautiful prime, between that hour and noon, and feast their eyes upon the collection of *Nymphæas* in the tank, and the other tropical contents of this unrivalled house. It is only on such rare occasions that the general public has the chance of seeing these gems of the stream and lake, as but few of them remain open after one o'clock, when the house is on ordinary days first open to visitors. The Water Lily house is a most successful instance of the use of the art which conceals art. The effect is light and pretty, the plants have the appearance of being happily placed and healthily grown, with a judicious blend of foliage, flower, and fruit, of water plants, bog plants, curiosities of vegetable life, and of economic use.

Entering the house by the porch opposite the Palm house the floriferous Leadwort, *Plumbago capensis*, first takes the eye, and inside handsome Musas, with their stems in beds of bright Balsams, occupy the left hand border. On the roof is a large plant of *Bougainvillea spectabilis*, and trained up wires festooning the inner arch of the porch are plants of *Manettia bicolor*, spotted with its small bright red tubular flower, tipped with intense yellow. Once beyond the porch the tank and its contents will draw the attention. This roomy structure, 2 feet deep by 36 feet in diameter, is warmed by two rows of pipes, and gives accommodation to a splendid collection of *Nymphæas*, which most of them are grown in large pots standing on a leaden bottom. In the summer the heat of the water is maintained at 70° Fahr. The first *Nymphæa* seen will doubtless be *N. Laydekeri*, with its very beautiful pink petals which deepen in depth of tone with the age of the flower. These float among small leaves 3 to 5 inches across. *N. gigantea*, *N. Lotus* var. *devoniensis*, *N. stellata* v. *scutifolia*, and *N. Ortgiesiana* occupy a large part of the surface. *N. tuberosa* v. *flavescens*, a beautiful little plant, with leaves only 4 inches in diameter, and flowers deepening from the pale sulphur of the outer sepals through all delicate gradations of primrose to the full Indian yellow of the stamens, has a choicely pure effect. If the day be cloudy *N. Deari* may be found still open, though it is seldom found expanded after 10 A.M.

That most graceful and charming plant *Nelumbium speciosum* will be found in the triangular corner tanks, associated with another foreshore plant, *Limnocharis Plumieri*, whose fleshy heart-shaped leaves, borne up on stout petioles, are exactly the same colour and texture as the Sacred Bean Lily. The flowers of the *Limnocharis* are on tall spikes, and of a low toned yellow deepening to the centre. The *Nelumbium* is also grown in pots,

and interspersed with other foliage and flowering plants round the verge of the central tank. Opposite the door, on the far side, is a thicket of the ancient Paper Reed, *Cyperus papyrus*; and close to it *Hemographis colorata*, with spikes of orange flowers; a strong plant of the Batavian Sugarcane, *Saccharum violaceum*; a clump of *Cyclanthus cristatus*, 5 feet high by 7 feet through, with a growth like an *Aspidistra*; several *Hedychiums*—*H. coronarium*, with large heavily scented white flowers; *Sagittaria montevidensis*, having tall sagittate leaves and three-petalled flowers of a delicate creamy white with a yellow eye, on which is a rich spot of purple red. The domestic rice, *Oryza sativa*, in fruit, grows modestly near a fine root of *Acrostichum aureum*, which represents the Fern family.

The roof will be found a happy hunting place for the lovers of climbers and trailing plants, the species of tender tropical origin are sufficient to defy enumeration. If all else is passed the hairy Wax Gourd, *Benincasia cereifera*, will be seen, with its thick white fruit 18 inches long. The delicately pretty *Momordica charantia*, with its armed yellow capsules which split and disclose deep red seed; the Snake Gourd, *Trichosanthes anguina*, its fruit deepening in intensity of colour from dark green to orange red; several *Cucumises* (*Luffas*) help to furnish the rafters. There is a grand *Solanum* with clusters of large purple flowers, *S. Wendlandi* and two others of the genus, *S. Seafortianum* with Jasmine-like leaves, and *S. pensile*, with thick clusters of a deeper purple. *Allamanda Shotti* still flourishes on the opposite side, several plants of *Aristolochia gigas*, of *Passifloras*, *Bignonias*, and *Ipomæas* are mixed with the Gourds. *Clitoria ternata* is interesting, as showing the hugely developed blue keel and wings concealing the standard. A grand plant of *Ipomæa* (*Batatas*) *paniculata* is employed to twine about the iron railings which contains the tank. We have never known a time when there has been none of its widely expanded flattened bells. The two honey glands just below the calyx glisten with nectar. Among the smaller occupants of the border are several Sensitive Plants, and that intensely red flower the *Scutellaria coccinea*. In the lake near by on the northern side is an enclosed space, in which the student of the *Nymphæas* will find many of the hardier species. In the larger lake in the arboretum are some grand groups of the English forms now in full bloom.

The Palm house and its contents will also doubtless be inspected. This noble structure is undergoing considerable changes, the boilers being reset and increased in number to give greater heating power to the northern wing, and heat the additional piping which is being placed near the roof. The first object which the visitor sees on entering it by the northern door is the enormous Screw Pine, *Pandanus odoratissimus*, supported by large adventitious roots, and which should be looked for, bearing great clusters of the fruit which gives the specific name. Among the Palms the genus *Caryota*, distinguished from others of the order by the bipinnate leaves, is well represented. Formerly *C. elegans* was a striking feature of the house, filling up a large part with its enormous leaves. *C. furfuracea*, but particularly *C. Cummingi*, show an interesting habit of the genus. The plant makes its growth from 10 to 30 feet, throwing out its bipinnate leaves all up the stem. From the axils of the leaves, beginning from the summit, the inflorescence then appears, and on the same stem great tassels of fruit in varying degrees of ripeness, till at the lower nodes the flowers may be seen in bloom.

The two tallest Palms are *Seafortia elegans* and *Cocos plumosa*. Round these and round the stem of *Sabal Blackburniana* the *Monstera deliciosa* climbs; clusters of the young fruit may be seen. Near by is a good specimen of the Travellers' Tree of Madagascar, *Ravenala madagascariensis*, which afford a never-failing supply of clear water to the droughty traveller. The leaves proceed from the stem in two ranks, the great sheathing petioles clasping each of them, the inner swollen base of a leaf leave a space in which the water accumulates. If the blade of a knife is inserted between

the leaves the water spurts out, though the experiment is usually conducted by piercing through the thickness of the stalk itself. A giant Bamboo, *Dendrocalamus giganteus*, should be remarked at the base of one of the spiral stairways.

Acanthophoenix crinita, a very graceful pinnate-leaved Palm, will not escape notice, bristling as it does with long spines proceeding from the back of the petiole. But for prickly offensiveness commend us to the two species of *Calamus*, climbing members of the Palm family. It is not sufficient for the stem to be armed in this manner, but thin whip-like processes proceed from it reaching 20 and 30 feet, furnished at short intervals with sheafs of recurved spines, and further the petiole is produced for 7 or 8 feet beyond the foliaceous parts and similarly armed. Among other plants worthy of notice are *Crinum asiaticum* v. *variegatum*, and other species of the genus; *Pancratium speciosum*, the red-stemmed Fan Palm *Latania Commersoni*, named after one of the earliest explorers; *Hyophorbe amaricaulis*, with its swollen base; and *Arenga saccharifera*, the Gomuti Palm.

Of the economic plants there are the graceful Sago Palm, *Matroxylon amicarum*, the *Areca catechu*, source of the *Areca* nut, the Oil Palm of West Africa, *Elaeas guineensis*, to which our soap makers are so indebted for the searching oil, the *Cocos nucifera*, the Bread Fruit tree, *Artocarpus incisa*, and that evil-omened toxic plant the Upas tree, *Antiaris toxicaria*. There are many species of *Encephalartos*, Caffre bread, the striking blue-tinted *E. Lehmanni*, *E. horridus*, armed against all comers; indeed the Cycadaceous plants are a very striking feature of the southern end. A fine plant of *Cycas revoluta* showing the female cone is exactly opposite the door, supported on all sides by members of the same family, including *Dioons* and *Macrozamia*s of many species, flanked by the great swollen cylindrical *Cereus giganteus*, which weighs upwards of 18 cwt., and is straining at the band which girths its enormous waist—a good sign of life. *Cereus peruviana*, a Cactus of another type, comes into the picture on the other side; behind all the *Carapa guianensis* throws up its distinctive young red foliage. Some seedling *Musas* are among the triumphs of the Palm house cultivators, grown from seed produced in the house from plants which through long ages have been reputed seedless.—J. A.

THE STRAWBERRY CROP OF 1894.

It is unfortunate that we are so dependent on the vagaries of our British climate for abundant crops of hardy fruits, but we are annually having sharp lessons taught us in this respect. Everything may be done which human energy and skill can do to secure success, but when those fatal frosts occur at blossoming time, disappointment and disaster invariably follow in their wake. There is, however, one point in connection with this subject which affords ground for hope, even at times when the outlook appears to be the darkest. This lies in the fact that owing to the great disparity of the time of flowering of various kinds of fruits, it is seldom, if indeed, ever, that spring frosts extend, without intermission, over a period sufficiently long to affect seriously fruits of all kinds. During one season Pears and Plums escape injury, while the Apples and Strawberries, which blossom later, are seriously affected; at other times the case is *vice versa*. This year the Strawberry seems to have been more severely injured than any other crop of hardy fruit. Acres of plantations have only yielded pounds where hundredweights would, in average seasons, have been obtained. This state of affairs appears to be general throughout the country, but exceptions are to be met with here and there where cultivators have been fortunate in securing a good average crop, which has been disposed of at remunerative prices.

It seems to me that these examples of success which stand out so clearly among surrounding failures are worth inquiring into, with the object of, if possible, discovering some potent cause which contributed to their success. I think we may take it for granted that in very few, if any instances, did the sheltered positions in which plants were growing contribute greatly to their immunity from injury, for the obvious reason that the frosts experienced at flowering time were so severe that any flowers exposed above the foliage—in positions however sheltered—were inevitably ruined. In warm localities some of the earliest fruits were sufficiently advanced to escape serious injury, though they received

a considerable check which prevented them swelling freely. This was especially noticeable with Noble, and I think accounts for the very small crop this variety has produced. President, Garibaldi, and La Grosse Sucrée have also proved failures wherever I have seen them this year. On the other hand Sir Joseph Paxton has in several instances that have come under my notice in this neighbourhood, borne really good crops.

When judging at a cottagers' show near by I recently paid a visit to Mr. Crump, who was at one time a successful exhibitor of both fruit and plants around Basingstoke, but now an extensive grower of Strawberries for market at Whitnash, near Leamington. Here I saw a good crop of splendid fruits of Sir Joseph Paxton. The plantation was on somewhat high ground in a thoroughly exposed position, and Mr. Crump informed me that the early flowers which were just peeping above the foliage were completely ruined. The plants had, however, grown so strongly that the leaves completely covered the large numbers of flowers which usually cluster around the stronger central one. This saved them, and coupled with the fact that most of the "crown" flowers had been ruined enabled the later ones to develop into fine fruits. Some idea of the vigour of the plants may be formed when I state that although the rows were planted 3 feet apart the thick foliage almost met between them. The soil is a rather stiff one, and evidently well suited to Strawberry culture. After a trial of many varieties Mr. Crump prefers Sir Joseph Paxton for a heavy soil.

Another market grower in the neighbourhood who has also secured a fairly good crop of the same variety is Mr. J. Marsh of the Priory Nursery, Warwick. His plants are growing in a more sheltered position, but they are given ample room, and have grown strongly. Although the soil in this case is not so heavy as at Whitnash, it is far more retentive than that usually met with in the immediate vicinity of Warwick. Here also the early flowers were destroyed, but the later ones being protected by plenty of foliage escaped. Another case which seems to bear out the same line of argument. I noticed at Barford Hill Gardens, where Mr. Jones grows many varieties, but the only one which has borne a really good crop this season is Sir Joseph Paxton. I have a large breadth of the same variety, but as they were only planted last spring very little could be expected of them this season.

It will, I think, be a matter of great interest if readers throughout the country will report in the *Journal of Horticulture* the varieties which have borne the best crops in their own neighbourhood, at the same time giving a few particulars as to soil and situation. Royal Sovereign seems to have been well spoken of recently, and judging from its parentage and general description it should prove one of the best varieties of recent introduction. We have already elections of Chrysanthemums, Roses, and Dahlias, ought we not also to have a Strawberry election, perhaps not annually, but biennially?—H. D., Warwick.



SOBRALIA VEITCHI.

A PLANT of this beautiful hybrid was exhibited at the Drill Hall, Westminster, on the 24th ult. by Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, and to whom a first-class certificate was awarded for it by the Orchid Committee of the Royal Horticultural Society. *Sobralia Veitchi* is the result of a cross between *S. macrantha* and *S. xantholeuca*, the latter being the pollen parent. The flower is large, as shown in the illustration (fig. 15), and the colour is delicate. The sepals and petals are white, and so is the lip, the latter being also tinted lilac, a suffusion of lemon yellow characterising the throat. The plant shown was about 18 inches in height, and bore ample foliage.

PAPHINIAS.

ALTHOUGH this genus has been nominally merged into *Lycaste*, the flowers are so distinct in appearance from the majority of the latter genus that they will probably always be better known by the old name. All the species are of small growth, the pseudo-bulbs clustered and seldom more than 1½ inch in height. The foliage is lanceolate and very thin in texture. The flower spikes are freely produced from the base of the pseudo-bulbs. Some of these are pendent and others horizontal. Each spike bears from two to four

flowers. The sepals and petals are equal in size, pointed, and fleshy in texture. The lip is three-lobed, claw shaped, with a tuft of very fine hair-like processes upon it. The flowers have a perfume resembling the Night-flowering Cactus, which is greatly disliked by some persons but tolerated by others.

Paphinias are easily grown in the warm house all the year round. They must be carefully shaded in summer, for, as before mentioned, the foliage is very thin, and therefore easily injured by strong sunlight. This is a disfigurement as well as a check to the plants, as a good deal depends upon the proper carrying out of the functions of the leaves. They will thrive best suspended in small well drained pans or baskets in a compost of equal parts peat and moss,

species of *Dendrobium*, notably the evergreen section as represented by *D. aggregatum*, *D. chrysotoxum*, and *D. densiflorum*, produce and finish their growths very quickly, and on some early plants these are already completed.

Although they would if kept in a warm moist house produce another set of growths this season, it is not advisable to allow them to do so. The closer the plants are kept to their natural annual routine of growth the more satisfactory they eventually prove. If a low well-glazed pit with a south aspect can be spared, these early plants may now be arranged in it as near the glass as possible. The lights may be drawn off on fine days. The plants



FIG. 15.—SOBRALIA VEITCHI.

with a little charcoal or crocks to ensure aëration. I find it an excellent plan to repot Paphinias annually, as the roots perhaps more than those of any other Orchid are very impatient of any decaying substance about them. Copious waterings at the roots are necessary while growing, with light dewings on hot days at closing time. During winter less is of course required, but enough must be given to keep the foliage in good condition. *P. cristata* and *P. rugosa* are the two species most generally grown. *P. grandis* is more rare, and is the most beautiful as well the largest flowered in the genus.

CULTURAL NOTES ON ORCHIDS.

THE majority of the plants in all the houses are in full growth, and care must be taken to keep the temperatures well up, and to avoid any check. The dull unseasonable weather tells greatly against the Orchid grower at this season, when abundance of heat and moisture are necessary to the plants under his charge. Many

must not be dried at the roots, as the drier atmosphere is sufficient to keep them dormant. If a pit or frame is not at command the front stage of a vinery or similar house will be a suitable position for the plants. Keep *Dendrobium chrysanthum* in a warm and light position until the flowers open. This is a rather restless species, and usually grows away at the bottom before the flowers are past. *Epidendrum bicornutum* must be kept well up to the light, and the syringe used freely among the young growths.

Well flowered plants of *Grammatophyllum Ellisianum* are now very attractive. The curved spikes bearing a profusion of shining yellow and red flowers are produced from the young pseudo-bulbs. This plant should be encouraged to finish as large and sound pseudo-bulbs as possible, as unless these are strong enough to withstand a good season of dry rest flowers will not be produced.

After a few years blooming the flower scapes on *Oncidium papilio* become weak and hard and the blossoms smaller. This is a good time to remove these old scapes, as new ones will soon be produced to take their places. Where this *Oncidium* is grown on blocks the sphagnum may be allowed to grow freely at this season, as less attention will be needed in dipping or syringing.

Semi-terrestrial Orchids, as *Calanthes*, *Peristerias*, *Phaius*, and *Sobralias*, may with advantage be given occasional doses of liquid manure. That made from cow manure and a little soot, well diluted and used at a temperature corresponding to that of the house the plants are growing in, may be used with safety once a fortnight. See that the plants are moist at the roots before this is given.

All distichous-leaved Orchids, such as *Saccolabiums*, *Vandas*, and *Angræcums*, require copious supplies of water at the root, and with the exception of *Phalænopsis*, occasional sprinkling when the weather is fine. *Stanhopeas*, too, delight in frequent dewings over the foliage, this treatment serving to keep red spider in check. Gradually diminish the supply of water to *Thunias*, and allow plenty of air. A frame as advised for *Dendrobiums* will now be a suitable position for these Orchids. *Odontoglossum vexillarium* is now on the move, and the young growths must be kept free from thrips. Our plants have not been taken to the cool house this season, except for a few weeks when in flower. Cleanliness and a sweet and substantial root-run are the most important points to be studied with this Orchid, and given these the growth is finer and the flowers more freely produced in an intermediate or *Cattleya* temperature than in the cool house.

A few cool house Orchids are approaching the completion of their growth, and especial care is needed that the plants do not suffer from want of water. Pseudo-bulbs that finish prematurely usually commence to grow before the spikes are formed, and these latter are weaker in consequence, or altogether wanting. Pleiones that have been growing in an intermediate house must, as soon as the pseudo-bulbs are fully developed, be returned to the cool house. They must be carefully watered now, and less will be required as the foliage turns colour. Treat *Lycaste Skinneri* generously as regards water, as it is impossible to grow this species too strongly. Maintain a sweet atmosphere by continuing to keep all pots, stages, and glass clean. Any dead leaves or spent pseudo-bulbs must be cut clean away with a sharp knife. Keep a sharp look out by night and day for insects on the young foliage, or slugs and woodlice at the roots, as much mischief may be done at this season by inattention in this respect.—H. R. R.

THE NUTRITION OF ROOTS.

MR. GILMOUR (page 75) evidently thinks he has knocked Mr. Raillem out; and before or while claiming the victory calls upon his defeated opponent to again come up to the line; but does Mr. Raillem feel himself the defeated one? That is the question. Mr. Raillem did no harm in asking or placing before the readers and critics of the Journal four numbered paragraphs (page 388), one part of which was someone else's and the other part his own. It appears that he bases his own conclusions upon deductions drawn from that portion supplied by others, and has run off the line.

Moisture which exists low down in the soil when the surface becomes dry by excess of heat or drought becomes rarified and is diffused, carried by capillary attraction to the surface. Can this moisture be called water? can it be called vapour, while one is a liquid and the other an invisible compound? I say no. It is a condition between the two capable of dissolving—more so than actual water—soluble elements and compounds which can be assimilated by the plants. Do not understand me to say water applied, or which falls through rain, or is forced up, as in springs, is not water; nor that the roots cannot make use of it in that form; nor yet that it will not dissolve soluble and insoluble plant food present in the soil. I do not say that. We are obliged to say what we do not mean as well as what we do in this "jumping generation."

I will put it in this form. If a piece of sugar is saturated with water, the latter would still be in a liquid form. If a few drops are dropped upon a large piece of sugar and get diffused the drops of water will be water no longer, but moisture, not actual vapour nor yet liquid. Mr. Raillem's authority was wrong no doubt in saying plants could not assimilate water, and I think "J. A., *Kew*" (page 444), hits the mark by saying that the suspended moisture in the air or in the soil is converted into a liquid condition under certain conditions. My impression has always been

that the roots being cooler than the soil the air condenses this moisture or the vapour into water, and assimilates it with any food that may be in solution.

I will say that in paragraph 1 (page 388) Mr. Raillem was wrongly informed; paragraph 2 he is practically right; paragraph 3 he is wrong by no fault of his own; and upon paragraph 4 he is right as far as he goes—that is, moisture which rises as long as it is in the soil holds soluble mineral constituents, and that plants will receive benefit from manure beneath them even when they do not send roots down into that manure. In his last paragraph, not numbered, he states that it is not generally understood that the roots of plants only imbibe moisture as it is in the process of being evaporated, and asks if it is true. If he leaves the "only" out I shall say it is true, and defy contradiction.

I will finish with Mr. Raillem with his saying that the roots have the power by mechanical decomposition of getting at that vaporous form of liquid. What vaporous form if water is decomposed? Where is the liquid? The resultant matter comprise gases, of which oxygen is one and hydrogen is the other. That the roots can decompose water and appropriate either of these gases is true, but neither would be liquid nor yet capable of holding in solution plant food of any kind. I therefore must say the authority has done Mr. Raillem no good; but surely such an able pen can set himself right though he has an opponent worthy of his steel.

For the information of Mr. Gilmour I will say that there is a state in which oxide of hydrogen exists between water and vapour. At the boiling of a kettle the water, which is liquid, is converted into vapour, and if anyone looks at the spout out of which it passes it will be noticed that the vapour is invisible; an inch or so away from it the condensed vapour is visible. This is not water nor vapour, as one is liquid and the other is invisible, but consists of small bubbles. Again, it passes into an invisible form called vapour. If a cold substance is placed in contact with the steam, then it will be converted into a liquid form called water. The clouds are made up of similar small bubbles, which by the action of sun and light is capable of passing into vapour, or by coming in contact with a cold stratum of air is converted into water. I do not say that the basis of vapour, steam, clouds, snow, ice, and Scotch mist is not water, but it is water in all its various forms. At this I will leave it to Mr. Gilmour and Mr. Raillem to set me right where I am wrong, trusting they will not fail to set themselves right at the same time.—GEO. A. BISHOP, *Wightwick Manor Gardens*.

CHLOROSIS OR YELLOWS IN PEACH TREES AND TOMATOES.

(Concluded from page 74.)

CHLOROSIS almost invariably shows itself where Peaches attain their greatest size and perfection, and that is where the soil is good and the subsoil moist. No one cares to have his name mentioned in connection with this malady, otherwise I could refer to several places where it has appeared and been cured without recourse to lifting, and the costly process of bringing in virgin loam; therefore, I must trouble my readers with a few figures relating to Peach trees free from and afflicted by yellows.

ANALYSIS OF PEACH BRANCHES BY KEDZIC.

Ash constituents.	Healthy.	Diseased by Yellows.
Silica, SiO ₂	1.21	1.40
Oxide of iron, Fe ₂ O ₃	0.92	0.84
Lime, CaO	43.67	45.02
Magnesia, MgO	2.53	2.40
Potash, K ₂ O	7.07	4.93
Soda, Na ₂ O	1.88	2.33
Phosphoric acid, P ₂ O ₅	7.20	6.03
Sulphuric acid, SO ₃	0.54	0.83
Carbon dioxide, CO ₂	34.71	35.85
Chlorine	0.07	0.11
Moisture and loss	0.30	0.26
Total	100.00	100.00

The deficiencies of the soil (the constituent elements of the branches being taken as a criterion) are not very striking in the case of the diseased as compared with the healthy branches, yet afford sufficient data for arriving at a certain conclusion. In the diseased branches there is a deficiency of 3.14 of potash, which it is easy to supply by wood ashes, say 1 peck per rod (30½ square yards), next phosphoric acid, 1.17, and this could be furnished by applying 7 lbs. of Thomas' phosphate per rod or 3½ pounds of steamed bone

meal. The slight deficiencies of magnesia, 0.13, and of iron, 0.06, is superabundantly provided for in the wood ashes (potash, 8.72, magnesia, 3.00, iron, 1.03, phosphoric acid, 0.32, lime, 28.61). But the Americans use wood ashes, and their Peach trees suffer so much from yellows that they do not believe it exists outside that continent. This is because so little is heard about chlorosis in other countries, where phosphoric acid is either present in the soil in larger quantities (as in England where Peach trees are given strong loam because on Plum stocks) or supplied in the shape of bone manures or mineral phosphates. The fact is the Americans supply the potash and leave out the phosphoric acid, which is the prime mover in the formation of chlorophyll.

If we look on the other side, we find an excess of silica 0.19, probably due to the soda 0.45, sulphuric acid 0.29, and chlorine 0.04. Both imply pale colour, and the lime 1.35 would still further blanch the green out of the foliage. Nevertheless, nearly half the ash of the branches was composed of lime, more in the diseased than in the healthy, and it is this hungry stuff which eats up nitrogenous and phosphatic manures and makes trees so pale in leaf upon it, unless, as Clover and the Cherry, they are able to make use of atmospheric nitrogen.

PEACH, FRUIT AND BRANCHES, ANALYSIS BY GOESSMANN.

Ash Constituents.	Fruit: Crawford's Early Peach, Healthy.	Fruit: Crawford's Early Peach, Diseased with Yellows.	Branch: Crawford's Early Peach, Restored.	Branch: Crawford's Early Peach, Diseased with Yellows.
	per cent.	per cent.	per cent.	per cent.
Ferric oxide, Fe_2O_3	0.58	0.46	0.52	1.45
Calcium oxide, CaO	2.64	4.68	54.52	64.23
Magnesium oxide, MgO	6.29	5.49	7.58	10.28
Phosphoric acid, P_2O_5	16.02	18.07	11.37	8.37
Potassium oxide, K_2O	74.46	71.30	26.01	15.67
	100.00	100.00	100.00	100.00

The analysis quite disposes of the assumed idea that yellows is caused by a deficiency of iron in the soil, though there is a greater per-centage of iron (0.12) in the fruit of the healthy than in that of the tree diseased with yellows. But the restored tree only has a per-centage of iron, nearly two-thirds less than the tree still remaining diseased. There is also a large excess of lime and magnesia as well as of iron in the diseased tree, as shown by the analysis of the branches, therefore we may dismiss applications to the soil of those substances as curative of yellows. This I do very reluctantly, for I have known cases in which an application of sulphate of iron, quarter of an ounce to the square yard, has been attended with benefit to trees affected with yellows. It is no use, however, having fancies in these days, for the verdicts are always determined by the weight of evidence. Therefore, we must grasp the fact that the healthy or restored tree shows 3.00 per cent. more phosphoric acid, and 10.34 per cent. more potash than the tree diseased with yellows. Potash alone is of no use in curing trees of yellows, for, as before said, the Americans employ it in wood ashes with no benefit whatever; in fact, it does more harm than good, as I have proved that an excessive use of wood ashes alone to Peach borders will give the trees an unhealthy appearance, if not actually induce yellows. This may be due to the magnesian salts, which, also sodic, may not be applied to Peach borders in large quantities, if at all, with any advantage.

Sulphates may be useful in energising the protoplasm—at least, it is assumed that sulphur does that, and it is possible that sulphate of iron acts usefully in that way. Yet it is quite clear that what trees afflicted with yellows want most is phosphoric acid and potash, and these in as pure state as can be applied. Pure dissolved bones will supply the phosphoric acid, and the purest form of potash is perhaps muriate of that element. Equal parts of these supplied at the rate of 2 ozs. per square yard at intervals of about three weeks and washed in act like magic on trees with a deficiency of colour in the leaves, and if the trees want more vigour it can easily be obtained by adding half a part of powdered saltpetre to the superphosphate and muriate of potash. Saltpetre, however, is too expensive, therefore nitrate of soda may be substituted for it, but with great care, or it may induce a soft growth in the tree. It is especially valuable on chalky or limy soil, but sulphate of ammonia

would probably be better for the Peach where the soil does not contain more than 10 per cent. of lime.

CHLOROSIS IN TOMATO PLANTS.

This is not a disease due to the attacks of bacteria, fungi, or insects, the yellow blotches appearing in the leaves and stems indicating imperfect nutrition. It generally appears after the plants become established and have formed and are swelling their first trusses of fruit, the lower part of the plants, except for a few specks and blotches in the leaves and stems, being quite healthy, while the upper part assumes a pale green or yellow sickly hue, and though not apparently weak fails to set or swell any fruit. This is a very serious matter, as it seems to spread and affect all the plants in a house. There is, however, nothing alarming about it, for as before stated it is not strictly a disease, though some persons have connected bacteria with it upon faint grounds. Bacteria are not content with rendering the plant attacked pale in colour, but they speedily convert the tissues into a dark brown or dead mass, it being their special business to reduce organic into inorganic matter, and act on substances in a state of heat, which they either produce or are favoured by the weather. Indeed, they are passive in a low temperature, hence the cold water cure receives a measure of countenance. Chlorosis seems to act independent of the weather, though it is more pronounced after rather than before midsummer.

In treating the Tomato we have a very different plant to deal with than the Peach. The Tomato, like the Potato, is a potash, magnesia, and chlorine loving plant; it also delights in nitrogen, but this in excess lays the plant open to attack by fungi, and there is nothing that puts such vigour into Tomatoes as well decayed manure and leaf soil. These substances, turfy loam, and liquid may induce attacks of eelworm, that is, introduce these pests; but I hardly think they come in with liquids or water, but already exist in the soil or manure, for they thrive and breed in decaying vegetable matter quite independent of living plants. Whether the Tomato has the power of abstracting atmospheric nitrogen we have no data, but of its assimilation in the root nodules by micro-organisms there is no question, and of these the eelworms take advantage for breeding; in fact, they can and do produce the nodules on the roots, in which they form a hollow receptacle, and the vigour of the plant is concentrated on the injured part, so that the eelworms thrive at the expense of the plant. But these nodules are quite distinct from the nitrogenic, which are not caused by but taken possession of by the eelworms. It is a remarkable fact that plants afflicted with chlorosis seldom suffer from eelworm at the roots. Excess of nitrogen will not induce them, nor attacks of fungi, for these spring from eggs and spores, and no matter how sickly a plant be it will have neither of the diseases produced by them without the introduction of the germs. It is different with chlorosis—a condition of the plant resultant of ill nutrition, which is easy to rectify by the employment of any nitrogenous substance, yet it will not alone effect a cure if there be a deficiency in the soil of potash, magnesia, and chlorine, nor will any or all of these be of any use whatever without the prime agent for manufacturing chlorophyll, namely, phosphoric acid.

Superphosphate of lime will supply the phosphorus, and it also accelerates root action; kainit will give the potash, magnesia, and chlorine; and nitrate of soda furnish the nitrogen. I do not consider sulphate of iron a particle of use unless the soil be deficient in available iron, then a small quantity may possibly assist, more by the sulphur than iron, plants to throw off chlorosis. Equal parts bone superphosphate and kainit, half a part nitrate of soda, and a twentieth of a part of sulphate of iron, mixed, and applied at the rate of 2 ozs. per square yard every ten days for a time, and afterwards at fortnightly or three weeks intervals, will cure the plants of yellows, and it is also one of the best manures for Tomatoes and Potatoes under any circumstances. If the Tomato plants are in restricted borders, very much confined at the roots, or in pots, top-dress with lumpy loam or well-decayed manure, and apply the top-dressing of manure over it without delay, watering in moderately, sufficient to wet the top-dressing of loam or manure through for the first day; this precaution being taken there is no fear of introducing eelworm with the loam or manure. The kainit, if at all lumpy, should be smashed fine, also the nitrate of soda be reduced to a fine powder, before mixing with the superphosphate.—G. ABBEY.

DRACÆNAS VEITCHI AND AUSTRALIS FROM SEED.

THERE are but few ornamental foliaged greenhouse plants so useful for decorative purposes as these green-leaved, Palm-like *Dracænas*. They have the merit also of being easily grown, and of keeping in good condition for a long time when used for dwelling-

room decorations. It does not appear to be generally known how easily and quickly they may be raised from seed, yet this is by far the best method of propagation.

Plants raised in this way make vigorous healthy growth and quickly attain a useful size. When in a young condition the seedling plants assume a style of growth quite distinct from those raised from suckers, the leaves in the former case being narrow and upright in habit. In this stage they are extremely effective for dinner-table embellishment, or for arranging in jardinettes, for which purposes small plants are in great demand. As the plants increase in size the leaves come broader and gradually develop their drooping habit of growth. It may thus be seen that by sowing seeds every year plants giving great diversity in their form of growth may be obtained from these two varieties of *Dracænas*.

At the present time I have some good plants in thumb pots which were raised from seed sown in January last. These will shortly require shifting into 3 inch pots, then by growing them in pits kept rather close and moist, with a little artificial heat turned on about the end of September, the plants will be of a useful size from November onwards.

August is a suitable month during which to make a sowing, as with good treatment the plants resulting therefrom will be available for use by June next. To hasten germination the seeds should be soaked in warm water for twenty-four hours before sowing; even then they are frequently a month or six weeks before any sign of growth is apparent, and I have no doubt that should the seed obtained be rather old germination would not take place under three months. I mention this to prevent disappointment, because sometimes seeds of this nature are set down as worthless, and the soil in which they were sown consigned to the rubbish heap, when the real fault lay in the impatience of the would-be cultivator. Loam and leaf soil or peat in equal parts, with abundance of sharp sand, and a little finely broken charcoal added, the whole passed through the half-inch sieve, forms a suitable compost for sowing in, and one that will not easily become sour—a matter of great importance when preparing soil for seeds which germinate slowly. I sow in well-drained boxes or pans, cover with a square of glass, and place where there is brisk bottom heat at command. It is a good plan to dibble the seeds in, an inch apart; the seedlings may then be allowed to make progress before being placed in pots, for they do not like being disturbed till their roots have become active.

For the first potting a compost similar to that in which the seeds were sown answers well, and for subsequent ones two parts loam to one of leaf soil, one of manure from a spent Mushroom bed, with soot, charcoal, and sand added, the whole being well mixed, will be found to suit the plants. As they increase in size the compost should, of course, be used in a rough state.—H. DUNKIN.

CLEMATIS JACKMANNI FOR BEDDING PURPOSES.

In the flower garden in my charge are two oblong beds filled with this splendid climber. Each year when in flower these receive so great a share of admiration, and so many inquiries are made concerning their treatment, that I have thought a few remarks on the subject might prove interesting, and perhaps instructive, to readers of the *Journal of Horticulture*, for I believe there are in numerous gardens similar positions in which they might with advantage be grown. The whole treatment, from beginning to end, is simplicity itself, and no one need be deterred from making a start through fear of failure.

Our beds are about 4 feet wide, and the plants are set about that distance apart on each side of the bed, the soil previous to planting being deeply dug and well manured. To form the trellises a row of strong stakes are driven firmly into the ground along the centre of the bed. These are sawn off at a height of 2 feet 6 inches from the ground line. Along the top of these stakes a strong wire (similar to those used for making fences) is stretched and made fast by means of staples. Hazel sticks are then thrust into the soil in a line all round the bed about 15 inches from its edges. These sticks may be about 9 inches asunder, and should be bent in a convex form and securely fastened to the central wire.

When growth commences the Clematis shoots ought to be trained in all directions, so as to cover the trellis as soon as possible. When this has been accomplished the growing shoots should be interlaced between the others so as to form a dense mass. For this purpose the plants should be looked over once a week as long as they grow freely. In February the plants are pruned to within a foot of the old wood, and in succeeding years shoots 2 or 3 feet in length are left in such a way that the whole trellis may be quickly covered when growth begins. After pruning a covering of short manure is placed upon the beds and lightly forked in. Should the weather at times throughout the summer prove very dry, the plants ought to be liberally watered, otherwise the growth will be scanty and the flowers small.

Of course beds of almost any size may be planted with this fine Clematis, and the trellis may take the form best suited to the fancy of those whose wishes should be the first consideration. Trellises formed

to represent tents, temples, pyramids, arches, and pillars, with baskets and hanging chains, may all be effectively covered with our purple friend. The best edging I know of for beds of this Clematis is *Dactylis glomerata variegata*, as the clear white and greyish-green tufts of this pretty Grass form a perfect setting for a mass of the deep rich purple flowers of Clematis Jackmanni.—W. C. G.

VIOLAS.

ON page 81 the Rev. David R. Williamson writes a few kindly words as to Violas, in which there is a reference to myself. I pointed out in my previous remarks (p. 57) in the *Journal* that it was impossible for anyone to name six varieties of Violas as absolutely the best, for there are so many beautiful kinds which are admirable for decorative work in the garden. I singled out the six I named as possessing all the qualifications they should have for bedding out, not as the best six in cultivation.

I see and cultivate so many of the leading kinds, both new and old, that I am able to form a fair idea of their merits, and I most cordially agree with Mr. Williamson as to the great beauty of such sorts as Duchess of Fife, Countess of Kintore, and others. Countess of Wharncliffe (also known as Lord Fitzgerald) is a very pure snow white in colour, but is not so floriferous and continuous, I find, as Countess of Hopetoun and Sylvia; but the two last named are very much alike excepting in the foliage. Mr. Williamson classes Sylvia with the miniatures, an unintentional mistake, I think, as it must be classed with the large flowering section.

In the cooler Midland counties Violas are doing so well, but in the south it is much more difficult to get a prolonged summer display. Some few years ago I saw a wonderfully good mass of Violas at Hampton, near London, in the middle of July, and Mr. Jenkins, who had them in charge, used a thick layer of fresh cow manure underneath the soil for the roots to ramble in.

Fragrance is a delightful attribute in many of the Violas, and to me it is most gratifying that the Viola should have become so popular, as I may safely say that my pen has always been ready to advocate its merits, and that I have had some little influence in helping it to the front. The conference at Birmingham on August 3rd will do a great deal of good, and add, I hope, to the establishment of a National Viola and Pansy society, with annual meetings. Had I known Mr. Williamson's address I should have sent him an invitation to attend.—W. DEAN.

At the recent meeting at the Drill Hall Messrs. Dobbie & Sons had a very beautiful collection of these flowers shown as sprays, and my belief that it is in this form Violas are by far the most beautiful was, in spite of what scorers and hypercritics may write, undoubtedly greatly strengthened. As I had been a grower and a raiser, too, of Violas in Middlesex for twenty years I ought to know something about them as hot weather flowers that have to rough it. When grown on rich soil, where they can have plenty of moisture, they may do very well, or when we get a dripping season. When I saw the collection at Chiswick the weather was then hot and dry, and the plants were much suffering from heat. They were just what I ever found them to be in hot, dry summers.

As to the rayless Violas, I have failed yet to find anything in them so pleasing as are many of the old and larger flowered strain. That is my opinion; others may think different. It is to me a matter of complete indifference. That they show exceeding sameness of colour is also the case. No one can deny that. That is, however, a very common fault of Violas generally, and many so-called new ones seem to be reproductions of the older sorts. There is not at the present moment so good a plum-coloured variety as is Mulberry I raised years ago. In spite of the hundreds of Violas put into commerce, there are now 100 plants of the old Blue Bell that my brother, Mr. R. Dean, raised in his garden at Ealing, grown for bedding decoration to ten of any other variety. That fact shows that after all those Violas which look so beautiful in spray form at shows are not generally suitable for bedding purposes in a large way.

If I were to grow Violas for pleasure it would be much less for the getting from them of mass effects and far more to get pretty flowers for gathering to put into vases. Still, we have to regard these flowers chiefly from the garden decoration standpoint. Now, here again, apart from habit or floriferousness, or capacity to withstand drought, the best effects are always had from self-coloured flowers. To compare bedding Violas to Carnations is absurd, but it suffices for some critics. What colours give these bedding effects best? White, sulphur, yellow, mauve, blue, indigo blue, plum or purple, and such red tints as may be obtainable. The edged or parti-coloured flowers that "catch on" so much at shows not only are most unreliable, but give no good effect. They are always prettiest when in a gathered state.

As to bedding uses, I wish someone would just make a round of our public parks and gardens, and report as to the varieties most found in them. At Hampton Court the chief sorts are Blue Bell, Archie Grant, and the mauve Duchess of Sutherland. To these may elsewhere perhaps be added Bullion, yellow; Countess of Hopetoun, white; and possibly one or two others. However, it would be easy to ascertain. From the collection arranged by Messrs. Dobbie & Sons I noted the following as pleasing to me, and probably useful, more or less, in gardens:—Countess of Wharncliffe and Countess of Hopetoun, good pure whites; Lemon Queen, primrose; W. Niel, pale soft red; Lord Elcho and Prince of Orange, yellows; Duchess of Sutherland, mauve; Bluegown, blue; Archie Grant and Max Kolb, rich deep blue; Mrs. H. Bellamy, white upper petals, and lower ones violet maroon; and the certificated Iona, the most beautiful of all its class, ground soft blush mauve, having four broad ribs or bars of violet purple.—A. D.



EVENTS OF THE WEEK—The events of horticultural interest to take place during the ensuing week include the Southampton show on August 4th and 6th. The exhibition of the Liverpool Horticultural Association will be held on the same days; and on Monday, 6th inst., a conference on gardening will be held in Carshalton Park (Surrey), in connection with the annual show of the Beddington, Carshalton, and Wallington Horticultural Society. On that day, too, an exhibition of garden produce will take place at Northampton.

— **THE WEATHER IN LONDON**.—The temperature has been rather above the average in the metropolis during the past week. Showers have occurred and rain fell heavily on Sunday night. Monday was rather dull but fine, whilst Tuesday proved bright and warm. Wednesday opened cloudy, and rain fell in the morning.

— **NATIONAL CARNATION AND PICOTEE SOCIETY**.—The exhibition of the northern section of the National Carnation and Picotee Society will be held on August 11th in the Botanical Gardens, Old Trafford, Manchester.

— **ROYAL SCOTTISH ARBORICULTURAL SOCIETY**.—We understand that the annual meeting of this Society will be held at 20, George Street, Edinburgh, on Monday, August 6th. The annual excursion will extend from the 7th to the 10th of August, and will be devoted to a visit to several famous estates in Strathspey, Moray, and Banff.

— **LINCOLN'S INN GARDENS**.—We are informed that these gardens will be open to the general public every evening until August 11th from half-past six till dusk. After that date the hour of opening will be 5 P.M., so that the children in the neighbourhood may avail themselves of the playground thus thrown open to them. This boon has been granted by the Benchers of Lincoln's Inn, who for some years past have opened their gardens at this period of the year.

— **ROSES AT TRENTHAM**.—In our report of the Trentham show (page 88) Mr. C. Chandos Pole was given as the winner of the 12-guinea prize for an arrangement of Roses. It should have been H. Chandos Pole Gell, Esq., Hopton Hall, Mr. G. Bolas, gardener. There does not appear to be time for giving the full addresses of exhibitors on the prize cards at Trentham and some other shows.

— **THE ROYAL HORTICULTURAL SOCIETY'S EXAMINATION**.—I have been looking over the list of successful candidates published in the columns of a contemporary with much interest, because I had previously read your mention respecting the great cost incurred and the small results that followed, as there were but ninety-three successful in the examination which, in its scope, included the whole kingdom. Of this limited number eight are females, and there are in all seventeen students from the Swanley Horticultural College. Out of the total number fifty-three only are returned as *bonâ fide* gardeners. Now I have no doubt the Swanley College authorities will be somewhat cock-a-hoop over the assumed successes of their pupils; but when it is seen how comparatively elementary are most of the questions, and how few relatively also had to be answered, and also that only three out of the Swanley College students reached to over 200 marks out of a possible 300, it is very obvious that there is very little to be elated about. To put the matter mildly, it is exceedingly humiliating; first, to find that so few relatively entered into the examination; and second, to find that of those who passed only eleven obtained 200 marks, whilst no less than forty-five were below 150. What miserable results must some of these papers presented to have been pointed so low! Really, after this product can anyone say that the game is worth the candle? That such an examination can have any real beneficial influence on horticulture it is impossible to believe. Even the young or aged gardeners who could not reach higher than 200 marks must admit that they have nothing to boast of; indeed, the product does them no credit. Educated gardeners who have also good practical knowledge, should have reached almost the maximum with ease, yet there are only four whose marks range from 200 to 215. After all, does the fault lie with the candidates or with the examination? To me the whole thing is a conundrum.

— **KENT**. [Our Kentish correspondent does not say whether he was one of the candidates or not who were beaten by young ladies.]

— **A NEW ASPIDISTRA**.—According to the French papers a new species of Aspidistra has been discovered at the Museum of Natural History of Paris. The plant is described as being of Tonkin origin and as ornamental as *A. elatior*. The lamina of the leaves is unsymmetrical. The very numerous flowers have short and thick peduncles, their colour becoming wholly of a dull and vinous red. The sepals and petals deviate from one another very well, but are not reflected like those of *A. elatior*.

— **A NEW OPEN SPACE AT LEWISHAM**.—The London County Council is now engaged in laying out Hilly Fields, Lewisham, as an open space for the public. At a meeting held recently the Parks and Open Spaces Committee reported that it had had under consideration what works were necessary to be done at Hilly Fields to fit the place for the purposes of a recreation ground, and they asked to be authorised to expend £4985 for that purpose. The recommendation of the Committee was approved on the distinct understanding that the original estimate of £5500 for laying out should not be exceeded.

— **THE GLASNEVIN BOTANIC GARDENS**.—In the House of Commons last week the hours of opening these gardens were referred to, and Mr. Acland stated that they are open on week days from 10 A.M. to 6 P.M. between April 1st and September 30th, and from 10 A.M. to 4 30 P.M., or to sunset, between October 1st and March 31st. The glass houses are opened an hour later and closed an hour earlier than the gardens. On Sundays both gardens and conservatories are open from 2 P.M. till the stated time for closing the gardens. He said that he would see whether arrangements can be made for keeping the gardens and houses open somewhat later in the summer.

— **APPLE HAMBLEDON DEUX ANS**.—This Apple originated in the village of Hambledon, but eight miles from Swanmore, where there are still many old trees. Hereabouts the cottagers think highly of it, purely on account of its keeping qualities. There must be two varieties, because I would defy anyone to boil soft some that I have had given me in March last. The market is generally the best test of the quality of a well-known Apple. Last summer many bushels of picked fruit were sold in this neighbourhood at fifteen pence the bushel. I find the greatest difficulty imaginable to persuade a cottager to cut down the Deux Ans trees and replace them with others.—E. M., *Swanmore Park*.

— **WAKEFIELD PAXTON SOCIETY**.—The showery state of the weather somewhat affected the attendance at the meeting of the members of the above Society on the 21st ult., when a discussion on "The Carnation and Picotee" was to have been introduced by Mr. George Gill, of Eastmoor, one of the vice-presidents of the Society. Owing to the unseasonable weather which has prevailed for some time the Carnations and Picotees in the district had not commenced to open their bloom, and it was consequently found necessary to delay the exhibition of these beautiful and sweet flowers, and also the essay upon them. To fill up the gap thus created Mr. George Parkin, photographer, York Street, one of the oldest members of the Society and a well-known botanist, gave a lecture on insects which infect and destroy Currant trees. The lecture occupied upwards of an hour in delivery and was exceedingly interesting. Mr. Parkin showed himself thoroughly at home with his subject, and his remarks were rendered all the more interesting and clear from the fact that the lecture was freely illustrated with neatly preserved specimens, and chalk drawings on a blackboard.

— **TORQUAY DISTRICT GARDENERS' ASSOCIATION**.—The above Society held their second annual summer outing on Monday, July 30th. The weather was perfect, and the party (numbering over 100) left the Promenade Pier, Plymouth, per special steamer at ten o'clock and proceeded up the Tamar to Calstock, a trip of twenty miles. Here luncheon was partaken of in a marquee, Mr. W. A. Masterman being in the chair, and Mr. W. B. Smale in the vice-chair. Pentillie Castle, the residence of Mr. W. Coryton, J.P., was next visited, and under the genial leadership of the head gardener, Mr. C. W. Cove, the party passed a delightful hour in exploring the beauties of the grounds. A grand specimen of *Bougainvillea glabra* in full bloom entirely covering the interior of the conservatory roof, was an attractive object of great admiration, while the numerous Indian and Ghent Azaleas, Lapagerias, Magnolias, and Tree Ferns growing luxuriantly in the open were interestingly observed. H.M. ship "Defiance," torpedo training ship, was also visited, by the kind permission of Capt. J. E. Meryon, and an impromptu lecture given and experiments were performed for the benefit of the party. Torquay was reached soon after ten o'clock, a most enjoyable day having been spent. Mr. F. C. Smale is the Honorary Secretary, who, with the Committee, made all arrangements.

— **A STATUE OF M. ALPHAND.**—It is stated that the National Horticultural Society of France has a movement on foot for the purpose of erecting a statue to M. Alphand, who did much to embellish Paris.

— **TOMATOES IN AMERICA.**—Mississippi is the great Tomato-shipping State of America. Not only does that State furnish this vegetable to St. Louis, Cincinnati and Chicago, but Mississippi Tomatoes are on sale in Philadelphia, New York, and even in Boston.

— **A FINE MUSHROOM.**—A northern contemporary records the fact that a few days ago, while Mr. James Graham, of Great Broughton, was passing through some grazing fields a little below Buckhill Colliery, he came across an extraordinary large Mushroom. The fungus measured $9\frac{1}{2}$ inches in diameter and 31 inches in circumference, and brought down the scales at a little over 1 lb.

— **ITALIAN BOTANICAL SOCIETY.**—According to "Nature" the next annual meeting of the Italian Botanical Society will take place at Palermo in 1895. For the present year a botanical excursion is arranged on September 25th and the three following days to the Island of Giglio, the largest of the Tuscan Archipelago except Elba, the flora of which has been but imperfectly explored. Botanists desirous of taking part in the expedition should communicate, not later than September 15th, with the President, Professor Arcangeli, 19, Via Romana, Florence.

— **GRASS-DESTROYING CATERPILLARS.**—Miss Ormerod, writing to the "Times" recently, mentions that bad attacks of the grass-destroying caterpillars of the antler moth are now occurring in some localities in Scotland. She says that in 1884 these caterpillars devastated an area of about ten miles in extent of the mountainous parts of Glamorganshire, and in 1885 spread over an area of about seven by five miles in Selkirkshire, N.B. The district infested at present is that in which the voles not long ago did so much damage, and Prof. Wallace reports that the caterpillars are doing even more mischief than the voles.

— **HERBACEOUS PLANTS.**—It appears that more interest is now being taken in herbaceous plants than was the case a few years since, and a correspondent lately gave an interesting article (page 50) on the gigantic specimens at Kew. In my garden at present is the serrated-leaved Scabious, 11 feet high, and in a few days its pretty lemon-coloured double flowers will be expanded. By the side of this is the Cow Parsnip, another gigantic specimen of growth, which when faced with less tall Delphiniums and Foxgloves forms an interesting group. Amongst my wild flowers in bloom are white and coloured Scabious; a very profuse flowering Senecio, with lance-shaped leaves; Heather, whites and purples; and a pretty flower, supposed to be a Lobelia, the flowers being greenish, with yellow and ruby spots.—W. T.

— **LONDON PARKS AND OPEN SPACES.**—Referring to the parks in his annual address to the London County Council recently, Sir John Hutton said:—"The work of the Parks and Open Spaces Committee has not diminished either in quantity or importance. It is quite embarrassing even to glance at the list of our parks and open spaces, so numerous have they become. In 1889 the grand total was forty; at the end of our last financial year it was seventy-eight. The acreage in the first case was 2656, with a permanent staff of 333; and in 1893 the acreage was 3665, with a staff of 700. The erection of band stands, cricket shelters, refreshment houses, park lodges, and seated shelters has, in the opinion of some members of the Council, exceeded the reasonable requirements of the public. I do not think so. I have upon numerous occasions watched with great interest the delight and satisfaction that these things give to the thousands of persons of all ages who frequent our parks and open spaces."

— **A NEW ZEALAND FRUIT TREE PEST.**—A colonial paper asserts that orchardists in New Zealand are much disturbed about what they call a brown beetle—scientific name not given—that causes much injury to fruit trees as well as others. It is said to produce the same evil results as brown beetles common to the northern parts of Europe, which destroy the leaves of the fruit trees and deciduous forest trees as well. The following method was found efficacious in their destruction, which perhaps might be found useful for some of the noxious insects prevalent here:—A man was provided with an old pan, to which was fixed a temporary handle 4 feet long. The pan was filled with coal tar, and a live coal dropped in the tar set fire to it. The man walked from tree to tree, holding the pan under each tree for about three seconds; this was sufficient to envelop the tree in a thick fetid smoke sufficient to kill the insect. Two boys followed with buckets of water and syringes to wash the trees clean of soot and dead insects.

— **GARDENING APPOINTMENT.**—Mr. John Morris, for the past twenty-three years gardener to the late Mrs. Measure, Sherwoods, Winchfield, has taken charge of the Gardens, Hungerford Park, Berks.

— **SUPPORTS FOR CARNATIONS.**—Have any of your readers ever tried bell-wire staples pushed into the stakes for these and other flowers? Pierce holes in the stakes beforehand for the staples, or if preferred one hole for lead or other soft wire; push a piece of wire through the hole, then around the stem, and a twist secures it.—T.

— **A FRIEND OF HARVARD UNIVERSITY,** whose name is withheld, is said to have recently given £2000 to its Botanical Department for immediate expenditure. One-quarter of the sum, says an American contemporary, will be used for the Gray Herbarium, while one-quarter will be devoted to the Botanic Garden, and the remaining half to the Botanical Museum for the completion of some of its collections.

— **HYDE PARK.**—The flowers in Hyde Park are now in fullest beauty. The rain has not impaired their colouring, but has served to help them to retain their freshness. The Fuchsias, planted in groups between the flower beds, are admirably ornamental, being of various sorts, and all in luxuriant blossom. Violas occupy some of the beds, while others are filled with Pansies. The borders are very effective. Some are arranged with white Lobelia, the deep-tinted velvet leaves of the Begonia, and the bright Golden Pyrethrum.

— **THE WEATHER AND THE CROPS.**—Reports for Yorkshire say that the very unsettled weather for the past three weeks has considerably retarded haymaking. Wheat, Barley, and Oats are promising well; indeed, in some favourably situated and well-managed farms the crops are looking better than for some years past. Potatoes are promising well. Turnips and Mangels, particularly early sown ones, also look very healthy and promising, the weather having been suitable for them. Fruit seems almost a failure, the result of the keen frost in May.

— **ALLOTMENT GARDENS IN LONDON.**—At a meeting of the London County Council last week the chairman stated that the experiment of establishing allotment gardens at the Millmeads, adjoining the main drainage pumping-station at Abbey Mills, has resulted in a sub-division of that land into 100 plots, each consisting of about one-tenth of an acre, the rent being fixed at 8s. per plot per annum. At East Ham about 2 acres of land have been laid out in twenty-one allotments. These plots are in the occupation of men residing in the vicinity, and are in excellent cultivation. Two acres of land in Anchor and Hope Lane, Charlton, have been rented by the Council for the purpose of allotments, and this has been divided into sixteen plots. Petitions for small holdings have been received, signed by about 680 persons, principally labouring people, but great difficulty is experienced in finding land at a moderate rental.

— **ARISTOLOCHIA GOLDIEANA.**—Writing to the "Garden and Forest," Mr. Watson of Kew says, "Aristolochia Goldieana is still one of the most wonderful of all flowers, although the advent of *A. gigas* Sturtevantii has familiarised us with big-flowered Birthworts. There is, however, a wide difference between these two, for, while the latter is a robust, free growing, free flowering vine, with the limb of the enormous flower flattened out, suggestive of a very broad-brimmed hat, *A. Goldieana* sends up its stems annually from a tuberous rootstock, and flowers only on the very young shoots. The buds are formed before the shoot is a foot long, and then a struggle takes place between bud and growing shoot. If the bud gets the upper hand it develops rapidly, and the shoot grows slowly, but if the shoot wins in the struggle, then it grows as fast as a Bean, and the bud falls off. At Kew, *A. Goldieana* is flowered almost every year. It is grown in a pot in the hottest house, where during summer it receives liberal treatment till the shoots ripen. It is then forced to rest and kept quite dry till the following spring, when it is shaken out of the old soil, repotted in peat and loam, and kept in a perpetual steam almost till the buds are well advanced. Unless this treatment is carefully followed out *A. Goldieana* will not flower. And what a flower it does produce! a succulent funnel 2 feet long, contracted and bent over in the middle, and then widening upward, till at the mouth it is over a foot in diameter, with three short tails. The colour of the lower part of the tube is pale yellow, the upper being green-yellow, with purple reticulating veins; inside the mouth is orange, with a thick network of purple lines running into a blotch of purple at the apex of the hairy trap-like throat. *A. Goldieana* is a native of Old Calabar, where it grows in woods, the flowers resting on the ground. It can easily be tracked from a long distance when in flower by its powerful and disagreeable odour."

— AMERICAN PEACHES.—Although the Peach crop of Southern New Jersey and of Delaware and Maryland was largely reduced by the blighting of buds in the cold snap of mid-March, large and luscious fruits are being consigned to New York freely from Florida and California, where large crops are being gathered. Prices have ranged from 24s. to 32s. a crate for choice Florida fruit, and California Peaches bring about 4s. a box of about 20 lbs.

— PRIZES FOR LANDSCAPE DESIGNS.—It is stated that the Corporation of the City of Bristol offered good premiums for designs for laying out the grounds on which the recent exhibition stood. Forty designs were sent in. Messrs. W. J. Taylor and H. J. Weron of Southampton secured the leading premium (£50), the second (£30) going to Mr. E. S. Sinnott, Bristol; and the third (£20) to Mr. T. H. Mawson, of Windermere and Market Drayton.

— COMMENDABLE ENTERPRISE.—Pursuing their broad-minded policy the enterprising and prosperous (because enterprising) firm of Lever Brothers of Sunlight fame have offered a ton of their royal disinfecting soap to the Guardians of the St. Marylebone District for free distribution during the smallpox outbreak amongst the poor; also a book on health and cleanliness to be given with each tablet, in number 2880.

— PHORMIUM HOOKERI.—This plant has recently flowered for the first time at Kew. It has dark green flaccid leaves 6 feet long and nearly 3 inches wide, and compound spikes of yellowish green flowers, the tallest spikes being 6 feet high. There is a marked difference between this and *P. tenax*, the New Zealand Flax, both in foliage and flowers. Sir Joseph Hooker, when describing *P. Hookeri* from a plant flowered in a garden in Cornwall seven years ago, says it was first sent to him by Mr. R. Gunn of Tasmania, who found it in 1864 on the Waitangi River in New Zealand, where it grew pendulous from almost perpendicular rocks in great abundance. The Kew plants are grown in the temperate house, but Mr. Watson says, in the "Garden and Forest," he has seen examples in the open air in Cornwall, and for several years three plants flourished in a sheltered corner out of doors at Kew.

— MEALY BUG ON VINES.—"G. H." (page 4) truly remarks the eradication of mealy bug from a vinery is a work of time and incessant attention. After a systematic treatment of the Vine rods by vigorously washing them several times with soft soap or Gishurst compound there must be constant watching during the season of growth. If there is the slightest cessation of this part of the cleansing it is surprising how quickly the insect will advance. It is during the busy period that the chances of neglect occur, and generally the work of hunting for mealy bug is put off for a wet day. I find it a good plan to give the searcher some Fir tree oil, diluted with water according to the instructions accompanying the tin. If he touches every bug he sees and well smears the place where the insect is seen, much good will be done. A handy man with a small camel-hair brush can go over many Vines in a day. There must be no lack of attention, and if the Vines are to be cleansed that must be performed in a satisfactory manner.—S.

— APPLES AND PEARS.—It would be interesting to learn exactly how it is that while Apples generally are so thin a crop, Pears should be so wonderfully abundant. Next autumn we shall be able to purchase Pears in abundance for a few weeks at from 1s. 6d. to 2s. 6d. per bushel, indeed vast quantities will sell on the trees at less. The Pear crop is, as grown in ordinary orchards, a very uncertain one in relation to price, because purchasers know that keeping is quite out of the question. The fruits are gathered to-day and ripe for eating in a week or so, then soon become useless, whilst Apples are so enduring. Other than the first early sorts, that if sound when gathered they can always be purchased with assurance of keeping so long as is needed. Still, whilst Pears will later be hard to sell at any price, Apples will be hard to obtain at high prices, simply because so comparatively scarce. Those who have fruit may well expect to secure high returns for them. That such as we have will keep well, too, there can be no doubt, as the roots are now so full of sap, because the soil is so moist. All the same there remains to be solved the problem how it is we have such a wonderful crop of Pears and so few Apples. Does it arise from the fact, or rather assumed fact, that Pear trees need less root moisture than Apples, hence last autumn made more perfectly matured flower buds? or does it arise from the difference in time of blooming? the Pear which blooms earliest escaping frost, whilst the Apple did not; and yet the sharp May frosts came after the fruits were set. Then it would seem as if the young Apple fruits were more tender than are young Pears.—A. D.

— HOYA CARNOSA.—Two or three weeks ago one of your correspondents advised gardeners to plant on the back walls of their greenhouses the *Hoya carnosa*. I think he said his plant had three dozen blooms on it. I have just had the privilege of seeing through the garden attached to Netherwitton Hall, the seat of T. R. Trevelyan, Esq., and I saw a beautiful specimen of *Hoya carnosa* bearing over 160 blooms. The gardener, Mr. H. Gleed, kindly supplied me with the specimen which I forward you. The garden and grounds were looking very well indeed, a noteworthy feature of the whole being the extreme tidiness with which everything was kept.—J. L. [The flowers were fresh and fragrant.]

— AMERICAN CRANBERRIES IN ENGLAND.—At a recent meeting of the stockholders of the American Cranberry Trade Company, held in Jersey City, Mr. A. D. Makepeace of West Barnstable, Mass., deprecated what he termed "the missionary service" of spending more money in the attempt to extend the use of American Cranberries in England, and said that fully seven-eighths of the Massachusetts growers who were assessed for the effort of last winter, which cost £900, agree with his views. He contended that England was too small a territory to be worked in this way with advantage to growers, and that she must be allowed to realise by ordinary means the excellence of American fruit over the Swedish and Russian Cranberries, which at present seem to fill the larger proportion of her wants.

— ELÆOCARPUS CYANEUS.—This plant is also called *E. reticulatus*, and is one of the most charming of greenhouse shrubs, a specimen of it 6 feet high, with a bushy head, being covered with racemes of elegant white drooping bells half an inch long and wide and beautifully fringed. Grown in a pot in a sunny place out of doors during summer and housed in a cold greenhouse in winter, this shrub flowers freely, and is most decorative. The leaves are oblong-lanceolate, 3 inches long, dentate and dark green, the racemes springing from the axils of every leaf. The species, says Mr. Watson in the "Garden and Forest," is a native of Australia, from whence it was introduced in 1803, but he questions if it is known in half a dozen gardens in England now. According to Bentham, it sometimes forms a tree 60 feet high. In addition to the flowers the drupe-like torquoise blue fruit are very ornamental. *Elæocarpus* is a large genus of *Tiliaceæ*.

— OPENING OF A PUBLIC PARK IN STAFFORDSHIRE.—A public park was opened at Hanley, Staffordshire, on the 26th inst. The winter garden, with its rockery and dripping wells of Matlock tufa, already covered with Ferns and Mosses, with the flowering plants arranged in groups by Mr. Kent the able Superintendent, forms a charming feature. The Mayor (Edwin J. Hammersley, Esq.) at the opening spoke of the attention given the plants, and after the ceremony pointed out the details of the work. The approach to the grounds was greatly enhanced by the costly gifts of vases from leading firms, and sixty splendid half-specimen *Coniferae* from Messrs. Jno. Hill & Sons, Spot Acre, Stone. These were arranged on each side of a walk up to the fountain given by E. J. Hammersley, Esq. Masses of *Pelargoniums* are gay in the grounds, and the bold groups of Shirley Poppies have a most telling effect amongst the shrubs, which all seem to be making an excellent growth.—GEO. BOLAS.

— WILD FLOWERS AT MALTON.—In the *Journal of Horticulture* (page 58) it was stated that an interesting department has been started at the Brighton Museum in the display of a collection of wild flowers, the Latin and common names being given. This is very instructive for those who make botany a study, living specimens being better to examine than plates or descriptions from books. The idea is not altogether a new one, as two or three years ago I saw the same done in the museum at Scarborough. At the Malton (Yorks) Museum wild flowers have also been exhibited for some few seasons, the Curator of the botanical department kindly undertaking to name all specimens sent. Though only a small town I think Malton more than holds its own as far as natural history is concerned; it is also very fortunate in having a gentleman like the Curator of the botanical department, Mr. M. B. Slater, F.L.S., who has worked so hard to bring the Society up to its present satisfactory standard. The Society consists of nearly ninety members, and it is well supported by wealthy persons. It is not every museum that can boast of an almost complete herbarium of British plants; the one purchased for the above Society contains no less than 1401 species of our native plants, these are in fine condition, correctly named, and will be invaluable for botanical students. This season a magazine has been started by the Society, which is published monthly, and contains local scientific and natural history observations.—J. S. UPEX.



THE NATIONAL CHRYSANTHEMUM SOCIETY.

WOULD it not be a good plan for this Society to hold a Committee or members' meeting on one of the three days of the November exhibition? Many members, and especially country delegates, would like to attend such a meeting, but cannot incur the expense purposely which the distance involves. Most members visit the November exhibition at least one day of the three, and at the same time, and without incurring any extra expense, could attend such meeting. The meeting would certainly be very representative. The Royal Agricultural Society always hold their annual meeting on one of the days of exhibition. —C. D.

NEW ZEALAND SEEDLINGS.

"The Weekly Press," a Christchurch (N.Z.) newspaper, contains an illustration of a new Japanese variety named Mr. Thomas Turner, raised from seed grown in the colony by a Mr. John Dutton, who has already given some time and attention to the work. The new flower, which is of excellent parentage, although not represented perhaps in its highest possible form, is described as of a rosy purple colour with silvery purple reverse; a large flower, with long broad incurving florets, and a seedling from Edwin Molyneux, crossed with Madame C. Audiguier.

After Mr. Earland's achievements in Chrysanthemum culture, we should indeed be surprised to find the flower remain stationary in New Zealand, and no doubt there are other raisers whose names have not yet become so widely known that have taken up the interesting hobby of seedling growing.

ENGLISH CHRYSANTHEMUMS.

I observed a fortnight or so ago that a correspondent in a contemporary seemed to think that the National Chrysanthemum Society do not offer sufficient encouragement for English-seedlings which he considers are destined to occupy the leading position in future. Curiosity has prompted me to look up the records of last season, and I find that at the eight Floral Committee meetings held at the Aquarium, there were thirty-eight first-class certificates awarded altogether, and of these twenty-two were awarded to seedlings or sports of English origin. This looks to me as though the Floral Committee were fully alive to their duties in respect to home-grown seedlings, and so that I may be corrected if wrong I append the names of those varieties which are believed to be English. They are as follows: Samuel Barlow, Mr. E. Rowbottom, Mrs. C. B. Myers, Charles Davis, Edith Rowbottom, Thomas Wilkins, Mrs. P. Blair, Violetta Yellow, Lady Selborne, Madame Cambon, Elsie Nevill, Colonel Chase, Mrs. C. J. Salter, Rose Wynne, W. W. Astor, John Bunyan, Wm. Tunnington, Prince du Bois, Cecil Wray, Colonel T. C. Bourne, Lord Rosebery, and Owen Thomas.

In 1892, according to my notes, there were thirty-four varieties to which certificates were granted, and the English-raised varieties numbered twenty-three—viz., Lady Fitzwygram, General Hawkes, Beauty of Exmouth, Mrs. A. G. Hubbuck, William Seward, John Shrimpton, W. H. Atkinson, Ryecroft Glory, Mrs. Herbert Fowler, Baron Hirsch, Princess Victoria, Charles Shrimpton, Brookleigh Gem, Princess May, Lucy Kendall, Robert Petfield, Dorothea Shea, Rosy Morn, Charles Blick, Kentish Yellow, Mrs. Bruce Findlay, Robert Owen, and Enterprise.

It seems so easy to verify a question of this kind either by reference to the papers or to the Society's schedule, that there is little excuse for anyone, to my mind, to make so careless and erroneous a mis-statement. It is possible of course that the writer in question does not regard a first-class certificate as a proper encouragement.—P.

CARNATIONS AT PUTNEY HILL.

ANYONE who may have been so ill-advised as to doubt the adaptability of Carnations for town gardens would on seeing the excellent collection grown by Dr. W. S. Wyman, Red Braes, Putney Hill, quickly alter their opinion, for the plants are, almost without exception, carrying numbers of well developed flowers and producing splendid "grass."

The collection numbers upwards of 900 plants, so, though not what might be considered a large one, is sufficiently extensive to include numbers of the leading varieties. Then it must be remembered that Dr. Wyman is an amateur, and spends much of his leisure time amongst plants, only having a gardener two days a week, so that his 900 plants will give him an abundance of work, probably more than he can do at times, to maintain them in the excellent state of health in which they were found on the occasion of a recent visit. The plants are arranged in a wide border in rows, each containing ten plants. This year the plants have had fresh soil in which to root, and the beneficial effect of it is readily perceptible in the healthy growth and the number of shoots they are producing, and which will afford a supply of plants for next season.

The object always kept in view by the doctor is not a few extra large flowers but a good number of medium sized ones, and as a consequence

the border has presented a very gay appearance and afforded flowers for cutting during the past three weeks, and will continue to do so providing the weather is anything like favourable for a week or two yet, as there are still some hundreds of buds to expand. Of course much larger flowers may be seen in many gardens, but it is doubtful if a better display, considering the number of plants grown, will be found so near the metropolis. Many of the new varieties are tried, and those found to grow well are increased, but any that are shy in growing and weak are promptly discarded, for bad doers are not tolerated, at Red Brae.

As it may be of assistance to metropolitan growers of Carnations brief reference may be made to those varieties which have been proved to succeed the best. First and foremost stands the old favourite Alice Ayres, which has this season done as well as any. The growth is strong, the flowers abundant, superb in form, and chaste in colouration. Bright, free, and shapely is the scarlet Napoleon, which has also the additional merit of being of dwarf habit. Red Brae is a grand heavy edged Picotee, which is of charming form and fine substance. The bright purple shapely flowers of Beauty of Foxhall command attention and elicit general admiration, as also does the beautiful Rose Celestial. For a pure white Ossian is one of the best, though it is closely followed by Mrs. Frank Watts and Mrs. Fawcett, the latter having slightly fringed petals. An excellent bright scarlet variety is found in Montague, while as a rosy cerise Wordsworth will be difficult to supersede for floriferousness and colour.

The yellow Germania and the crimson Winter Cheer are so well known for their many high qualities that more than a passing mention is unneeded. Annie Louise is an extremely beautiful light rose-edged Picotee, which is well worthy a place in any collection, and the same may well be said of the yellow ground Picotee Stradrath Bail. It is of splendid contour and very pleasing in shade, besides being extremely floriferous. A couple of good pink coloured kinds are found in Princess Alice and Mary Morris. The last to be mentioned is The Coroner (he comes among the last in other cases besides Carnations), which is bright scarlet in colour, of good shape, and very free. It is a pleasure to see such a collection, and the heartiest congratulations are tendered to Dr. Wyman for his signal success, as also are they to his gardener, Mr. Wheeler, who zealously assists him in his labours among his favourite plants.—NOMAD.

POTATO AND ONION DISEASE IN THE ISLE OF WIGHT.

THE remarks of "A. D." (page 74) read very curious in the light of our experience here. He evidently has no faith in fighting diseases and pests, but rather advocates an "Open your mouth and shut your eyes" policy, quite different from the advice of "Practitioner" (page 76), and also from my experience. To read that the most deadly of garden pests, the Potato fungus, has no terror for us now, certainly is premature, and not according to practice. "A. D." should see the long face drawn by many a poor cottager and allotment holder as he views with dismay his blackened plots and blighted tubers; or as he meets his neighbour in the street to tell each other of the suddenness and violence of the attack and the means adopted to arrest it. It shows terror to him who has been looking forward to paying his rent by his crops, or a winter's supply of food from the noble tuber.

The Potato disease here this year is as sudden and as severe as I have ever seen it. Many have profited by advice given and have removed and destroyed the haulm, but others whose occupation prevented them doing it at once have the mortification of seeing the whole crop blackened in a few days, the air in the neighbourhood of the plots being permeated with the dreaded stench. It has gone from the second earlies to the later varieties, although they are still green and robust, the continued wet weather being favourable to its development. Some persons lifting their crops find about half of them diseased. According to my experience the varieties of Ashleaf Kidneys, Sutton's Matchless and Sutton's Ringleader ripened and escaped; but Lady Truscott, Duke of Albany, Early White Beauty, Windsor Castle, Silverskin, Early Puritan, Sutton's Seedling, Vicar of Laleham has been attacked within the week in the order I have written the names. On Saturday last I noticed the plots of Jeannie Deans and Bruce going off rapidly and intend stripping them also. I hope by my prompt action to have saved my crop, as I have more than once done so in my experience. I will let you know the result.

As regards other pests and diseases there are many to battle against. Either the extra dry weather last year or the long dry spring this year, or both, favoured the development of fresh insects and pests hitherto unknown to me. The early planted Brussels Sprouts were attacked with a small jumping weevil, which completely riddled them, similar to the Turnip fly. It was going right through the bed, but two or three applications of soot and lime stopped them. For three seasons our Onion crop here has been a failure on account of the dreaded maggot. The attention drawn to the matter this spring in the *Journal* determined me to take the matter in my own hands. I sowed the seed with wood ashes, and when the plants appeared I watched for the fly. They were so minute that I may not have detected them at first, as they were more plentiful than I cared to see. I dressed them at once with fresh soot, and another application two days after. They changed colour directly and grew freely, but about three weeks or a month later the maggots appeared in some of them in which the egg had been deposited before the application. I had them removed and destroyed, and had a good crop.

Another disease appeared in the middle of the plot on Friday last. It looks as if the plants had been sprinkled with boiling water. They had changed from a dark to a pale green, and for about three yards square the foliage was limpid and falling down. The tips of nearly all the shoots throughout the bed are touched. A bed of Windsor Castle Potatoes adjoining was badly attacked with the disease, and thinking it may be a fungus in the Onions I had them dressed at once with slaked lime, the only thing at hand. I now find in some gardens about a mile from here the cottagers' plants are attacked in the same way, and they say that the disease has gone from the Potatoes to the Onions. It certainly came very sudden. I will enclose a specimen of a diseased plant

potting a score of one-year-old trees (maidens) of moderate growth drawn from the nursery quarters. They were potted in a mixture of good loam, pulverised manure, and road sand, and plunged in the open ground. In the following March (1892) they were pruned, leaving about 18 inches of the stem standing above the surface of the soil. Of course they did not flower, it was not intended they should, the object that year (1892) was to form the tree. This was successfully done, for in the autumn of that year the trees had each several branches regularly formed, and the wood well matured. In the following spring (1893)



FIG. 16.—APRICOTS IN POTS AT WALTHAM CROSS.

for your inspection, and probably you could throw some light on it.—C. ORCHARD, *Bembridge, I. W.*

[The Onions are attacked by the fungus known as *Peronospora Schleideniana*, particulars of which are given under "Answers to Correspondents."]

APRICOTS IN POTS UNDER GLASS.

ABOUT two years ago there was a discussion at one of the meetings at Chiswick on the fruiting of Apricots under glass, in which Dr. Hogg, the Rev. W. Wilks, and myself took part. It was stated by one of the speakers that while successful with all other fruits he could not get on with Apricots. I was for the moment surprised by this statement, but found it confirmed by others. With me there had been no difficulty in the past, Peaches and Apricots in the same house fruiting equally well until the latter were crowded out by the growth of the Peaches, which were at the time more important.

Late in the autumn of 1891 I renewed my stock of Apricots by

they were again pruned, with the view of consolidating the form and constitution of the tree rather than for the production of fruit, although some good fruits were obtained. By the spring of 1894 when about to prune there were twenty sound healthy trees with an abundance of well matured fruiting wood. Little pruning was adopted this year, and now eighteen out of the twenty trees are carrying an abundance of ripe or ripening fruit. The trees were constantly out of doors in the summer and autumn and under glass in the winter and spring.

Apricots in pots should not have much water except when leaves, shoots, and fruit are growing. A little, but only a little, water should be allowed to reach the expanded blossoms in the flowering season.—WM. PAUL, *Paul's Nurseries, Waltham Cross.*

[As mentioned on page 78 of our last issue Messrs. W. Paul & Son exhibited at the meeting of the Royal Horticultural Society, on the 24th ult., Apricot trees in pots similar to those represented in the illustration (fig. 16), which has been prepared from a photograph sent us by Mr. W. Paul.]



AMATEUR CHAMPIONSHIP TROPHY CLASS AND MULTIPLICITY OF EXHIBITS.

THE questions which Mr. Charles Grahame has introduced for discussion in the *Journal of Horticulture* (page 54, July 19th) are of great importance to the National Rose Society's exhibitors of all classes, and with regard to the first one I feel an especial interest, as it probably initiates a reform which I have for years vainly urged upon the Executive of the Society, though my views have been supported by such exhibitors as Mr. Machin, Mr. Pemberton, Mr. Slaughter, and others.

These gentlemen and myself may have thought, though no doubt wrongly, that our opinion on a special question like this should have had more weight with the powers that be, and at all events that valid reasons against the proposed alteration should be forthcoming. But argument or discussion there was practically none, we were heard and promptly outvoted.

But now that the same question has been raised from an outside source, I am glad to have the opportunity of appealing from the Committee to the members of the Society which elect it to give their support to the proposed alteration, and to them I give the two chief reasons which have induced me to think the change a vital one. First, that it is almost impossible for an amateur to stage a representative collection of forty-eight distinct Roses on a day appointed by others—there must always be a "tail," and a very worthless one, of from six to twelve blooms in such a collection, and in support of this contention I adduce the fact that after four years' competition in forty-eights I can only out of several first prize stands recall two that were worthy of the position awarded to them.

Again, to keep up a sufficient stock of plants to enable an exhibitor to get the number of blooms required entails a loss of time, temper, and money, which must discourage many, who, if the numbers were reduced, might try a fall with fortune for the highest honours open to Rose competition, and I trust that rising exhibitors will note that their elder brethren are generally anxious that such a change should be made as will enable them to compete with fair prospects of success from a moderately sized collection, and that it is in their own power to insist upon the alteration.

Upon the second question I have not the same information, but should gladly welcome some limitation of any power of an exhibitor to sweep the board of an undue number of prizes. I do not think, however, that such limitation should touch the classes for new Roses or the prizes open to nurserymen.—E. B. LINDSELL.

I QUITE approve of Mr. Grahame's suggestion that the number of Roses in the above should be reduced to thirty-six. There is no doubt the Roses would be better, and if only one more member competed (five seems to be about the average number of competitors) the blooms exhibited would only be reduced by twenty-four, which would be amply compensated for by the increased quality.

With regard to the restriction of the number of prizes to be taken by one amateur, if Mr. Grahame can bring about an arrangement so that one exhibitor can only win the trophy and four prizes, it will be better for the Society, as the prizes do go at present to too few exhibitors.—W. BOYES, *Derby*.

I AM inclined to agree, substantially, with Mr. Grahame in both the points which he has raised. In the amateur trophy class I have long considered that the requirement of forty-eight distinct varieties was too severe a strain upon the resources of really first-class Roses. The proceedings in the Chrysanthemum world have been referred to, but the analogy is imperfect, for, instead of decreasing the number of varieties required, the tendency of the N.C.S. has been, of late years, to demand a larger number. For instance, three years ago duplicates were permitted in the great class for forty-eight Japanese, now distinct varieties are required. However, although this is literally so, and the change was, indeed, brought about partly at my instigation, I am willing to admit that the precedent thus established has no real bearing upon the question when raised in the Rose world, for the conditions are so essentially different.

Recent years have brought so vast an accession of first-class new

Chrysanthemums, that had not the number of distinct varieties required been increased there would have been but a mere procession of new varieties, none of them remaining with us more than a year or two. It is now absolutely easy to stage forty-eight distinct varieties of Japanese Chrysanthemums almost level in quality. With Roses it is far otherwise, and, as varieties at present exist, thirty-six distinct would, in my judgment, be far better than forty-eight, and would bring us both better exhibits and more competitors. I should, however, scarcely like to go so far as to bring the number down to twenty-four distinct. Thirty-six would, I think, be better.

With regard to the limitation of the number of prizes to be won by any one competitor, I think that Mr. Grahame's suggestion is to the purpose. We know that local conditions of environment, as well as other potent considerations, do very materially affect the showing power of certain favoured exhibitors. We wish them all reasonable recognition and reward for the accruing results, but there are other considerations also to be kept in view. The numerous classes in the N.R.S.'s shows are surely intended to promote the most general and extended interest in the Rose world, and not merely to afford a happy hunting ground for the fortunately circumstanced few. The Society's work will most safely rest upon the broad basis of a wide popular interest, and it seems to me that the support which such interest must tend to promote is most likely to be secured by the adoption of some system of restriction in the direction of Mr. Grahame's suggestion. The principle is already practically admitted both in the Rose and Chrysanthemum worlds, its application needs only to be made a little more drastic.—CHARLES E. SHEA.

WE shall probably all agree with Mr. C. J. Grahame that everything that can legitimately be done to increase the competition in these classes will be advantageous to all concerned, excepting perhaps the labours of the judges. This difficulty can be met by an increase in their number. The value of the success would be greatly enhanced if the winning stand were the best of twenty-four competitors instead of half a dozen. Whilst as at present arranged is it not patent that with an occasional exception, which after all only proves the rule—this, the blue ribbon of the Rose world, can only be won by the large battalions? Even with the carrying out of Mr. Grahame's suggestion, by lessening the number of blooms the great battalions must still have an undoubted advantage which the greatest care and knowledge of the small grower must ever find it difficult to set aside.

Personally, it concerns me not. I am never likely to have the audacity to put in an appearance for the National Trophy, but were I a candidate for the same I think I should vote for twenty-four varieties rather than the suggestion of retaining larger numbers but allowing some duplicates. This plan suits for Chrysanthemums, but in those flowers there are means of making the blooms come to time, which in the case of our out-of-door favourites cannot be as much depended on. Some of the writers of leading articles on Rose lore in the daily papers notwithstanding, our trophy blooms live and grow in the open; hence wind, rain, changes of temperature tell vastly more on the Rose than on the Chrysanthemum.

As regards the second point, there are various ways of meeting it. Amateurs, real amateurs, would, I believe, be content with the honour of winning if expenses of transit were set aside, only they are often in the hands of their gardeners. This is an evil; yet it is natural enough that the man who has his master's interest at heart, and who, perhaps, has slaved early and late to gain the post of honour, should expect some portion of the proceeds, and I consider he deserves this. Some exhibitors may possibly take a per-centage of prize money as part of their gardener's wages, and this tends to the so-called "pot-hunting."

I have for many years been the honorary secretary of an amateur Rose club. We have offered to the members several classes, and we allow an exhibitor the honour of being first in all, but he can only take one prize; we have done more, we set aside these winners in some of the classes and push up the unsuccessful competitors, and have thus often been able to give every member exhibiting some little return for his trouble. In this year we divided the classes into two divisions, not allowing exhibitors in the one division to enter in the other. This was with the hope that those members who had not hitherto competed might be encouraged to try, and this was fairly successful. There are disadvantages, as this somewhat diminished the entries of larger exhibitors, and as a result, bare boards, by no means a pleasant sight, appeared.

With an honorary secretary's horror of bare boards I would not prevent an exhibitor entering in every class that was open to him, but I would certainly restrict by some means the number of prizes he could carry away; and the honour of winning is what many of us do care for. In spite of Mr. Grahame's dislike of a *nom de plume*, I still subscribe myself—Y. B. A. Z.

IN response to the invitation in your last issue (page 82) I venture to send a line upon the above compound subject. I quite agree that a readjustment is desirable in the first matter, but it must be borne in mind that these classes carry with them, by unwritten, but universal consent, the title of champion for the year, and that while the term "championship" calls for excellence of quality before all else, the thought of numbers is also connected with it, and it is not the intention that every exhibiting member should be able to compete. If this is not

the case the simplest and most logical course would be to allot these trophies to a class for six trusses, open to and within the reach of all. For these reasons I think it would be a mistake to reduce the number of blooms to twenty-four. This number is frequently shown by distinctly small growers, such as myself, and for such a man to snatch a "fluky" victory in the trophy class and upon the strength of it to pose as a "champion," would be entirely ridiculous and undesirable. I think the general feeling is that our champions should be men of large experience, gained by the work of years among a stock of large variety and of great numbers. I believe also that stands of forty-eight varieties, besides making a fine feature in a show, have an educational value to smaller growers and to beginners; and while I have no doubt it is not an easy matter to find that number of first-class blooms, I entirely demur to the sweeping assertion that there are usually less than half the number in really fine form. I have carefully examined every box staged in this class from the first, and cannot recall one winning stand to which this description would apply, while I could mention seven of the first prize stands which have not contained a single bad flower, scarcely a weak one.

My suggestion, therefore, would be that the award of a trophy at the Metropolitan exhibition should follow the arrangement of the northern shows, where, while thirty-six is the top class in point of numbers, the Jubilee trophy goes to the class for twenty-four. Let us then retain the class for forty-eight in Division C, and make the present thirty-six the championship class. This, while admitting several men who at present cannot manage the required number, and thus increasing the interest and the competition, would yet retain it among those exhibitors who may reasonably aspire to championship honours.

The question of limiting the number of prizes is one of much greater difficulty than the previous one, and I do not think it calls for any action at present. If you restrict entries any farther than they are restricted now you reduce the extent of the exhibition, and with so many non-exhibiting members, who only subscribe to enable them to attend our large shows, that would be unwise. If you leave entries open, but fix a number of prizes beyond which an exhibitor may not go, this would of itself curtail the exhibits as above, and would have the additional undesirable effect of causing exhibitors to confine themselves strictly to those classes in which they feel certain of winning. It would also cause much additional work in judging, inasmuch as with the possibility of the exhibitor placed first, second, or third in any class having already reached the limit, and therefore being disqualified, some others would be brought within the range of the prize list who otherwise could not be there. It would therefore be necessary in every class to place some five or six stands in order of merit, so that in the event of one or more of the top ones being ineligible to take the prizes at first awarded, the proper order of merit should be known. This readjustment of labels would also give rise to endless confusion and complaint. There will always be a few grumblers at other men's successes, but I am thankful to know that this sort of thing finds but very small place among the members of the National Rose Society, and the doctrine that directly a man, competing with those similarly equipped to himself, achieves any conspicuous success, he is to be weighted and handicapped and deprived of the fruits of his energy and pluck, is not one which will find any considerable acceptance. At any rate, the matter can be left for another year or two without hardship to anyone.

In spite of the remarks of one of your correspondents I adhere to my custom of using my initials only, because I want my suggestions always to stand or fall upon their intrinsic merit, not to receive the adventitious aid of a name and address.—J. B.

MR. C. J. GRAHAME has ably opened a very interesting subject, one on which there will be a great diversity of opinion, according as it is approached from different standpoints. Taking the maxim that ought to be applied to all exhibitions, "The greatest good to the greatest number," there is no doubt that many improvements may be made in the arrangement of the schedule of many of our leading societies. Still, we cannot lose sight of the fact, as stated in the editorial remarks (page 82), that we owe much to the larger classes in retaining and keeping in cultivation many varieties that are so useful and valuable outside of the exhibition board. To limit the number too closely, the largest varieties only would find favour, which would mean a repetition and a sameness along the exhibits; also remove one of the chief objects in offering prizes—viz., encouraging the cultivation of the particular flower, and banish one feature of immense interest to older exhibitors who like to make the acquaintance of old favourites now and again.

I write more of what has been done by Chrysanthemum societies and exhibitions, but I am imbued with the same spirit as regards Roses and rosarians. As to Chrysanthemums ten or twelve years ago, it was a tremendous strain for an exhibitor to complete a stand of twenty-four distinct varieties, especially in the incurved section. The stands of blooms that secured for the exhibitor the first Kingston challenge cup contained one and sometimes two very indifferent flowers, that sadly marred the stand as a whole, and this induced other societies to allow duplicates to be shown in the larger classes. What may have been considered necessary a few years ago does not apply now, since we have so many new introductions of large exhibition varieties.

I say candidly I am not in favour of allowing duplicates to be shown in the larger classes. A stand of twenty-four blooms in eighteen varieties may look more bulky, but it lacks the charming variety and

colouring of a stand of twenty-four distinct blooms. The counting up of the varieties also adds considerably to the judges' duties, which matters not in large societies where systematic order is kept, but is very often a great tax when a whole number of classes in the schedule has to be gone through in a short space of time by the same judges. If the large classes were a hardship to exhibitors, I would rather be in favour of curtailing the number of blooms. Instead of seventy-two varieties say sixty varieties, distinct; instead of forty-eight varieties say thirty-six varieties, distinct; or for twenty-four varieties say eighteen varieties, distinct, and in some way increase the minor classes to meet the wants of smaller exhibitors.

I well recollect some ten or twelve years ago the Committee of the Kingston Chrysanthemum Society advocating the offering of prizes for six blooms of any one variety. At first it did not meet with general favour, but ultimately was carried and adopted. It was a change. It opened up a new class for exhibitors, large and small, and it has proved not only one of the most interesting, but certainly one of the most attractive in a Chrysanthemum exhibition. In these classes are often found some of the best flowers in the exhibition. Old varieties and new varieties come into competition, and effect is given by the various colours being arranged in juxtaposition. Could not this class be multiplied in regard to Roses, and prizes offered in the several sections and colours? and to bring out the older varieties prizes could be offered for varieties introduced prior to a given date. It certainly may be harder to do in Roses than Chrysanthemums; for the latter it is considered an easy class, hence the usually large number of exhibits. As certain seasons favour certain varieties of Roses, no doubt it would bring out at times many old established kinds. Mr. Grahame will, I am sure, bear me out when I say that the superb stand of twelve blooms, exhibited by Mr. Frank Cant, of the old favourite Rose Général Jacqueminot, that won the first prize for twelve of any one variety at the last Shanklin (Isle of Wight) Rose Show, was, notwithstanding the splendid exhibition in the larger classes, one of the chief attractions in the show to the great body of visitors. The flowers of some of the older varieties in the epergnes, notably Cloth of Gold, were also of more than passing interest to the rosarians present.

The question of limiting the prizes that can be won by any individual is a very delicate one. On principle, I like a free and open board for all, excepting, of course, providing large and small classes. The better the blooms staged the higher the standard for others to work up to. There is hardly an exhibitor, let him be ever so good, but what has found his equal or his master at some time or the other. A little laxity after a successful run, a peculiar season, or some other circumstance, and the prize is lost; while on the other hand renewed energy, assiduous attention, lessons by past experience, and a determination to reach the goal often leads another to success. Complaints and disappointments are common enough in most societies and at all exhibitions which is not worth notice; but if there is a real grievance it is much better to ventilate and try and remedy it than let it smoulder to the injury of the whole body. Mr. Grahame has shown a plucky and bold spirit in opening the subject in your columns, and the thanks of the readers of the *Journal of Horticulture* are due to the Editor in opening up and encouraging discussion.—C. ORCHARD, Bembridge, I. W.

ROSES AT GATEFORD HILL.

ON the occasion of a recent visit to Worksop an opportunity arose for a flying visit to Gateford Hill, the residence of H. Vessey Machin, Esq., J.P., a large and well-known amateur Rose grower. As will have been noticed by those who have closely followed the show reports, the Gateford Roses have been by no means so successful this season as has been the case in the recent past. One glance over the large beds of Roses will at once tell the cause of this, for hundreds of plants were cut down to the ground by the frost in May, and many will never see the light again. As an evidence of how an apparently insignificant thing may lead to good results, it may be mentioned that those plants which had been staked were scarcely touched by the enemy, while those immediately surrounding them have completely succumbed. Those Roses which had escaped, and they were few, were fine examples of good culture and unremitting attention. The collection is a very fine one, and comprises all the best varieties in cultivation, and it is hoped that next year the frost will leave them alone, and allow Mr. Machin to stage at the various shows in his very best form, in which case it is practically certain that he will render a far better account of himself than he has done this year.—H.

NATIONAL ROSE SOCIETY HALIFAX MEETING.

I FIND that I have quite unintentionally, and by wrong information given me at Halifax, done Mr. Frank Cant some injustice in my remarks on the Halifax meeting of the N.R.S. (page 86). I said in that report that Mr. Frank Cant went to Trentham on the day of the N.R.S.'s provincial show. Like all the best rosarians and staunchest supporters of our Society, Mr. Cant, when able to show, sinks personal considerations to support the N.R.S., and on the 19th July was unable to show, either at Halifax or elsewhere, the storms of the previous two days having ruined his flowers. I need hardly say that I regret, even unintentionally, doing Mr. Cant injustice.

ROSES AT BEDALE.

Messrs. Harkness, the well-known rosarians of Bedale, Yorkshire, whose flowers were the admiration of all beholders in 1893, having asked me to judge Roses at the Vale of Mowbray meeting on the

28th July, I left London on the previous morning, in order that I might be able to see at leisure their now famous nurseries. The run down to Bedale is well arranged by the G.N.R.; both the train service and the timing are admirably managed. Amongst other advantages one has the opportunity, by a stop of forty-five minutes at York station, of seeing the Minster. No one should pass York City without spending at least half an hour in this famous cathedral. Of course this is a very limited and too short a time, but in it a good idea can be obtained of the beauty of this vast and beautiful building. On arriving at Leeming Lane, the station for Messrs. Harkness' nurseries, which are within three minutes of the railway, I was cordially received by these hospitable Yorkshiremen, and during my stay, which broke into the best part of two days, I was treated "en Prince." There is no double entendre meant, although no doubt it would equally apply to the gentlemen who bear that Royal appellation and live at Oxford. Messrs. Harkness took me that evening to see both their nurseries, which I may say are utilised by them in two distinct ways, one being devoted principally to the cultivation of maiden Roses and herbaceous plants, of which species they grow a very large and fine stock, amongst which I specially noticed grand plants of Delphiniums of many varieties, Scabiosa caucasica, Eryngiums, Gladioli, Poppies, Pyrethrums, Liliums, and other plants too numerous to specify; in the second nursery is kept their large stock of cut-backs, and here also Dahlias are largely and well grown. I have never elsewhere seen a finer lot of Dahlias, principally of the double varieties, than those at Leeming Lane.

The season has not been propitious to Messrs. Harkness in 1894 as regards their exhibiting power, but the growth of their plants seems most satisfactory and healthy. It would be a mere repetition of the names of the best flowers known to rosarians if I were to specify the large numbers of good plants and varieties which are here well grown, but I especially noticed amongst them Gustave Piganeau (a very good exhibition Rose, but one I am not partial to), Comtesse de Ludre, Maid of the Mist (a very pretty white Rose), Horace Vernet, and Earl of Dufferin. I might almost say, however, *Ex uno disce omnes*, and that these were but a very few noticed amongst many of the best varieties. Judging from the enormous number of stocks standing in thousands by serried lines of 100 each, with tallies placed to show what varieties were to be shortly budded, I would venture on a forecast that this Yorkshire nursery is preparing for another great season in 1895 if the fates be only propitious in the weather. Like myself and others of more importance Messrs. Harkness will not be sorry to turn their backs on 1894 as a season for exhibiting, it has been a sadly disappointing one to all but a very limited few. The latter no doubt have fully availed themselves of the chances open to them.

To those who have never seen a big country sports' meeting with its varied entertainments, a visit to the "Vale of Mowbray Sports" would be a revelation—it seemed to me to be a combination of Stamford Bridge, a Forester's fête at the Crystal Palace, and Donnybrook Fair (without the broken heads), to which entertainments a Rose meeting and choral contests are attached as the refining influences. I should not advise anyone to go who is sensitive to noise, which can only be compared to a hundred barrel organs and German bands let loose, with an occasional shriek like that of an infuriated locomotive interspersed. The scene, however, was amusing and interesting, and one saw Yorkshire folk thoroughly enjoying themselves, and in an orderly manner, which was very creditable. The Rose show was evidently secondary in interest to the singing contests, which were listened to by the large crowd with rapt attention; doubtless each of the numerous choirs competing had a large number of friends. But the Rose tent also attracted a constant throng throughout the day. Nor were the flowers unworthy of close scrutiny, as, considering the season and the lateness of the date, there were many good flowers staged. The competition was not very great, but in each class there was a fair entry, those who showed best being Messrs. Mack, Mr. Lindsell, Messrs. Harkness, and Messrs. Prior; these rosarians, representing the north and the south, divided the honours of the show. There were eight classes, open to all England, four limited to amateurs, and four reserved to local growers.

In the All-England class for forty-eight Roses, Messrs. Harkness, Mack and Perkins, of Coventry, staged a fairly good lot of flowers, and were placed as named, there was nothing of exceptional note amongst them. For thirty-six varieties there was a larger competition, and the flowers in this class (as it is always I think in that for moderate numbers) were of a much higher standard. Messrs. Mack and Harkness here changed places, and Mr. Perkins was again third. In Messrs. Mack's box were some exceptionally good flowers, Horace Vernet and Victor Hugo being each considered worthy of a N.R.S. medal (given with other prizes by Messrs. Harkness). Messrs. Harkness' box was only very slightly inferior. In an unplaced box of Mr. May in this class was found the best professional Tea Rose, Maréchal Niel. For eighteen Teas, Messrs. Prior staged a very nice clean set of flowers, Innocente Piroia being their best Rose. Messrs. Harkness were a fairly close second, and Messrs. Croll of Dundee third. For twelve dark Roses, Messrs. Mack were first, Messrs. Perkins second, Mr. Lindsell third, the first two staging A. K. Williams (a Rose which has not hitherto been shown well in 1894), and Mr. Lindsell Alfred Colomb. There were six boxes. For light Roses there was also a good competition, the Rose of 1894, Mrs. John Laing, taking first and second for Messrs. Mack and Messrs. Prior, and a beautiful box of White Baroness, which were showing weakness in the centre, staged by Messrs. Croll being third. Whilst referring to this class I wish to notice the fact that a writer in one of your contemporaries who has referred this week to the Roses of the season has not even

mentioned Mrs. John Laing! As an incontrovertible fact it has been shown more frequently and better than other varieties in 1894, and it has been staged by many growers, both amateur and professional, in a way which would have made its reputation, if it were not already considered the leading exhibition Rose. It is worth mentioning here also, that Messrs. Harkness have a sport, partly pure white, of which they have great hope. Everyone would like to see such a valuable acquisition as a white Mrs. John Laing.

But to return to the subject in hand. In the amateurs' division Mr. Lindsell showed well. He was placed first with a good twenty-four, Mr. Hutchinson being second, and Mr. Boyes of Derby third. For eighteen varieties, Mr. Findlay, who seems a comparatively new exhibitor, staged good flowers, and won first place, Mr. Lindsell being second with a fresher lot, but his best flowers were disposed of in his twenty-four. Mr. Whitton was third. Like Messrs. Harkness, this Yorkshire amateur's Roses are not up to his 1893 form. There were two other competitors in this class.

The prettiest box in the show was in the class for twelve Teas, and the best lot of Teas also, Mr. Lindsell winning with a very good dozen, amongst which was the medal bloom Jean Ducher. The flowers stood the heat of the tent throughout the day, being in this respect in marked contrast to the bulk of the flowers exhibited. Mr. Whitton was second with a very nice box, but of smaller Roses; and Mr. Boyes of Derby was third.

In the division open to local growers the principal interest centred in the cup class. The local amateurs are keen rosarians, and take considerable pride in showing well in their friendly competitions. Mr. R. G. King, one of the Honorary Secretaries of the Society, won with a very good box. I hope this gentleman, if he be not already a member of the N.R.S., will allow me to have his name enrolled on our list, as if he showed equally well at the Crystal Palace, and next year be an early season, he would have more than a good chance of carrying off all the first prizes reserved for new members of our Society.

After the work of judging was done, the Judges and exhibitors were very hospitably entertained at the residence of Mr. and Mrs. John Harkness, and in the afternoon we all had the opportunity of seeing and hearing the numerous contests provided for the excursionists. The courteous President of the Vale of Mowbray Society (Mr. W. J. Plews) and his energetic colleagues may be congratulated on a very satisfactory meeting, and be assured that we one and all greatly appreciated the kindness we received from everyone at their gathering.—CHARLES J. GRAHAME.

ROYAL HORTICULTURAL SOCIETY.

SCIENTIFIC COMMITTEE, July 24th—Present: Dr. M. T. Masters (in the chair); Dr. Morris, Mr. Blandford, Rev. G. Henslow, Hon. Sec.

Photographs.—Dr. Masters exhibited photos of the "Lily Pond" at Trelissiek, Truro, on the property of C. D. Gilbert, Esq., showing great quantities of Richardia æthiopica bordering the pond, together with Nuphar. Large clumps of Gunnera manicata and a fringe of tall-growing Primula japonica occur on the higher ground. Another view illustrated fine masses of Benthania fragifera in flower.

Carnation Sports.—He also showed several varieties of colours in Carnations (flaked, self, &c.), the flowers having been all gathered from one and the same seedling plant.

Poppy, Monstrous.—He also showed a drawing by Mr. G. W. Smith of a field Poppy in which two normal flower buds had issued from the axils of opposite petals.

Vine Diseased.—He also showed a fragment of a bunch which was described as being of an extraordinary size, the flowers of which were aggregated into minute woolly balls. The petals remain closed, but without having any stamens or pistil within them. The hairs (ribbon-like and twisted, resembling cotton hair) grow mainly from the margins of the petals. It has been suggested that it is caused by a phytoptus; but as no insect or fungus is present, Mr. Henslow observed that it may be the result of atrophy of the essential organs, accompanied by an excess of hair as a compensatory process, according to a theory of M. Mer.

Gentiana acaulis, Diseased.—Dr. Morris exhibited a specimen, and observed that if it be sprayed with Condy's fluid at an early period the fungus may be kept in check; but large masses must be burnt if they be badly attacked, as the disease is due to Puccinia Gentianæ, and if the plant be not destroyed the resting spores will get into the soil and reproduce the disease in the following year.

Products of the Banana.—Dr. Morris also exhibited a collection of various products obtained from the Banana, exhibited by the "Stanley Syndicate" at the Universal Exhibition at Antwerp, 1894. Mr. Stanley had called attention to the great value of this fruit in his "In Darkest Africa," and the investigation was carried out by Mr. Hartogh, Engineer at Amsterdam, to discover for what uses the Banana was available. Its chief value lies in the great quantity of starch (80 per cent. of the dried pulp), hence it proved to be a very good source of spirit, as "the quality of the alcohol may be considered good." It was found to be especially available for the manufacture of glucose, while the meal mixed with one-third ordinary Wheat flour makes a very nourishing material for bread, cakes, &c. Among other uses, gruel, puddings, marmalade, syrup, &c., may be mentioned; while the dried peel, and flour of the peel, would be useful for fattening pigs. Lastly, the fibre can be used for

paper and string. Persons desiring to have more ample information, or who would like to take part in the proceedings of the Stanley Syndicate, can address themselves to the latter, Avenue Copes, 24, The Hague.

A RUN NORTHWARDS.

NOTHING affords town dwellers more pleasure than a run into the country during the summer. The removal from bricks and mortar to green fields, sweet smelling hay, ripening corn, fragrant flowers, and swelling fruit has a beneficial effect, physically as well as mentally, and it is not surprising that many persons avail themselves of it. An opportunity for a brief change somewhat of this character recently came in the way of a scribe who was deputed in the first place to the provincial show of the National Rose Society at Halifax on the 19th, and from thence to Manchester on the 21st ult. This allowed an intervening day for a ramble in the broad acres of Yorkshire as the following simple narrative will show. Half a century ago it was doubtless considered a long ride from the metropolis to the north of the "Tyke" county, but now-a-days matters are entirely different. Five hours were sufficient to convey a little band of southern rosarians from King's Cross to their destination, and so quickly did the time pass that only a few were able to relate their experiences and keen floral battles in regard to Rose exhibiting. If something could be said about the most exciting of these, the adventures would be interesting to readers; but for the present they must remain in abeyance, for having commenced to unroll the ball we must follow the thread whither it leads us.

Compared with some of the other provincial centres Halifax cannot be termed a large place, the number of inhabitants barely exceeding 80,000, nor does it appear to possess anything of special interest to horticulturists. Indeed, at first sight the town has by no means an inviting appearance, though were it possible to remove the numerous factories which abound in the locality an improvement would at once be effected. The neighbourhood, however, like many parts of the county, has its natural charms, these including the glorious hills that rise on every side. They attract the visitor's attention, and answer the purpose of landmarks. One of the southern strangers, having no Roses to trouble about, on arriving in the town commenced to look about himself and "make tracts" for the show ground. Fearful lest he should betray his cockneyism, after telling half a dozen Jehus who assailed him that he did not want a "keb," he timidly inquired how far it was to Spring Hall grounds. "Oh! thou means where t' Rose show is to be held." The Londoner said that was the place to which he referred. "Well, thou can see t' flag yonder, that's it," pointing to a Union Jack fluttering in the breeze on the top of a large building, situated on a high hill about a mile and a half away. Yes, the flag could be seen in the distance, but how to get there was another matter. However, the aforesaid stranger was directed to "Follow t' yon road up t' hill," and ultimately the site of the exhibition was reached.

What a difference there is betwixt northern and southern shows! Yorkshiremen never do things by halves; they always appear to be in earnest—even to the management of a flower show. Everyone in Halifax seemed to know that the National Rose Society meeting was going to take place in conjunction with the local exhibition on the 19th, and provisions were made accordingly. Buses crowded with passengers were continually running from the centre of the town to the grounds during the day, and it is no wonder that 10,000 persons paid a tribute to the "queen of flowers." And how enthusiastic they were! Early in the afternoon the huge tent containing the produce of the "big guns" was literally packed with men, women, and children. The scribbler from the metropolis is used to crowds, and of being jostled a little whilst endeavouring to make a few hieroglyphics in his reporting book, but the northerners were nearly too much for him. He was obliged to make very fragmentary notes, or none at all, so far as these remarks are concerned, for many visitors obviously mistook him to be either an official or a noted rosarian. Why such occurred was for the time being a puzzle, though it afterwards dawned upon his mind that it was owing not to the "wearing o' the green" but the pink, having unluckily the badge of the N.R.S. in his buttonhole. The fact of thus trying to avoid a collision with the police early in the day brought forth frequently such remarks as, "Do you know who won the trophy?"; "Was it a better show than that at Windsor?"; and one lady fought her way through the crowd to inquire of the scribbler "Whether he could spare a book?" at the same time grasping a nurseryman's trade list of Roses.

Notwithstanding these minor temporary troubles the work was accomplished, and time afforded for a chat with one of the originators of the Salterhebble and District Rose Society. This, it appears, was established in a very small way about sixteen years ago. "At that time we had no idea of seeing the national exhibition here," remarked the genial Yorkshireman. "Our first show was a very poor affair compared with this one. It was held in a public-house room. Eventually we managed to obtain a tent, and for some time held the exhibition at Dayclough, making progress each year in spite of difficulties. Since 1888 Alderman Booth has taken great interest in our Society, and has granted us the privilege of holding the show in the Spring Hall grounds. About three years ago we became affiliated with the National Rose Society, and have never regretted taking that step, for the Society has over a balance of £200." Such is in brief the history of the Salterhebble and District Rose Society, and everyone who was present on the 19th will agree that the members are deserving of the success they have attained. It is said, too,

that this particular show was a financial success, no less than £150 being received as gate money during the day, and the greater portion of this was paid in small sums. But considering the detailed report published in the *Journal of Horticulture* last week, enough has been said of the Rose exhibition, at which, it may be added, there were about 2970 blooms staged.

SANDBECK PARK GARDENS.

From Halifax to Doncaster is not a far cry, and to this town the pilgrim harked in response to an invitation from Mr. G. Summers, of The Gardens, Sandbeck Park. This beautiful demesne, one of the homes of the Earl of Scarborough, is situated in the southern part of the county, about equi-distant (ten miles) from Doncaster, Worksop (of Dukeries fame), and Rotherham, the former being a convenient railway centre, and the latter the post town. A drive through a charming agricultural locality proved a welcome change from the coal districts, which had been noticed on the way; and with a genial *compagnon de voyage*, as the French would say, the time passed pleasantly. Many items of interest were observed on the journey, not one of the least being a waggon-load of Pea pickers, chiefly women and children, whose services are requisitioned in the neighbourhood, where Peas are extensively grown for market. Prince of Wales appears to be the favourite variety cultivated, and large crops are produced. A field of Broccoli was pointed out as being worthy of more than a passing glance, seeing that for many years, possibly over twenty, a similar crop has been annually grown there. The plants this year are remarkable for their healthy and stout appearance, and it is said that the owner, a joiner in the village of Wadworth, never fails to have a good crop of Broccoli even in the severest winter. In January last the thermometer went down to zero in the district, but the plants were unharmed, and when cut the ground was prepared for another crop of the same kind. What say advocates of rotation of cropping to this? Information as to the varieties grown or the kind of manure used could not, unfortunately, be elicited; but the fact remains the same, that the grower can always manage to procure an excellent crop of Broccoli from his plot, and dispose of it profitably, whilst others fail. A smart nag soon took us to the township of Tickhill, past the historical castle, more noted now for Lord Scarborough's stud of thoroughbred horses, than as a stronghold of warfare; thence to gardens of Sandbeck Park. Here there was much to be seen and learnt, and the visit proved doubly interesting to the writer, because it was at this establishment where he was first taught many hints that proved serviceable to him in after years. Experiments that were carried out long ago have since borne fruit, and improvements thereby effected.

As elsewhere, it was found that time has wrought changes in these gardens, in most respects for the better, which, considering the circumstances, reflects credit on the manager, Mr. Summers. It is now the general practice to dispose of surplus produce grown in noblemen's gardens in the markets, and in this respect the establishment under notice is no exception to the rule. It has not, however, like instances that could be mentioned, deteriorated because of that; indeed, the reverse is the case. A visit after nearly a dozen years' absence is sufficient to corroborate this statement, and it is doubtful whether there is a better kept place in the kingdom. While neatness and excellence of crops form the primary characteristics apparent to the superficial observer, it is evident to those who look beneath the surface that the most is made of everything. According to the well worn adage, the man who makes two blades of grass grow where ordinary mortals can only induce one to thrive is a benefactor, and if this be true Mr. Summers may also justly claim that distinction. Not a yard of ground is wasted, for double cropping is practised in a systematic manner, and all available space under glass as well as outdoors is utilised. This, of course, is as it should be where profits have to be made; but it is not everyone who can so readily grasp the situation and make the most of it.

The glass structures at Sandbeck Gardens are numerous, the majority of them being devoted to fruit culture. Of Grapes, the Muscat of Alexandria is preferred to all others, consequently this variety is the most extensively grown. The Vines for the most part have been inarched on various stocks at different times, and are now carrying a fine crop of bunches noteworthy for their size and evenness of berry. Golden Queen is a handsome Grape, here seen at its best, but it is not considered first-class in quality. Madresfield Court, too, is admirably grown, though the large well-coloured berries show a tendency to crack, owing to the moisture required for the other varieties growing in the same house. The late vinery includes Lady Downe's and Alicante, both of these kinds carrying useful bunches, and it was observed that scalding had not marred the contour of the berries, such as too frequently is the case. Mishaps of this kind are avoided by judicious ventilation and careful management. Black Hamburgh Grapes are also above the average in merit, the same applying to Trebbiano and Gros Guillaume (Barbarossa), of which some enormous bunches are grown. A feature of the vineries is the manner in which the borders have been reconstructed; but more of this anon. The back wall of one of the largest vineries is planted with *Asparagus plumosus nanus*, which grows with extraordinary vigour, the growths running on strands of string from the floor to the roof, a height perhaps of 15 feet. In the autumn these sprays are cut the full length and disposed of for decorative purposes. The plants are growing in a compost of loam, peat, and sand, in a narrow border, and the atmosphere apparently suits them much better than the warm temperature of a stove, in which some specimens of it are also cultivated.

The Peach houses are models of neatness and good management. The trees of the early varieties, grown in two structures, are clean, none of the common insect pests being noticeable. The shoots, too, are thinly laid in, so that but little or no winter pruning will be necessary. This is the proper method of Peach culture, and it would be well were the practice more generally adopted. A few years since a new house for Peaches was erected, this being a very long building. The back wall is covered with young vigorous trees, whilst others are planted across the front border and trained to trellises. Some trouble with the "yellows" was recently experienced; but by renovating the borders, incorporating virgin loam, burnt earth, and wood ashes, with the utilisation of sulphate of iron, the disease has been practically mastered. The trees are now bearing crops of fine, well coloured fruits, the Nectarines, it was noticed, being particularly good. All vacant places on the walls and trellises that have not yet been covered with Peach or Nectarine trees are devoted to Tomatoes, which are grown on the cordon system. Two or three long ranges of heated pits are also filled with Tomatoes in pots, the plants trained in a horizontal manner to trellises. At one time the fruit would not set freely, but an occasional syringing during the day disperses the pollen and results in ready fertilisation, heavy crops being consequently produced. This hint may be useful to others who grow Tomatoes largely. No particular attention is given to special varieties, although Sutton's Al and Ham Green Favourite figure prominently amongst those grown. Cucumbers are cultivated extensively in pits, and plants in a house bear numbers of excellent fruit.

In the stoves and greenhouses the usual complement of plants is grown, primarily for decorative purposes, Orchids forming a feature. Some of these were collected by Lord Scarborough during his travels, and hybridising is done on a small scale. *Eucharis grandiflora* (amazonica) is splendidly grown here, huge plants, more than a yard in diameter, producing deep green leaves of an enormous size and stout texture. These plants are reserved for blooming in the winter. More than a thousand Chrysanthemums are now in the open air. Some of these are for producing large blooms for decoration, and others for the purposes above mentioned. Those for the latter use are partially disbudded, and about sixteen flowers are allowed to develop on each plant. *Mdlle. Lacroix*, *Sœur Melaine*, *Etoile de Lyon*, and *Stanstead White* are amongst the varieties grown for supplying cut blooms. The last named is considered one of the most useful whites in cultivation. The general collection includes many of the newer kinds, as *Beauty of Exmouth*, *Primrose League*, *William Seward*, and others of sterling merit.

A walk through the kitchen and fruit gardens revealed the fact that cleanliness is as conspicuous here as in the glass departments. Weeds are nowhere to be noticed, the whole of the walks being remarkably firm and bright. This, it was ascertained, is due to the use of a special home-made weed killer, which has proved so efficacious that application is only made once a year, or even less frequently. By the adoption of this course a considerable saving of labour is effected, which is necessary where, as here, a large establishment has to be maintained in good order with a limited number of hands. This permits closer attention being paid to the cultivation of crops or vegetables and fruit, the latter including Apples of the best varieties. Some young trees of *Bismarck*, *Sandringham*, *Lane's Prince Albert*, *Beauty of Stoke*, *Lord Grosvenor*, and *Bramley's Seedling* have been planted during the past two or three years, a few of them last season. These give a lesson in pruning immediately after planting that should not be overlooked. Some trees planted last autumn were cut hard back in the spring, and these are now producing stout vigorous shoots a yard or more in length, and nearly as thick as one's finger. Others planted at the same time, but allowed to go unpruned, have failed to grow satisfactorily, and are comparatively leafless. It is obvious that in pruning the trees after planting the proper course is adopted, notwithstanding the advocates of the opposite method. Many of the old Apple trees have become somewhat cankered, the renovating of which has given much work in burning the soil and trenching the ground upwards of 2 feet deep. Further operations in this respect are to be carried out in due course, and young trees planted to take the place of old and diseased ones. Of *Pears Doyenné d'Été*, *Pitmaston Duchesse*, *Beurré Diel*, and *Clapp's Favourite* do as well as any, and *Apricots* of various kinds thrive exceedingly well on walls. *Strawberries* flourish amazingly, especially *President*, *Vicomtesse Hélicart de Thury*, and *La Grosse Sucrée*; but the plantations are only allowed to remain two years before being renewed. *Noble* has not, so far, proved particularly adapted to the locality, and the newer kinds raised at *Guntton Park* do not appear as vigorous growers. *Mushrooms* are grown extensively on ridge-shaped beds in the open air, large crops being obtained during the winter, when remunerative prices are realised.

It might also be mentioned that Mr. Summers is an enthusiastic and successful bee-keeper. He started with one frame hive some years ago, and rapidly increased his stock by purchasing bees from the cottagers in the neighbourhood, to prevent them being killed over the sulphur pit. Excellent honey is procured from the *White Clover* in the locality, and the bees are managed on a different system to that generally advocated in these pages.

Regarding the flower gardens and pleasure grounds, these, too, extend many acres, the mowing involving work of considerable magnitude. On one side of the mansion is a stretch of lawn called the *Oval*, which rivals in size that of cricket fame in the metropolis. Some fine *Cedars* rise here and there in the grounds, and a splendid avenue of

Limes forms a pleasant resort in summer. The bedding is of an attractive but simple character, intricate designs of gaudy plants having fortunately given place to masses of such charming flowers as *Roses*, *Carnations*, *Salpiglossis*, *Indian Pinks*, and *Violas*, amongst others. Hardy plants also form a feature on the borders, whilst flowering shrubs have been planted in large numbers. Many shrubs and trees, however, were injured during the past winter, no less than 35° of frost having been registered on one occasion. A splendid lake and shady woodland walks add charms that can only be appreciated by the true lover of rural beauty, whilst the extensive park of some 400 acres is well studded with magnificent specimens of *Oak*, *Beech*, *Chestnut*, and other trees. Much more could be written of this delightfully sequestered place, but space is limited, and the Editor's shears are sharp, hence it only remains for the writer, before leaving *Sandbeck*, to acknowledge his indebtedness to Mr. and Mrs. Summers for their generous hospitality.

ROCHE ABBEY.

In close proximity to the above-mentioned place, and connected with the same estate, are the ruins of *Roche Abbey*, of more interest perhaps to archæologists and architectural students than from a horticultural point of view. Gardeners, however, and thousands of other persons delight to roam in the beautiful grounds in which these interesting ruins are situated and view the charming scenery. In the spring *Daffodils* grow in large breadths, the enormous masses of golden blossoms making a pleasing contrast with the myriads of *Primroses*, *Bluebells*, and hardy *Ferns*. As the summer advances acres of the *Lily of the Valley* fill the air with fragrance, flourishing in such numbers as to surprise the numerous visitors who came from *Sheffield*, *Rotherham*, and other towns in the north. The grounds are open to the public twice a week, although parties may otherwise gain admittance by special permission, and many avail themselves of a ramble in them. A hurried inspection made whilst in the locality gave the writer much pleasure, as did a brief chat with Mr. S. Cadman, who resides close by the Abbey ruins, and is a farmer, poultry breeder, caterer for the visitors, and amateur horticulturist. As an erstwhile gardener Mr. Cadman still admires his *Chrysanthemums*, and talks enthusiastically about his "*Gunnerwalds*" for early blooming. Like many other amateurs, too, he grows more plants than he has room for, but is confident of finding accommodation for them in the autumn. A well constructed fernery here attracts notice, as does an effectively arranged border; indeed, the surroundings are of such a poetical nature that one is inclined to sing further praises of Roche's "*White walls and silver springs*," even after reaching busy London, the home of—A YOUNG SCRIBE.

APRICOTS ON WALLS.

I HAVE just been thinning finally the young growths and unfruitful spurs on our trees, and with that little further attention will be called for apart from attending to the ripening fruit. A more abundant crop of fruit than that of the present year has never set, and though much of it was removed early in May, there were left here and there clusters that had been passed over, and which have been thinned as noticed.

Nothing is so futile in its results, and so disastrous in the end, as overcropping, unless it be letting the growths become too thick. In the former case the energies of the tree are unduly strained in attempting to bring to perfection a crop beyond its natural powers, and in the latter a dense growth not only retards the progress and the due ripening of the fruit, but it also prevents the spurs ripening, and hinders the formation of fruit buds. The spurs ought to be thinned out sufficiently to allow every leaf to secure a due share of light and air. If this operation has not as yet received attention it should be no longer delayed. The growths ought to be rubbed or cut off so as to allow each fruit to receive every ray of sunshine possible. We appear to have lost sight of the reason for growing fruit trees on walls when we allow the bricks to be hidden so completely, as often happens to be the case. Even with all the sunshine we have in the warmest of our summers, it requires as much of the brickwork bare as possible in order to secure well ripened fruit. In a sunless season it therefore is absolutely necessary to catch every ray of sunshine in order to induce the fruit to ripen. All spurs growing out from the branches and bare of fruit may be cut clean back at this time, and indeed it is a good system to go thoroughly over the trees and remove every portion of extra growth that can be spared. This has the double effect of improving the general health of the trees, and saves pruning in winter or spring, which is by this means reduced to a few hours' attention.

When *Apricots* are ripening the fruit requires much attention. Last year there was no trouble apart from gathering the fruit when it was thoroughly ripe. This year, on the other hand, we may get little sunshine, and if damp weather ensues there is daily care required in selecting ripening fruit, which if left on the trees is apt to decay, but gathered and laid out in a warm dry vinery or even in a room in a few days the fruit ripens to a degree that it would never attain if left on the tree. Fruit for sending a distance ought always to be gathered before it is ripe, or, indeed, the least soft. Fruit equal in size should be packed together, and not more than three layers in depth in one package. Wood wool is the best material for packing, being soft and springy. The fruit must be quite firm when packing is finished.—R. P. BROTHERSTON.

A MUSHROOM FREAK.

A CORRESPONDENT, "W. S. E.," sends us a sketch of a curious twin Mushroom, the one inverted on the top of the other like a teacup. The Mushroom was cut from a bed a few days ago. Freaks of this kind have been previously noticed, as, for instance, that shown in the illustration (fig. 17), and they appear where Mushrooms are largely grown, apparently being due to a strong one in a crowded clump forcing one of the smaller ones up. The surfaces became united, and the upper one derives its support from its stronger rival.

HORTICULTURAL SHOWS.

CATERHAM.—JULY 25TH.

THE sixteenth annual exhibition of the Caterham Horticultural and Cottage Gardeners' Society was held on the above date, and was favoured by very brilliant weather. One large marquee and two smaller ones were requisitioned for the accommodation of the exhibits, which were numerous and, taken as a whole, of fine quality. The exhibition was superior to any that have previously been held under the auspices of this society, and it is to be hoped that it will continue to improve yearly until it is in every way worthy of the beautiful district in which it finds its home. The show was too large to permit of a detailed prize list being given, but the winners of the principal classes will be found in the report given herewith.

The plant classes brought numbers of handsome exhibits, and in some cases keen competition was noticeable. Mr. H. Culham, gardener to D. Birt, Esq., was first in the class for one specimen foliage plants with a fine example of *Dicksonia antarctica*, Mr. Papworth, gardener to J. Lyon, Esq., Riddings Court, being a good second with *Cycas revoluta*, clean and well grown, and Mr. J. Wyatt, gardener to J. Perry, Esq., third, with *Alocasia metallica*. Mr. J. Palmer, gardener to H. Clarke, Esq., gained the premier award for three foliage plants, distinct, staging fine specimens. Mr. Papworth was second, and Mr. Lane, gardener to F. Cole, Esq., Burntwood, third. In the class for three Begonias, distinct, Mr. Culham was a good first with splendidly flowered plants of *Gigantea*, Laing's Fringed White, and Rosy Morn. Mr. Lane was a good second, and Mr. Brand, gardener to S. W. Warren, Esq., a fair third. Mr. Wyatt staged three splendid pans in the *Achimenes* class, and was deservedly accorded the first prize. Mr. Palmer also showed good specimens and was placed second, Mr. Papworth being third. Mr. Palmer was again first for three *Caladiums*, Mr. Papworth being second, and Mr. Lane third. For six table plants, distinct, in pots not exceeding 6 inches in diameter, Messrs. Lane, Brand, and Palmer won the prizes in the order of their names. For six Begonias, distinct, D. Birt, Esq., offered two special prizes, the first of which was taken by Mr. Papworth with excellently grown and flowered plants, Mr. Brand being second with smaller but highly creditable examples. Messrs. Brand, Pearman, and Lane were awarded the prizes as named in the class for three exotic Ferns, distinct.

There were four competitors in the class for a group of miscellaneous plants arranged for effect in a space not to exceed 10 feet by 6 feet, and each of them was very good. Mr. Lane was first with a light graceful arrangement, in which Ferns, Crotons, and Begonias were very prominent. Mr. Palmer was a fair second, with Mr. Papworth as a remarkably close third, both of whom exhibited well-grown plants tastefully arranged, though those of the latter were perhaps somewhat crowded. For a group of plants in a space of 6 feet by 4 feet there were four competitors, and Mr. Roberts was placed first with an arrangement which comprised, amongst other plants, Ferns, *Caladiums*, Carnations, and *Gloxinias*. Mr. Russell was second, and Mr. Shanks, gardener to W. G. Barnes, Esq., third. Each of these exhibits were light and charming.

Cut flowers were not very numerous shown, neither was the quality so high as should be seen at such a show. Mr. Lane was first in the class for twelve bunches of cut flowers, distinct species, Mr. Wyatt second, and Mr. Papworth third. Mr. Wyatt was a good first for six bunches of hardy herbaceous flowers, distinct, Mr. Brown, gardener to Miss Gardiner, being second, and Mr. Simmons, gardener to T. B. Winter, Esq., third. The last-named exhibitor was placed first in the class for six distinct annuals, which included *Godetia* Lady Albemarle, Sweet Peas, and *Linum grandiflorum rubrum*. Mr. Wyatt was second, and Mr. Roberts third. There were two classes for Roses, but they were not worthy of mention, though several boxes were staged.

The fruits shown were not very numerous, and as a rule only of fair quality, though some good Cherries and Grapes were noticed. In the class for a collection of four kinds only two competitors showed, Messrs. Roberts and Wood, the former being placed first. Black and white Grapes, Cherries, and a Melon were shown in the first prize stand, all in good condition. For a dish of Strawberries, to be composed of twenty-four fruits, Mr. R. Winsall, gardener to H. Lloyd, Esq., was first, Mr. Brand second, and Mr. Brown third. Mr. Watts showed grand Gooseberries in the class for a dish of twenty-four fruits, Mr. Wood being a good second, and Mr. Packham a fair third. In the class for a collection of outdoor fruits, four dishes, Mr. Watts was a good first with Red Currants, Gooseberries (fine), Strawberries, and Raspberries, Messrs. Winsall and Brand being second and third respectively.

The feature of the whole exhibition was undoubtedly found in the

vegetables, which were very fine, and proved excellent culture. The entries in some of the classes were exceedingly numerous, and keen contests prevailed throughout. There were four competitors in the class for six distinct kinds, Mr. Wyatt being first. The stand contained Turnips, Peas, Onions, Cauliflowers, Tomatoes, and Potatoes, all in good condition. Mr. Lane was second, and Mr. Wood, gardener to W. Garland Soper, Esq., third. Mr. Roberts, with good examples of Carrots, Peas, Potatoes, and Cauliflowers, was first in the class for four kinds of vegetables, distinct, Mr. Watts being a fair second, and Mr. Shanks third. In the class for four dishes of Potatoes, two of kidney and two of round, each to contain nine tubers, Mr. Lane was first with good even samples, Mr. Wyatt being second, and Mr. Jones, gardener to J. Newberry, Esq., Whiteleaf, third. Mr. Simmons was first for two dishes of Potatoes, one of round and the other of kidney-shaped tubers, Mr. Catt being second, and Mr. Brown third.

In the class for three Cos Lettuces Mr. Roberts, gardener to C. Asprey, Esq., Beechlands, was first, Mr. Wyatt second, and Mr. Catt third, all with fine examples. Mr. Roberts was also first for a bunch of Turnips with splendid roots, Mr. Papworth being second, and Mr. Wyatt third. Mr. Papworth was first in the class for three Cauliflowers, Mr. Catt being second, and Mr. Wyatt third, all showing good produce.



FIG. 17.—A MUSHROOM FREAK.

There were fifteen exhibitors of a dish of Peas, to contain twenty-four pods, the competition consequently being exceptionally close; Mr. Eason, gardener to H. Gammon, Esq., being first, Mr. Myatt second, and Mr. Catt third. Mr. Myatt was placed first out of the nine competitors who competed for the prizes in the class for a pair of Cucumbers, Mr. Russell being second, and Mr. Lane a good third. There were eight competitors in the class for a dish of Tomatoes, comprised of nine fruits, Mr. Roberts being placed first, Mr. Wyatt second, and Mr. Young, gardener to A. Lockie, Esq., third.

Mr. Papworth succeeded in gaining Mr. Thos. Lovegrove's special prize for a collection of nine sorts of vegetables. The exhibit was composed of Turnips, Cauliflowers (very good), Marrows, Tomatoes (small), Peas (good), Carrots, Potatoes, Onions (very fine), and Cucumbers. Messrs. Wyatt and Wood were placed second and third in the order of their names. Mr. Sedgley also offered special prizes for a collection of vegetables, six sorts, all to have been grown from seeds purchased from him, but there was only one competitor, Mr. Papworth, and he was accorded the first prize with a very fine exhibit comprising Onions, Potatoes, Tomatoes, Cauliflowers, Vegetable Marrows, and Carrots, all of which were highly creditable.

The table decorations, arranged by ladies of the districts, were models of lightness and good taste; that of Miss Lyon, which was placed first, was especially charming, and was a combination of Sweet Peas and Grasses. Miss Winter was a good second, and Miss Soper an unusually close third. In all there were six tables arranged for competition.

The miscellaneous exhibits "not for competition" were somewhat numerous and very diversified, and comprised amongst others Roses, Carnations, and other flowers from Messrs. Paul & Sons, Old Nurseries, Cheshunt; a group of flowering and foliage plants from Messrs. Peed and Sons, Roupell Park Nurseries, Norwood; *Caladiums* and Begonias from Mr. J. R. Box, Croydon; a group of plants from Messrs. J. Laing and Sons, Forest Hill; Palms, Ferns, and other plants from the Rose Bank Nursery Co., Woldingham Station; hardy flowers from Mr. T. W. Edmunds, Westerham; Palms, Ferns, and Crotons from Mr.

Sedgley, nurseryman, Caterham; vegetable seeds from the Surrey Orchards Co., Red Hill; and a bouquet, wreath and anchor from Miss Sedgley.

RAINHILL.—JULY 28TH.

THE annual exhibition of this almost one of the oldest of the local shows around Liverpool was held on Saturday last in a field at The Holt, kindly placed at the disposal of the committee by J. Musson, Esq. Compared with former years Saturday's show was by far the best the present society has held, a fine day adding to the enjoyment of the large number of persons who visited it.

Stove and greenhouse plants, exhibited by Mr. E. Blythian, gardener to Mr. Baxter, The Towers, Rainhill, formed the chief attraction. The collections of double and single Begonias shown by J. Tomlinson, Esq., were worthy of being entered for competition at any show. The groups were much improved, Mr. Clifton, gardener to Mrs. Owen, taking first honours. Fruit was also much in advance, the prizes being taken by Messrs. J. Barker, J. Bounds, E. Blythian, and H. Ewbank. Roses were fairly well shown, whilst vegetables were all that could be desired. The drawing-room floral arrangements were quite a pleasing feature, Miss Owen's first prize arrangement of Coreopsis, white Marguerites, with elegant Grasses interspersed, being greatly admired, the second prize being taken by Miss Richardson with Shirley Poppies, tastefully arranged but lacking graceful foliage to relieve them. The officials connected with the society worked as if they meant to succeed, and were deserving of every support.—R. P. R.

PRESCOT.—JULY 26TH.

ON the above date the tenth annual exhibition of this most flourishing society was held in Knowsley Park, kindly lent for the occasion by the Earl of Derby. The day was perfect and the attendance was very large, a financial success being doubtless achieved. The show as compared with former years was greatly in advance, many well-known Liverpool exhibitors and from Chester, as well as the best of the local men being present.

Liberal prizes were offered, the prize of £6 for a group of plants arranged for effect being won by Mr. J. Bounds, gardener to A. L. Jones, Esq., Oaklands, Aigburth. The second and third prizes were won by Mr. McFall, gardener to E. C. Leventon, Esq., Roby, and Mr. R. Pinnington, gardener to Mrs. Banner, Blacklow House, Roby. The handsome silver cup offered for eighteen cut Roses, distinct, was won for the first time by Jas. Berry, Esq., Prescott, with a charming stand.

Plants were bright and included many choice specimens, the principal prizetakers being Mr. R. Pinnington for six stove and greenhouse plants, six stove and greenhouse Ferns, and six double Begonias, also for Cactus and single Begonias; Mr. W. Lyon, gardener to A. Mackenzie Smith, Esq., for Gloxinias, six single Begonias and Cockscombs; Mr. Leith, Huyton Hey House, for Fuchsias and greenhouse plants, the prizes for four each going to Mr. E. Blythian, gardener to Mrs. Baxter, The Towers, Rainhill.

Fruit made an imposing display, the prizes for the best arranged basket of fruit, Nectarines and green-fleshed Melon, falling to Mr. R. Pinnington; for Black Hamburgs to Mr. J. Barker, gardener to J. W. Raynes, Esq., Rock Ferry; for Madresfield Court to Mr. Ferguson, gardener to Mrs. Patterson, Rock Ferry; and for Muscats to Mr. H. Ewbank, gardener to J. Heap, Esq., Claughton.

Vegetables were splendid in quality, Mr. J. Rainford winning with twelve varieties, and Mr. McTall with three dishes Tomatoes. The cottagers' produce was of much excellence and difficult to judge. Mr. Young, the President, Mr. Robert Rigby, Secretary, Mr. Stead, Treasurer, and the Committee had all the exhibits admirably arranged.—R. P. R.



FRUIT FORCING.

Vines.—*Houses Cleared of the Grapes.*—When the Vines are cleared of their crops cleanse the foliage by means of the syringe or engine, and if necessary apply an insecticide. If there be any mealy bug or scale promptly use petroleum, a wineglassful to 4 gallons of water, in which 8 ozs. of soft soap and an ounce of washing soda have been dissolved, hot water being used for that purpose. Keep the mixture well agitated whilst being applied to the Vines, which must be done thoroughly, wetting every part of them. It is best done on a dull, calm afternoon, and should be repeated two or three times at intervals of a few days. If there are any plants they must be removed; and if the Vine roots are near the surface cover with dry short material to absorb the waste. This is excellent practice in any case, as petroleum has a prejudicial effect on the soil, and is best kept out of it as much as possible, especially in the unemulsified state. The dressings will free the Vines of all insect pests. Keep the laterals fairly in hand, not very closely pinched unless the Vines are vigorous and not ripening the wood

well, in which case keep the atmosphere of the house rather dry at night and somewhat warm by day, but with ventilation.

In stopping vigorous Vines regard must be had to the principal buds, not stopping so close as to jeopardise their starting into growth through an excess of sap. Such Vines should also be kept without water until the foliage is becoming a little limp, yet not depriving them of it entirely or so as to cause the premature ripening of the leaves. Vines that are not strong, having been enfeebled by continued cropping or other causes, should be encouraged to make lateral growth by applying liquid manure to the border. Whatever superfluous foliage is made it should not be allowed to interfere in any way with the free access of light and air to the principal leaves, which must be kept healthy, so that they may appropriate some of the extra food and store it in the buds and adjacent wood. Ventilate freely day and night, fire heat not being necessary unless the wood be unripe and the weather cold and wet.

Grapes Colouring.—Admit air constantly, enough with a gentle warmth in the pipes to insure a circulation. Whilst ripening many, indeed, most, Grapes swell considerably, therefore there must not be any deficiency of moisture in the border. Give, if necessary, a good supply, and in the early part of the day, so that superfluous moisture may be dissipated before night. If the Vines are heavily cropped afford liquid manure, but not too strong, and allow them plenty of time, otherwise if there be any hastening of the ripening and a deficiency of nutriment the fruit may be defective in colour. A good rest at night, or a temperature of 60° to 65°, is a great help to Vines taxed to the utmost by overweight of fruit. A moderate amount of air moisture is also essential to the health of the Vines, sprinkling the paths and borders occasionally, and, if possible, allow the laterals to extend.

Cherry House.—The trees now have the wood sufficiently ripened and the buds enough plumped to allow of their being fully exposed to the atmosphere. Remove the roof lights, which is the best means of arresting premature growth, to which the Cherry when forced year after year successively is liable. The leaves from their hard texture are not very inviting to black aphides, but red spider will prey upon them unless prevented by syringing or an insecticide. If black aphides appear at the points of the shoots syringe with tobacco water, rubbing the worst affected parts gently between the fingers while wet with the insecticide. The border must not be allowed to become parchingly dry, but have copious supplies of water, and if weakly employ liquid manure, as poverty of bud-perfecting means collapse of the fruit after setting if it get beyond the blossoming. Trees in pots must be regularly watered and syringed to maintain the foliage in a healthy state as long as possible.

Melons.—The weather has not been favourable lately to late crops in frames, as anything like a dull warm moisture-laden atmosphere gives Melons on manure beds an impulse in the direction of growth. As the fruit sets badly on luxuriantly growing laterals the growths should be kept rather thin, crowding tending to nothing but disaster. Air—a little constantly to prevent the deposition of moisture on the blossoms—is an absolute necessity to secure a good set, affording no more water at the roots than is necessary to prevent the foliage flagging. Do not neglect to fertilise the flowers daily, and to go over the growths frequently for the removal of superfluous and stopping the unruly, or to concentrate the nutriment on the fruits, being careful to avoid overcrowding.

Copious supplies of water are necessary to plants swelling their fruits, about twice a week in bright weather, once a week or more distantly in dull moist weather. Sprinkle the plants at closing time, those in houses being well syringed both ways in the afternoon of bright days, and a good moisture maintained by sprinkling the floors two or three times a day, damping being all that is necessary in dull weather. Keep the atmosphere dry when the fruit is setting or ripening. Maintain a bottom heat of 80° to 85°, top heat 65° to 70° at night, 75° by day artificially, in dull weather admitting a little air at that if there be a prospect of some sun, allowing the heat to rise to 80°; then admit more air, increasing the ventilation with the increased temperature up to 85° or 90°, closing sufficiently early to raise the heat to 90° or 95° or more. A free circulation of rather dry air and warm greatly improves the finish and quality of Melons when near ripening. If canker appear at the collar rub quicklime into the affected part until it becomes dry, repeating as necessary, maintaining a drier and better ventilated atmosphere. If there be any indications of the fruit cracking cut the Vine about half way through a few joints below the fruit, reducing the supply of water at the roots, and maintain a dry well ventilated atmosphere, not neglecting to afford some air at night.

Cucumbers.—Any house or frame at liberty may yet be planted with Cucumbers, the frame having a bed of fermenting materials, which will give a supply of fruit in September and continue to do so nearly to Christmas if due regard be had to lining the bed and to protecting the plant by mats over the lights at night after the weather sets in cold. Let the growths of plants in frames or houses be thinned at least once a week, and in growing weather twice, removing exhausted growths to make room for young bearing shoots. Keep the growths well stopped to one joint beyond the fruit, or at the fruit if the plants are vigorous and showing no signs of exhaustion. Always allow weakly plants more extension, and crop them lightly. Maintain a temperature of 70° at night, 75° by day, 80° to 85° with sun, closing early to increase to 90° or 95°, the bottom heat being kept steady at 80° to 85°. Maintain root activity by surface dressings of turfy loam or lumpy manure, and pay due attention to watering two or three times a week. Syringe in the afternoon of hot days, but avoid late syringing, for the foliage should be

dry by sunset. The autumn fruiteders should be planted on hillocks or ridges, moderately firm, maintaining a moist and genial atmosphere, and they will grow and show fruit in plenty shortly, being far better for a supply of late summer and early autumn fruits than old plants, which produce knobbed, crooked, and otherwise inferior specimen at that season.

THE FLOWER GARDEN.

Carnations and Picotees.—Those that either stood in the open ground through the winter or were planted out this spring were late in flowering, though they promise to be exceptionally floriferous. This will naturally hinder layering considerably, as it is scarcely advisable to interfere with them before they have ceased to produce flowers in quantity. It is of importance, though, that some plants of the best, and which, as a rule, are the most delicate forms, be propagated early, and this can be done by slipping off some or all the thinner side shoots, more especially those badly placed for layering later on. Draw these out of the sockets rather than cut them, and dibble them in hand-lights behind a north wall. They strike best in a gritty loamy soil, and in the warmer districts the hand-lights might even be dispensed with, always providing the cuttings can be sheltered from bright sunshine and drying winds, care also being taken to keep the soil moist. Any plants in pots that have done flowering should be planted out in a well-prepared bed, and all the shoots be layered. Cut them half through at a trimmed joint, then "tongue" them by giving an upward turn to the knife, and where this cut is made peg them down carefully and firmly to the soil. This is the surest way of securing early and strongly rooted plants, and which will flower well in either pots or borders next season.

Pinks.—Propagation by cuttings or "pipings" should commence at once. It is the comparatively small and thin side shoots that should be selected, and these will strike readily in either a frame on a very mild hotbed located in a cool shady position, or in most districts quite as surely in hand-lights or frames at the foot of a north wall and without bottom heat. Some cuttings might also be dibbled-in and not covered, a cool moist site answering best. These also should have a gritty loamy compost, and be slipped off and dibbled-in firmly and moderately thickly. They will give some flowers next season.

Propagating Begonias and Dahlias.—These can be easily propagated at this time of the year. In both cases short flowerless shoots are the best; the hollow-stemmed tops will not do. Cut to a joint and trim off lower leaves. Begonia cuttings will root in the full sunshine and open borders, while a rather cooler moisty site should be given the Dahlias. Give them the benefit of a light sandy compost, also an occasional "freshener" during hot dry weather, and both the Begonias and Dahlias will form tubers before the tops die down or are injured by frosts. Such tubers may be easily wintered in boxes, and will start quite strongly next spring. If the seedling Begonias, obtained by sowing in June, come up thickly prick them out as soon as they can be moved with a forked flat-pointed stick, and dibble them in 2 inches asunder in pans or boxes of fine sandy soil. Keep close, constantly moist, and shaded from bright sunshine till well established. Afterwards keep in cold frames or even in the open till the tops die down or are injured by frost. These and any left thinly in the seed pans and boxes will form tiny bulbs, which can be wintered as they are where frost does not reach them. By next bedding out time all can be grown into strong flowering plants.

Herbaceous Phloxes and Pentstemons.—Tops of the former that have been rooted in hand-lights should be planted out at once, and they will then form a fine head of bloom. Raised in this way they are very dwarf, and will make good plants for the back rows next season. If it is desirable to further increase the stock of choice varieties other than by division of the old clumps next autumn or spring take off the flowerless side growths, make them into cuttings, and put five or six in each 4-inch pot. Place in hand-lights or frame at the foot of north wall till struck and winter in cold frame. Each plant raised in this way and duly planted on a fairly rich border will give two or three strong flowering growths next season. Pentstemons are most simply raised from seed, and fine strains are supplied by the leading nurserymen. It is not yet too late to sow. The seedlings should be wintered in cold frames or pits, and planted out moderately early next spring. Cuttings made from flowerless shoots could be rooted in frames or hand-lights treated exactly the same as recommended in the case of Phloxes.

Pyrethrums.—If these have been cut over and are not in a semi-starved condition they will give a fairly good second crop of flowers. To be successful with them a change of soil should be made every three years or so, and the best time to lift, divide, and replant is just when top growth commences in the spring. Slugs are very destructive among plants in the open border, and for this and other reasons it is a good practice to detach small pieces of old plants with a few roots attached, and to place these in small pots. Keep in a frame or hand-light in a shady place till well established, and winter in a cold frame.

Roses.—Teas against walls, and more especially those that were freely cut from, are already blooming again with considerable freedom. Lightly fasten back the strong, sappy young growths, as these will branch and flower with great freedom. The Hybrid Perpetuals will soon be past their best, but will continue to give a few blooms if strong enough and well fed at the roots. Where some of the growths are long and the wood moderately firm these would bloom again if cut back to about half their length. Very hard pruning has to be avoided, as this might force out the back buds. Those persons who are anxious to increase their stock of own-root Roses should form a bed of fresh loam

and sharp sand at the foot of a north wall, fence, or hedge, and on this set hand-lights or bottomless boxes that can be covered with squares of glass. When these are ready select short side-shoots that have produced a bloom as well as some of the weaker ones, take them off with a heel, or very short thin slice of the old wood attached, and shorten the tops to a length of about 4 inches. Dibble in firmly and not too thickly, taking care that the cutting touches the bottom of the hole made by the dibble, and well fix. Give a gentle watering, and keep close and shaded when necessary, till rooted. Strong sunshine must not be permitted to reach the cuttings for a few minutes even, or the leaves will most probably turn yellow and fall. Budding may now be proceeded with, and continued during the next five weeks. The stocks and buds "run" well at present, but should dry hot weather alter this, the remedy lies in thoroughly soaking the ground about the stocks, more especially a day or two before attempting to bud them.

Tulips and Ranunculuses.—When the tops of these are quite dead the roots ought to be lifted, dried, and stored in boxes of dry sand, or the Tulips may be kept in bags. In either case they ought to be stored in a cool dry place and well protected from frosts. When left in the open ground the choicer Tulips and the bulk of the Ranunculuses either perish or fail to flower satisfactorily. Crocuses may also be safely lifted, harvested, and stored, though they keep well in the open ground, especially if not very near to the surface. Snowdrops and Daffodils are best left where they are.



APIARIAN NOTES.

ALTHOUGH the past week did not come up to the bee-keeper's ideal of fine weather, a marked improvement has taken place. On the 20th the thermometer stood at 63° with a chilling wind. For about fifteen minutes the bees were carrying honey briskly, which proved the honey flow had commenced, but none was gathered until the 22nd, when the test swarm recorded 2 lbs., which were gathered in about two and a half hours. On the 23rd it gathered 4 lbs. without any loss during the night. On the 24th the thermometer's morning reading was 54°, remaining at 57° during the most of the day. It again stood at 54° on the morning of the 25th, rising throughout the day to 65°. On the 26th it registered 54° in the morning, rising to 70°. During the day the test hive gained 3 lbs. The highest night temperature of the whole year occurred during the night of the 26th, the temperature on the morning of the 27th being 57°, and rising throughout the day to 74°. The 26th and the 27th were the two first days of the season our bees wrought and hummed as we like to see and hear them during the summer.

PREPARING FOR THE MOORS.

The favourable change of the weather has rather upset my plans of taking the bees to the Heather so early as I expected. I may have full supers to remove, besides it is unsafe to move bees during a honey flow, even in the best prepared hives such as ours are, all with shallow combs and ample ventilation. When a cessation of honey gathering takes place I will embrace the opportunity to remove the bees. A few seconds is ample time to prepare each hive for the journey. The alighting board and ladder, after the doorway is closed, are folded up in front and held rigid with a wire catch, and with the ventilator dropped the hives are ready for the journey of fifty miles. Not a bee can escape, nor will a comb collapse, nor the bees be overheated, although confined for about seventeen hours.

As few of my hives have swarmed I may expect a busy time of it at the moors, but in the event of them swarming I will prevent increase by joining the swarms or swarm to one previously swarmed, on or after surplus queen cells have been excised. My hives all carry three cover of supers. I have therefore in ordinary seasons an abundant supply at hand. With these and the large hives they have space to rise 100 lbs.

HIVING BEES.

Hiving bees into their permanent hive in the evening after swarming, and not immediately thereafter, is not obsolete, although it ought to be. By delaying much valuable time is lost to the bees and profit to the bee-master. While shaking swarms in front of the hives with the expectation of the bees and queen assuredly taking to them, is another old system which ought to be abolished. One evening lately a bee-keeper near me had several swarms located in temporary hives. An adherent of the shaking system visited him, proffered his services to hive the bees into their permanent hives. Everything was prepared in the usual manner and the bees forthwith shaken on to the covered gangway for their ascent to the hive. Large pieces of comb that had been built in

the interior fell to the ground, and the queen flew away and was lost. In order to save the swarm another after-swarm was added; it had several queens, one was kept, but the bees of the latter and many of the former left the hive.

On that same day I placed several swarms in their permanent hives. After I had the living box with bees into the super-protector, in a few seconds more the bees were all in their hives, not one escaping. Compare the two methods and their results, and in candour say if the latter plan is not by far the safer and best method. While the preservation of comb and bee energy are noticeable on the one hand the destruction of both on the other cannot be otherwise than a loss to the bee-keeper in persisting to practise so questionable a method.—A LANARKSHIRE BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

Armitage Bros., High Street, Nottingham.—*Bulb Catalogue.*

W. B. Hartland, Patrick Street, Cork.—*Irish Daffodils.*

L. Spath, Rixdorf, Berlin.—*Bulbs and Hardy Plants.*



All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Nectarines Rusted (M. F.).—The fruit you have sent is destroyed by the fungus named and described on page 94, July 26th, in answer to "A. A." That full reply applies exactly to your case, and you cannot do better than have recourse to the measures there suggested.

Peas Failing (A. A.).—The Pea plants have turned yellow in the haulm and the roots have died through an attack of the Pea rot fungus (*Peronospora viciae*). This has been rather prevalent this year, particularly in heavily manured ground, which, though it does not produce the parasite, favours its operations. The germs of the fungus may have been introduced in the manure, or they may have been present in the cuticle of the seeds. Grand Peas are grown in the manner you describe, especially in a hot season and on a dry soil, but instead of merely putting in the manure it is an excellent plan to fork it into and mix with a spit depth of the soil below, if there be enough soil to admit of it, otherwise mix the manure with the upper soil, except so much as is necessary for sowing in.

Hippeastrum (Amaryllis) aulica Seed Sowing (Somerset).—The seeds should be sown as soon as ripe in well-drained pots or pans of sandy loam four parts, well decayed leaf mould one part, and a part of sharp sand, mixing well, and having the surface fine and level. Scatter the seeds evenly about an inch apart if sound, and cover slightly, about the depth the seeds are in thickness, with fine soil. The soil should be kept moist, and in a temperature of 65° to 70° the seedlings will soon appear—certainly by spring. All that is necessary is to keep the soil properly moist, and when the seedlings are large enough to handle, preferably in spring time, place them singly in very small pots, taking care not to cover too deeply, and afterwards plunge in bottom heat, or keep close, moist, and shaded till re-established. In the temperature named the seedlings will grow quickly, and with an annual shift in spring soon attain flowering size. Avoid over-potting and inserting too deeply—about half covering the bulbs after they form.

Disqualifying Vegetables (Secretary).—Unless there is an interpreting clause somewhere in the schedule, the judges were, strictly speaking, wrong, though we cannot blame them for exercising their common sense and disqualifying the exhibit. A class entitled a "tray of vegetables, six varieties," would not only admit, as you put it, "two sorts of Carrots," but six sorts, if they were distinct varieties; or, in fact, six sorts or varieties of any other vegetable, such as Potatoes, Peas, or Beans. Surely that is not what was meant by the framers of the schedule; and if it was they should have said so. The judges reasonably thought that six kinds were meant, which is quite another matter, and then two sorts of either Carrots or anything else would dis-

qualify. In a class entitled "six kinds of vegetables, distinct," there must be that number of kinds and no more, and any excess would disqualify. If it is stated in the schedule the "decision of the judges shall be final," we should advise them to adhere to their verdict under the circumstances. They have reason on their side, and their ruling may lead to more definite terms another year.

Diseased Onions—The Pear Tree Slug (C. O.).—The Onions are infested with the fungus named *Peronospora Schleideniana*, an ally of the Potato disease fungus. Bordeaux mixture applied soon enough has been found of great benefit in both cases. It is preventive, however, rather than curative, as when the enemy has once taken firm possession of the tissues of the plants fungicides have, of necessity, comparatively small effect in its destruction. All infested parts should be burned, and Onions grown distantly from the site another year. The other leaves are attacked by the Pear tree slug, the larva of *Selandria æthiops*, known also as *Tenthredo adumbrata*. The slimy black slugs eat away the parenchyma of the leaf, as shown in the illustration (fig. 18), and is frequently very destructive to wall trees, bringing growth to a standstill and causing the fruit to drop. Miss Ormerod, in her "Manual of Injurious Insects and Methods of Prevention," says:—"The slug-worm attack can be checked by dusting or syringing. The caterpillars, if annoyed by throwing a caustic powder on them, such as quicklime or gaslime, can throw it off at first by exuding a coating of slime, and thus, as it were, moulting off the obnoxious matter; but they cannot keep on



FIG. 18.—THE PEAR TREE SLUG.

continuing this process; therefore a second application of the powder (of course soon after the first) takes effect and kills them. If a good time is allowed to elapse between the dressings, they will have regained the power to produce the slime exudation, and the dressing will do little good. Heavy syringings of the tree with strong soapsuds, applied by a powerful garden engine, are very effective in getting rid of this pest. Tobacco water will destroy them; and lime water has also been found useful, in the proportion of a peck of lime to 30 gallons of water; it is noted that if 2 lbs. of softsoap are added, it will improve the mixture."

Shell-insect Destroying Cucumber Plants (Cross).—The shell-insect is one of the small shell-snails, and has been introduced with the soil. It is increased from eggs, which are somewhat difficult to destroy, as also are the minute molluscs, as they withdraw within their shells, and it is not easy to get anything to follow them. Good results have been had from watering with lime water, which may be made as follows:—Procure some light lumps of quicklime, as fresh from the kiln as possible. Slake and add 3 gallons of water to each pound of quicklime used, stir and let stand for twenty-four hours, then employ the clear lime water through a fine-rose watering can, about a gallon per square yard being sufficient for one application, which may be repeated every fortnight if necessary, but fresh lime water must be used each time, it not having stood less than twenty-four nor more than forty-eight hours. It will not injure the plants. Obviously this must be used when the snails are busy feeding to be the most effective.

Weak Asparagus (D. B. F.).—The weakness of the produce is certainly not the result of non-salting the beds last spring. The character of the stems is governed by the condition of the crowns as formed and matured during the preceding summer and autumn. The stronger the summer's growth the finer the spring heads, and salting in the spring does not strengthen the stems for cutting, but it favourably influences the aftergrowth of those uncut in some soils and seasons. Generally the practice of salting is good, especially in dry soils and localities; but a good dressing of manure is often of greater advantage. Probably most cultivators both dress the beds with manure after the stems are cut down, and apply salt in the spring. If the salting did nothing more than keep down weeds it would do material good, as these appropriate the virtues from the soil that would otherwise be retained in it for the Asparagus. Cutting too closely and too late is a common cause of weak Asparagus, and several applications of liquid manure to the beds in the summer are of greater benefit than the majority of persons appear to appreciate. Some Asparagus beds are much overcrowded, and the produce then is bound to be weak.

Taking Buds of Chrysanthemums—Petroleum for Mealy Bug—Cuttings of Bedding Pelargoniums (Henri).—1, It is not too early to take the buds of Chrysanthemums, as there is a great difference in their showing, it being desirable to have them all "taken" from about the 6th of August to the 1st of September. The general stock will, as a rule, vary in time of taking from the 10th of August to about that date in September, which will give a long succession of bloom. 2, About a tablespoonful of petroleum to half a gallon of water is safe for sponging and brushing purposes; for syringing a wineglassful to 4 gallons of water is preferable. Care in either case must be taken to keep the mixture thoroughly mixed, otherwise it will damage the plants. It must be kept from the roots. The advertised remedies are much handier and safer. 3, Bedding Pelargoniums root most satisfactorily inserted in sandy soil in the open ground and in the full sun. Put in before or by the middle of August they will be well rooted by the end of September, when they should be lifted carefully and placed in 3 or 4-inch pots (not larger) for the winter.

Streptocarpus Culture (K. H.).—Your flower is one of the many varieties of Streptocarpus Rhexi. They are pretty dwarf growing plants and require warm greenhouse treatment. They are readily raised from seeds, and if sown early and grown well they flower at the end of summer. Grown indifferently the seedlings may not flower until the second year. Propagation is also effected by division in the spring. The plants require resting in the winter, not allowing them to become dust dry at the roots, but keeping on a rather moist base, where they will receive a little moisture without making the soil wet, and the temperature ought not to be less than 50°. When growth recommences water should be given more freely. They grow well in light rich soil, preferably fibrous loam two parts, and one part of leaf soil with a sixth of sand. Seedlings are sometimes kept gently moving through the winter from a summer sowing of seeds, and these make a fine display the following season. The plants do not require a large amount of pot room, and take up little space. They are fine for margins to plants of larger growth. We have seen them luxuriating planted close to the edge of the path in the succulent house at Kew, where they formed an attractive border.

Phenyle for Destroying Eelworms (C. H. Contich).—1. Phenyle destroys the eelworm attacking Cucumbers, Melons and Tomatoes, called *Heterodera radiculicola*, which is not worse to kill, if as hard, than *Tylenchus devastatrix*. This you may readily prove by subjecting them to experiment in different solutions and at various strengths, watching their movements in their death throes as we have for several hours at a stretch. Then you will discover that it is not a question of killing the eelworms, for that is easy enough, but of finding such substance as will not injure but benefit the plant, which means absorption and reaching the eelworms in the tissues of the hosts. If phenyle be employed in time, that is, before the female has formed a gall for breeding purposes, it will destroy the whole race of eelworms, but if the tubercle has formed several coats around the fertilised female or females, neither phenyle nor anything else will destroy them without at the same time killing the roots, for the eelworms do not live on the matter the roots absorb but on the nitrogenised substances elaborated in the plants. That is the reason why eelworm infestation is incurable. Nevertheless there is a way to overcome that difficulty, which is purely physiological and easily effected in perennial plants by simple dressings of mineral manures. As remarked, the point is to catch the eelworm before it is fertilised, that is, in the soil, therefore instead of attempting the cure of badly affected plants the proper thing to do is to disinfect the soil or take preventive measures. You mention "sulphur of carbon," no doubt meaning bisulphide of carbon, which is used for the destruction of many root insects on the Continent, in America and elsewhere. It is a thin liquid which volatilises at a low temperature, the vapour being very destructive to animal life. It is also very inflammable, and should never be used near a lamp or fire, nor must the vapour be inhaled by any animal, much less mankind. It will not kill eelworm in the root nodules, for which we have given reason, but if you make holes with a dibber a foot deep and at that distance apart, pouring into each a little, say a tablespoonful, and at once close up the mouths of the holes securely, which causes the fumes to permeate the soil in all directions, you will find that, especially in loose or fine soils, it will kill every eelworm outside the root or stem nodosities. We do not recommend bisulphide of carbon for any purpose but insertion in air-tight receptacles to kill museum pests, and only experts can use it safely. 2. The phenyle is not recommended for any plants but those of a free growing nature; but it may safely be used for all plants liable to attack of eelworm, whether in pots or planted out. 3. Phenyle is one of the best disinfectants—destructive of bacterial germs, and very extensively used both in that form and as "carbolic acid," or creolin. The last and phenyle are non-poisonous, and the last in "soluble" form, which is the only one we advise, is a manure, and only such as act in that way, that is, in favour of the plant and destructive of the parasites, has any claim to acceptance from horticulturists of the present advanced age. Soluble phenyle will not kill everything injurious to plants, but it will free the soil of most grubs injurious to crops grown for their useful products, and at the same time benefit them in their growth, as will also many other substances. 4. We do not know the wholesale price of soluble phenyle, but it is sold by most druggists, and they would be pleased to quote wholesale prices. The reason we mentioned it at all was because we came across it cursorily in our experiments on eelworm, and if it can be put where that is the pest will soon wriggle itself out of existence. Nitrogen is what the eelworm requires for breeding purposes, and it is

doubtful if it enters the plants for any other purpose, as it can and does live on decayed matter in the soil indefinitely. This applies to all eelworms.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (H. H.).—*Lilium excelsum*. (D. B.).—*Oncidium macranthum*. (Lanarkshire).—1, *Coprosma Baueriana variegata*; 2, *Sida incarnata*; 3, *Arbutus hybrida*; 4, *Symphytum officinale* (Comfrey); 5, *Hemerocallis flava*; 6, *Centaurea moschata* (Sweet Sultan); 7, *Eulalia japonica variegata*. (S. K.).—*Collutea arborescens* (Bladder Senna). (Fardel).—A form of *Lælia elegans*. (Ignoramus).—1, *Philomis fruticosa*; 2, *Scabiosa ochroleuca*; 3, not yet identified; 4, *Linaria flexuosa*; 5, *Sida incarnata*; 6, *Agrimonia odorata*. (Cynosurus).—The two penny stamps for excess postage have not come to hand.

GARDENERS' CHARITABLE AND PROVIDENT INSTITUTIONS.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—*Secretary*, Mr. G. J. Ingram, 50, Parliament Street, London, W.C.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—*Secretary*, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

ROYAL GARDENERS' ORPHAN FUND.—*Secretary*, Mr. A. F. Barron. Royal Horticultural Society's Gardens, Chiswick, London, W.

COVENT GARDEN MARKET.—AUGUST 1ST.

TRADE quieting down, the bulk of the soft fruit having been cleared.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Cherries.. .. .	2	6	to	5	6	Lemons, case	10	0	to 15 0
Currants, Black, half sieve	3	0		3	6	Peaches, per doz.	1	0	8 0
" Red,	2	0		2	6	St. Michael Pines, each	2	0	6 0
Grapes, per lb.	1	0		2	0	Strawberries per lb.	0	0	0 0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Beans, Kidney, per lb.	0	6	to	0	9	Mushrooms, punnet	0	9	to	1	0
Beet, Red, dozen	1	0		0	0	Mustard and Cress, punnet	0	2		0	0
Carrots, bunch	0	3		0	4	Onions, bushel	3	6		4	0
new, bunch	0	9		1	0	Parsley, dozen bunches	2	0		3	0
Cauliflowers, dozen	1	6		3	0	Parsnips, dozen	1	0		0	0
Celery, bundle	1	0		1	3	Potatoes, per cwt.	2	0		4	8
Coleworts, dozen bunches	2	0		4	0	Salsafy, bundle	1	0		1	5
Cucumbers, dozen	1	6		3	0	Scorzonera, bundle	1	6		0	0
Endive, dozen	1	3		1	6	Shallots, per lb.	0	3		0	0
Herbs, bunch	0	3		0	0	Spinach, bushel	1	6		3	0
Leeks, bunch	0	2		0	0	Tomatoes, per lb.	0	4		0	8
Lettuce, dozen	0	9		1	0	Turnips, bunch	0	3		0	4

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arum Lilies, 12 blooms ..	1	6	to	3	0	Orchids, per dozen blooms.	3	0	to 12	0	
Asters (French) per bunch	0	6		1	0	Pansies, dozen bunches ..	1	0		2	0
Bouvardias, bunch	0	6		1	0	Pelargoniums, 12 bunches	4	0		6	0
Carnations, 12 blooms ..	0	9		1	6	Pelargoniums, scarlet, doz.					
" doz. bunches..	2	0		4	0	bunches	2	0		4	0
Cornflowers, doz. bunches	1	0		2	0	Pinks, various, doz. bnchs.	1	0		3	0
Crassula, per bunch ..	0	9		1	3	Poppies, various, dozen					
Eucharis, dozen	1	6		3	0	bunches	0	6		1	0
Gaillardia, dozen bunches	1	0		2	0	Primula (double), dozen					
Gardenias, per dozen ..	1	0		4	0	sprays	0	6		1	0
Gladiolus, dozen sprays ..	1	0		2	6	Pyrethrum, dozen bunches	3	0		6	0
Lily of Valley, doz. sprays	1	0		1	6	Roses (indoor), dozen ..	0	6		1	0
Ditto dozen blooms ..	0	4		0	6	" (outdoor), doz. bnchs.	3	0		8	0
Lilium longiflorum, per						" Tea, white, dozen ..	1	0		2	0
dozen	2	0		4	0	" Yellow, dozen	2	0		4	0
Maidenhair Fern, dozen						" Safrano (English), doz.	1	0		2	0
bunches	4	0		6	0	" Maréchal Niel, doz...	1	6		4	0
Marguerites, 12 bunches ..	1	6		4	0	Stephanotis, dozen sprays	1	0		2	0
Mignonette, 12 bunches ..	1	6		4	0	Stocks, dozen bunches ..	2	0		4	0
Moss Roses (English), doz.						Sweet Peas, dozen bunches	1	0		3	0
bunches	6	0		12	0	Tuberose, 12 blooms.. ..	0	4		0	6
Myosotis or Forget-me-											
nots, dozen bunches ..	1	6		2	0						

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arbor Vitæ (golden) dozen	6	0	to	12	0	Hydrangea, per dozen ..	9	0	to 18	0	
Arum Lilies, per dozen ..	6	0		12	0	Ivy Geraniums	4	0	6	0	
Aspidistra, per dozen ..	18	0		36	0	Lilium auratum, doz. pots	12	0		18	0
Aspidistra, specimen plant	5	0		10	6	„ Harrisii, per dozen	12	0		24	0
Calceolarias, dozen pots ..	3	0		6	0	„ lancifolium, dozen					
Crassula, dozen pots..	12	0		30	0	pots	9	0		15	0
Dracæna terminalis, per						Lobelia, per dozen	3	0		4	0
dozen	18	0		42	0	Lycopodiums, per dozen ..	3	0		4	0
Dracæna viridis, dozen ..	9	0		24	0	Marguerite Daisy, dozen ..	6	0		12	0
Ericas, per dozen	9	0		24	0	„ yellow, doz. pots	6	0		18	0
Euonymus, var., dozen ..	6	0		18	0	Mignonette, per doz... ..	3	0		6	0
Evergreens, in var., dozen	6	0		24	0	Musk, per dozen	2	0		4	0
Ferns, in variety, dozen ..	4	0		18	0	Myrtles, dozen	6	0		9	0
„ (small) per hundred	4	0		8	0	Nasturtiums, per dozen ..	1	6		4	0
Ficus elastica, each	1	0		7	6	Palms, in var., each	1	0		15	0
Foliage plants, var., each	2	0		10	0	„ (specimens)	21	0		63	0
Fuchsia, per dozen	4	0		6	0	Pelargoniums, per dozen..	6	0		12	0
Heliotrope, per dozen ..	4	0		6	0	„ scarlet, per doz. ..	2	0		4	0

Roots in variety for planting out in boxes or by the dozen.



DAIRY FACTORIES.

FAILURE has come to many a dairy factory from attempting too much at the outset. The comprehensive scope of the Cumberland factory, which we mentioned a fortnight ago, is altogether praiseworthy for it, but for beginners, especially for co-operating farmers, upon the principle that he who goes softly goes safely, it is better to begin at any rate with butter. The guiding principle, the rule of action, must be a first-class article and nothing else. This is much easier of attainment with butter than with cheese, and then, too, with a young company the nimble ninepence is altogether preferable to the slow shilling. With butter the turnover is quick, with cheese at best it is slow. Some factory cheese is so skilfully managed that it is ready for market in a month, but Stilton cheese requires full six months to ripen and even a Gorgonzola requires three to four months, with as much daily attention as the Stilton.

Butter-making may be so managed that there can be a daily churning, but as a general rule it answers best to churn about twice weekly because of the time required for ripening the cream before churning. The butter may be sent to market regularly the day after the churning, and it is obvious that this means prompt payments, which is one of the preliminary matters of detail requiring special attention. There is no difficulty about this if a first-class sample of butter is placed on market with a guarantee for the maintenance of quality, and for the supply of a sufficiently large quantity to command the notice of wholesale dealers.

For such a factory the building arrangements are very simple, and it may help to make this clear if we quote part of a report which we made some time ago of the Harleston Co-operative Factory in Northamptonshire:—"Part of a disused malting in the village of Harleston has been taken for the purpose, and there is ample available space for any subsequent extension of the factory as it becomes necessary. The factory now consists of three divisions, connected, yet shut off from each other—the engine-room, the dairy, with an upper story, and the weighing and milk delivery compartment, out of which doors open into the store-room and dairy. The advantages of this arrangement are obvious. The new milk is received, and the separated milk despatched without the persons engaged in that work having to enter the dairy at all. Each 'churn' of milk as it is brought in is placed upon the machine, which weighs it, and prints the weight upon a slip of paper. It then elevates the churn and empties it into a cistern upon the upper floor, whence the milk passes through a pipe to the dairy and into a Victoria separator, driven by steam. The cream runs into receivers, and the separated milk is driven upwards to a refrigerator, and flows thence, cooled, into another cistern, whence it is drawn into the weighing room and taken away. The huge barrel churn is also driven by the engine, as is the large circular Norwegian butter worker, and as the butter is made up into pounds it is placed upon small slates, each holding 15 lbs., and taken to the store-room, where there are iron racks around the sides to receive the slates. A Victoria milk-tester, by an arrangement of multiplying wheels, causes a holder containing a few small bottles of milk to revolve with such rapidity that the cream rises to the upper end of the bottles, and then the quality of the milk is seen at a glance. Access to the engine-room is had only by an outer door, so that all risk of steam or dust in the dairy is avoided. The dairy utensils are cleaned by being inverted over a steam-pipe in the engine-

room. The butter made is most excellent, and it commands ready sale at 1s. 5d. per lb. retail, and 1s. 4d. wholesale. It should be mentioned that in the conversion of the building into a dairy, especial care was taken to make only perfect surface drains. The whole of the work was done, and the working plant purchased for the very moderate sum of £600."

To this we may add that the store-room has a surfacing of glazed tiles for perfect cleanliness, and the prevention of taint which is so frequently imparted by porous substances. There is not a milk-pan in the factory, the milk being separated as it is received, so that much less space is required as well as less labour than in the old-fashioned dairy with its milk pans and cream skimmer. The surroundings of the factory should also have attention so as to avoid any risk of taint, and the separated milk should be consumed by pigs kept for the same reason at a safe distance from the factory. With an elevated site, fixing a pipe for the passage of separated milk to the piggeries is easy enough.

WORK ON THE HOME FARM.

Happy is the farmer who saved his hay in June; the showers which have fallen since then have brought to him a rich reward in an abundant aftermath, upon which cows and cattle thrive. There is a resultant full yield of rich milk, and a laying on of flesh, which points to a profitable sale of fat beasts off pasture in the autumn. The only objectionable feature is the irritation from flies, which continues throughout the long hot summer days, in a manner that cannot be realised without close observation. The most casual observer must see the maddened beasts rushing about in vain efforts to shake off the clinging gad flies, but closer inspection shows whole clouds of flies, preventing anything approaching to rest, or that quietness which is so necessary to the well-doing of both cows and fattening beasts. The effect upon cows so exposed is a serious decline in the milk yield, and upon cattle a positive loss of condition. Very much of this harm is avoided by keeping them in a covered yard during the heat of the day, and giving them enough green food and water to keep them contented and quiet.

Calves should also have equal care, and as autumn draws nigh they should be withdrawn from damp low-lying meadows, and kept from exposure to heavy rain. It is because they are not so cared for that serious losses among them are so common. Hoose and black-leg carry off thousands of such young stock every year. Very much of this evil may certainly be regarded as preventable loss. Mark the term as another proof that prevention is better than cure.

Why not try ensilage? To go trying to make hay while it rains more or less daily is to spend time, strength, and money in trying to get inferior hay into stack. If, on the contrary, we turn to ensilage, there is no loss of quality; we have simply to mow the grass, cart it at once, whether wet or dry, make a heap like a manure mixen, so as to be able to cart upon it, as well as press it down with a heavy roller, making the heap first of all 4 or 5 feet high, then waiting a few days for it to settle, then adding another similar layer and so on. There is nothing more simple, nothing more sure. It is an embodiment of true economy, enables us to get the grass off the land quickly, and to make provision of a store of rich, wholesome food for winter.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude. 111 feet

DATE.		9 A.M.					IN THE DAY.				Rain.
1894.	July.	Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday ..	22	29.910	61.9	57.4	N.W.	60.5	70.4	52.6	111.8	48.8	0.242
Monday ..	23	29.775	60.6	58.7	N.	60.9	62.7	56.9	78.1	56.4	0.033
Tuesday ..	24	29.991	60.9	59.1	N.	60.1	74.3	57.1	106.9	57.3	0.202
Wednesday ..	25	29.980	66.7	62.2	S.	60.9	76.7	61.1	119.7	60.7	—
Thursday ..	26	29.924	65.1	60.0	S.	61.1	73.7	54.9	118.4	50.1	—
Friday ..	27	29.978	63.1	59.4	Calm.	61.3	75.9	54.8	111.9	50.6	—
Saturday ..	28	30.103	68.4	61.6	N.E.	61.1	73.0	52.7	115.8	47.4	—
		29.952	63.8	59.8		60.8	73.1	55.7	109.4	53.0	0.477

REMARKS.

22nd.—Fine sunny morning; overcast afternoon and evening; rain at night.
23rd.—Rain from 2 A.M. to 4 A.M.; overcast and damp till 11 A.M.; fair but sunless till 4.3 P.M., then raining till 7 P.M.
24th.—Overcast and humid morning; a gleam of sun at 1 P.M.; gloomy afternoon; spots of rain in evening, and heavy rain from 9.45 P.M. to 11.30 P.M.
25th.—Gloomy early, but frequently sunny after 9 A.M., and generally bright in afternoon; spots of rain at 3.30 P.M.
26th.—Bright early, and alternate cloud and sunshine after; shower at 10.50 A.M.
27th.—Fine throughout, and generally bright.
28th.—Bright sunshine throughout.
Rather a dull week, with however four practically rainless days. Temperature rather higher.—G. J. SYMONS.



CEMETERY GARDENING.

TO many the dawn of memory in childhood is associated with some plant, flower, or shrub, and by many the same means are employed as a tribute to the memory of departed friends. Though the subject may be, is, in fact, one of sentiment, it is one that age cannot wither nor custom stale, though Time has wrought changes more compatible with modern ideas. The older system in which the melancholy Cypress and sombre Yew monopolised the tree or shrub planting of ancient graveyards, is one in which custom ordained that these grounds should bear a lugubrious aspect. Some examples in the expression of modern thought have attained the other extreme. In an extensive West of England cemetery the brilliant effect of a mass of beds at the principal entrance, filled with the most florid of summer bedders, savoured to me of a garishness not in keeping with its functions. The glaring effect was probably heightened by surrounding bareness. Trees and shrubs would have done much to tone down the barbaric splendour of colour. There is a beauty in the fitness of things to their purpose, be that purpose what it may.

Indiscriminate planting by relatives in public cemeteries needs but a passing thought. If we do not at all times admire the means employed, there are reasons why they should be respected. Nor is this a matter of any magnitude. Each plot is small; alas! so small—6 feet of English earth or Irish sod, no more. Apart from this phase of the question there appears to me some room for improvement, more perhaps a matter for the controlling powers than for individual movement. It is that those suggestive mounds might be abolished and a simple rectangular formation of the graves take their place. This by a level surface would give facilities for planting and keeping which the prevailing system does not. A raised verge of grass neatly trimmed is a simple and effective border, but doubtless in our much-resorted-to public cemeteries something more durable and requiring less attention would be preferable. This might be done with metal frames of a few inches in depth; pins or feet at each corner for inserting in the soil would give stability and prevent shifting. I am aware of the difficulties besetting the invasion of a long established custom, also of the delicacy of doing so in this case, yet the suggestion may commend itself in being conducive to that order and decorum so necessary to maintain; by its simplicity and inexpensiveness, and being within the reach of many who cannot afford the more costly bordering of cut stone.

Evergreens, now largely used, form, as they should do, the staple planting on the larger scale, but a judicious blending of those refined colours found in many of our deciduous flowering and foliage shrubs might, I think, be more generally employed, though these can only obtain their best effect where forethought has liberally provided room in the designing and laying out the ground. For the planting on the lesser scale—viz., the graves, we have an infinite variety from which a selection of the most appropriate can be made, but all cannot make that selection. What a boon it would be to many could they obtain practical aid and advice on the spot, also be supplied at a nominal cost with suitable plants from a reserve garden attached to a large cemetery. This plan would prevent those incongruities often noticeable.

Memories of early days carry me back to a large London cemetery with its severely realistic associations, where the landscape

gardener had not entered, and the crudest type of amateur gardening prevailed. Doubtless all is changed since then. We live in an age of change, with its tendency to move on. More pleasing recollections of after years was a visit to Newport Cemetery, Monmouthshire, which by its situation and tasteful disposition of the trees and shrubs gave the impression of being very beautiful. Others since visited in England and Ireland have given to a gardener's eye something to admire and something to desire.

The last seen, perhaps the least in point of size, is my beautiful ideal of what God's acre should be. It is the Convent cemetery of the Loretto Abbey, Rathfarnham, Co. Dublin. I could discourse at some length on the rather extensive, well stocked fruit and vegetable gardens, each quarter framed in borders of hardy flowers, but this is outside the present subject. The private cemetery is a garden within the garden. It appeared to be walled in, yet a profusion of Ivy and creepers in pendant luxuriance gracefully outlined the whole. With the exception of a massive Celtic cross to the memory of the Foundress, one saw but few reminders of the Destroying Angel's presence. Low-placed metal memorials entwined with white Roses, now blooming profusely, inconspicuously marked each resting place. A continuous border of hardy flowers under the creeper-clad walls were of every conceivable shade of white. As seen here, that sameness one might expect from the use of white flowering plants only, did not obtain. With the trees, shrubs, and flowers Nature is allowed to have just so much of her own way as shows to her best advantage. Order without undue restraint gave the happiest effect. To me there was a beauty and appropriateness not before observed in cemetery gardening. To Sister Evangelista, the lady who conducted us, there was a deeper meaning attached to many of these floral tributes—they bore the touch of vanished hands, that had years ago brought many of the roots to this garden in a garden.—E. K., *Dublin*.

FERNS AND MOSSES FOR WINTER DECORATIONS.

No matter how great the resources of gardening establishments may be, or how vigorous the efforts put forth to maintain a stock of these useful materials, there is generally a scarcity of them during some part of the winter. This is not to be wondered at, seeing the many forms of decorations which gardeners are now called upon to carry out, and in the majority of instances well-grown Ferns in small pots and rich cushion-like potsful of Mosses are of immense service in helping to give finish to decorative work. The present is an excellent time to set about the task of increasing the stock of both. If this is done at once, with good treatment they will be ready for use by November and December, a period during which they are in great request.

Where the convenience of a fernery is at hand no difficulty will be experienced in obtaining many young seedlings. Ferns of all descriptions—Adiantums, Pterises of the serrulata and tremula types, Nephrodium molle, Nephrolepis tuberosa, and Lomaria gibba are some of the best for the purpose, because they grow quickly, and usually spring up in abundance under the stages, on walls, and upon the surface soil in which larger plants are growing. Even in those gardens which do not boast of the convenience of a fernery, numbers of young seedlings may usually be obtained from plant stoves and greenhouses. No matter from where obtained, so long as they are healthy, if given suitable treatment good progress will be made.

The practice I adopt with these is to prepare a number of boxes for their reception; these are usually about 3 inches in depth, an inch of finely broken crocks or coal ashes is placed in the bottom, and covered with rough leaf soil free from sticks. Over this comes an inch layer of prepared soil; this consists of two parts peat, one

part loam, and a plentiful addition of sharp sand. The whole is passed through a half-inch sieve, well mixed, and then pressed lightly into the boxes, after which a thin layer of sand is placed on the surface. Into this the Ferns are dibbled from 1 to 2 inches apart, according to their size; as each box is filled the contents are thoroughly watered with a fine rose, the whole being then covered with a square of glass. These miniature propagating boxes may then be placed in almost any glass structures where regular shade can be given, and the surrounding atmosphere kept regularly moist. Cucumber and Melon houses fulfil these conditions admirably, therefore the beds underneath the plants afford excellent positions in which to place the boxes. Propagating houses are, of course, at all times suitable for the same purpose, but it is often a difficult matter to find room in it for a large number of Ferns.

Where neither of the above named structures is available cold pits may be turned to excellent account for raising Ferns during the summer months. A few inches of cocoa-nut fibre refuse placed in them provides suitable material to stand the boxes upon. These pits should be kept heavily shaded and close for a couple of weeks, after which air may be gradually given. With this treatment syringing once or twice daily will be necessary to maintain a moist atmosphere. The squares of glass covering the boxes ought also to be daily reversed to prevent condensed moisture causing the young fronds to damp. Watering when required should be done through a fine rose, and whenever the surface soil becomes green it ought to be stirred with a pointed stick.

When the young Ferns begin to grow freely the glass covering the boxes should be removed, then, with proper attention in the way of watering, syringing, and shading, rapid progress will be made. I find it necessary to allow the Ferns to be thoroughly established before transferring them to pots, they then lift with a good amount of soil adhering to the roots, and feel the check but little. In potting I use soil of a similar nature to that given them in their early stages. The strongest are placed in 3-inch pots, and the rest in thumbs. After potting they are again placed in cool pits, the pots being plunged to about half their depth. Regular shading is of course resorted to, but little air is given, and the frames are closed with abundant moisture early in the afternoon of bright days. About the middle of September it is necessary to remove them to warmer quarters, where they will remain throughout the winter months. The temperature of an intermediate house suits them admirably, but a dry atmosphere must be guarded against until about a week before they are required for use. Should plants be wanted in larger pots some of the strongest may be shifted into 5-inch ones, but I usually find them so useful in a small state that they are kept in miniature pots as long as they can be preserved in a healthy condition.

Turning to Lycopods, I find that none is more useful than the old and easily grown *Selaginella denticulata* for forming deep green cushions, and a groundwork for dot plants; well-grown potfuls are in great demand for dinner-table decorations. Five and 6-inch pots are a useful size in which to insert cuttings; these should be nearly half filled with drainage, over which a layer of manure from a spent Mushroom bed may be placed. A compost consisting of loam and leaf soil in equal parts, with sharp sand added, the whole being passed through a half-inch sieve, is a suitable one for inserting the cuttings in. This should be pressed in the pots rather firmly, receive a surfacing of sand, and be watered both before and after the cuttings are inserted. I generally select sprays about 2 inches in length, as I find they root quite as freely as shorter pieces, and, moreover, grow to a dense mass more quickly. If placed in cold frames and given exactly the same treatment as advised for Ferns in a similar position, by the middle of September good progress will have been made. The plants will then succeed well if placed either in a greenhouse or warmer structure, but for the purpose of having them in good condition for use as soon as possible the latter position is of course preferable.

Selaginella apoda and *S. apoda aurea* are also useful for certain kinds of decorative work, but I find they require a little artificial heat even in summer to keep them in good condition. Old plants should be divided into tufts, each division being placed in a thumb or 60-sized pot; a little finely broken charcoal may with advantage be mixed with a compost similar in other respects to that advised for *S. denticulata* (*Kraussiana*). Set the pots in a close frame or hand-light, placed in a propagating house or Melon pit, and with ordinary care no difficulty will be experienced in securing good growth. *S. caesia* is another variety which is generally useful, as its long trailing shoots have an appearance peculiarly their own. A good method of propagating is to dibble pieces about 3 inches in length into pans, and place under a bell-glass in a house where a brisk moist heat is at command.—D. W.

THE NUTRITION OF ROOTS.

I AM much obliged to Mr. Bishop (page 100) for his interesting letter, and have no idea of attempting to set him right. I have gained what I wanted to prove, for my original questions were, I am sorry to say, purely selfish. Mr. Bishop upholds my own ideas in every particular, for both the word "only" and the sentence about "mechanical decomposition" came from the authority who so unfortunately muddled the matter, and would otherwise not have been used by me. Happily, the result has been an interesting discussion for all, as well as the resolving of problems for—W. R. RAILLEM.

MR. BISHOP (page 75) is quite correct in his statement about distilled water, and I am quite wrong. I am told by an authority that it is very difficult to obtain absolutely pure water, owing to ammonia and other gases passing over in the still. I can only express my regret to the readers of the *Journal of Horticulture* for having put forward the statement, and assure them that when I did so I fully believed it to be correct.

At the same time I wish to point out that this does not in any way affect my contention with my friend Mr. Raillem (if he will allow me to call him so), that plants cannot live or thrive on vapour. The fact of there being present in vapour two or three elements of plant food is not sufficient to prove the case. While against this there are many elements that cannot be found in the atmosphere nor in condensed water, the absence of any one of which is sufficient to show the fallacy of the whole theory.

On reading the whole of Mr. Bishop's communication (page 75), I confess I am at a loss to understand what he means. He seems to me to be a little more at sea than he makes me out to be. He first shows that a certain process cannot take place, and then calmly goes on to show that it can and does. Here are his words (page 75):—"Let me tell Mr. Gilmour that all soluble elements and compounds which volatilise at a lower temperature than water, and even those which require more heat to volatilise them, may be found in the water condensed on the glass." Again (next paragraph) "distilled water will contain all organic elements or compounds that will volatilise at a lower or higher temperature than it takes to volatilise water."

Now take the next paragraph on the same page. "I will ask your readers to believe that water which is brought to the surface by evaporation will contain a great deal of the organic and inorganic elements that are soluble; they will be held in solution until the rarefied water reaches the surface, when the water becomes more rarefied, and passing off it leaves all its solid, inorganic, and organic impurities upon or close to the surface of the soil." Here Mr. Bishop abandons his former statement altogether, utterly ignoring the fact that the same heat which, in the one case, volatilises all the soluble elements that will volatilise at a higher or lower temperature than water, must act in the same way on the soluble elements that will volatilise at a higher or lower temperature in the other case. In a word, if Mr. Bishop's theory is correct, all soluble elements that will volatilise at a higher or lower temperature than water, when brought up to the surface of the ground must pass off into the atmosphere. The question is, Do they? My impression is that they do not. Therefore I think Mr. Bishop is at sea.

It is quite possible that Mr. Bishop may be able to explain away these contradictory statements, as he says (page 100), "We are obliged to say what we do not mean," though I, for one, fail to see the necessity. If ever I find myself in such a position that I am compelled either to insult every intelligent reader of the *Journal of Horticulture* by saying what I do not mean, or withdrawing from the discussion, I shall not hesitate to take the latter course.

It is impossible with the space at my disposal to discuss all the points put forward by Mr. Bishop. I will therefore take the more important and pass by the minor ones. He speaks of "rarefied" water (page 75). I think the word is not used in connection with water. Annandale's dictionary defines rarefaction as "the act of expanding or extending matter by separating the constituent particles; rarefaction means, opposed to condensation." If Mr. Bishop means by rarefied water, water that is broken up by a separation of its constituent particles, if he means water that has gone through the process which is opposed to condensation, or in other words has ceased to be liquid or fluid, then I am told and I believe that water in such a state cannot hold in solution any soluble elements of plant food whatever. Gases may be mechanically mixed with it, but that is not the point. Will Mr. Bishop explain what he means by rarefied water? Again, Mr. Bishop (page 100) speaks of capillary attraction carrying up rarefied water. The dictionary explains capillary attraction "as the cause that determines the ascent or descent of a fluid." But

rarefied water is not a fluid, so Mr. Bishop must devise some other method of getting his "rarefied" water to the surface.

The plain, straightforward facts of the case are these, I believe. The heat of the sun warming the earth's surface causes the water on the surface to pass into the atmosphere in the form of vapour. As fast as the surface water evaporates fresh water from below rises up by capillary attraction to take its place. This is the theory that, so far as I know, is accepted by the scientific world, and it has the advantage over the one put forward by Mr. Bishop that it requires neither miracles nor defiance of Nature's laws for its carrying out.

I wish to ask Mr. Bishop if he thinks it quite fair to insert conundrums in his communications? If he says he does not, what does he say to this (p. 100, last line in first column)? "My impression has always been that the roots being cooler than the soil the air condenses this moisture or vapour into water, and assimilates it with any food that may be in solution." Now here we have Mr. Bishop saying that *air assimilates food*. Will somebody throw him a life buoy? Otherwise he seems so far at sea that he runs great danger of being drowned.

In conclusion, does Mr. Bishop believe that his "rarefied water" contains all the elements of plant food? If he does not, surely he must admit his theory is a lame one; because if it is necessary that some of the elements should be drawn up and washed down again in the soil, I think we may fairly conclude that the others must also. If Mr. Bishop does believe that his "rarefied water" contains all the elements I shall be glad if he will send me a bottle of it condensed (properly authenticated as being condensed moisture, and not simply water direct from the soil), and I will agree to have it analysed on condition that if all the elements of plant food are found in it I pay, and if they are not found, then Mr. Bishop pays the analyst's charges. If he can procure this "rarefied water," and it be found to contain all the elements of plant food, I hereby promise not only to accept and believe his theory, but also to believe that he knows what he is talking about, on which point I must confess I am somewhat sceptical at present.—D. GILMOUR.

[On one point we are inclined to think our able correspondent did not quite comprehend Mr. Bishop in his reference to a writer "saying what he does not mean." Many writers on horticulture and other subjects not infrequently, for the sake of clearness, and to prevent possible misapplication of a sentence, indicate what they do not mean should be understood, for emphasising the meaning they wish to convey. This is perfectly legitimate, and wholly different from another interpretation to which the sentence is open.]

HARDY PLANTS FOR BEDDING.

IN many places where there is much bedding to be done the question of producing and keeping up the annual supply of good flowering plants is one that requires forethought and consideration on part of the gardener, and after he has exercised his greatest care in propagating and producing his supply he is often doomed to many disappointments. Last summer, for instance, was everything that could be desired for the bedding enthusiast. The continued brilliant sunshine throughout the summer suited such plants as Zonal Pelargoniums, Lobelia, Petunia, Coleus, and others perfectly. Flower gardens throughout the country looked charming.

Happily, a gardener is of a sanguine and hopeful turn of mind. If Nature deals kindly with him one season he is satisfied, and determines to supersede his efforts the next. He obtains a good stock of choice and often tender bedding plants, lays out his flower beds in his mind's eye, and pictures to himself the future landscape. But, alas! the next season may be such a one as we have many times experienced, a continual downpour of rain with little or no sunshine. The result is obvious; "Geraniums" and Lobelias cease to flower, and run away to rank and straggling growth. Coleus, which perhaps last year were in themselves quite a feature with their brilliant foliage, lose all their leaves, except perhaps a few blackened tips, and present a pitiable appearance. Calceolarias become diseased and die, leaving great gaps in the beds which cannot readily be refilled, and so his hopes become disappointments.

Again, in many places gardeners have not sufficient glass accommodation to store away during the winter and propagate in the spring the supply of bedding plants they require to meet the demand. They have to be grown in all sorts of nooks and corners, and consequently the plants are turned out weak and spindling, and the summer is well nigh over before the plants get into flowering condition. These difficulties may to some extent be averted by growing more plants of a hardier nature that are safe to flower, and can be produced at much less expense and labour.

While purposely omitting to mention any flowering annuals, there are many plants of a hardy nature that are worth considera-

tion. White Antirrhinums, with masses of snow white spikes of flower, are pleasingly conspicuous. By taking cuttings in the autumn, and protecting them from the severest winter frosts, any number of these plants can easily be raised. This plant flourishes in almost any soil or locality, which alone makes it a very useful acquisition to the bedding stock. Then we have several varieties of Viola; some of the best for massing were mentioned on page 57 last week. It is needless to say how easily large stocks of these can be raised in a short time under average circumstances. They commence flowering early in the spring, and are one continual mass of bloom until late in the autumn.

Then we have Pentstemons with their bright clusters of flowers, which are easily propagated in the same way. There are several varieties of dwarf Tropæolums which are fast becoming popular, the best of which, I think, are Milleri, with its dark foliage and deep crimson flower; Vesuvius, a bright scarlet; and Miss Clibran, bright yellow. By striking cuttings in the autumn, and keeping in a cool frame during the winter, any number of these may be easily raised in the spring. There are many other such plants, all of which if carefully blended help to break up that stiff formality which so often characterises the flower garden, besides being less susceptible to injury during a cold and cloudy summer.—G. H., Alton Towers.

DRAWING FOR GARDENERS.

THE inquiring mind of a young student of gardening will seek that knowledge more or less bearing on the vocation of his choice. In his probationary days he should embrace those opportunities which this period of his life presents in preparation for future possibilities, and it is the prerogative of youth that to him all things are possible. Thrown much upon his own resources in discriminating amongst the light or solid matter for study, undue prominence may be given to some phases of this self-tuition, with the resulting danger of not less important subjects being overlooked. There is also temptations besetting the young traveller on the path of knowledge to run off on the side tracks.

A judicious selection of subjects can be made, affording that variety necessary to avoid monotony, which tends to disgust. Elementary drawing is a pleasant and profitable occupation, and one that has not entered into the curriculum of every youth's school life. There are some persons who have had these opportunities before starting on the more serious race of life, yet do not always value them the most. There is, I think, a special blessing attached to self-taught lessons, for learning is acquired by the exercise of those virtues of patience, perseverance, and self-denial.

The direct bearing a knowledge of drawing has on garden work is perhaps only realised by those who have attained some proficiency in the subject. As important but not so apparent at first sight is that education of the hand and eye whereby faulty work is detected, and good work known and appreciated. In some cases it is the only medium of lucid expression between employer and employed. Employers, as a rule, want to know the particulars of some contemplated alteration before giving sanction to what may entail expense, and it is a gardener's duty, or should be, to show his ideas in a practical manner. If he can do so his object is often gained, but when left to verbal demonstration a confusion of ideas is apt to prevail. The "pourparlers" are broken off, the new house is not built or the needed alteration indefinitely postponed. On these grounds many a greenhouse is lost or won. It may be that the local builder or estate carpenter is called in and submits his plans, good ones from his point of view, but not meeting the requirements of the man most interested—the gardener, who per force of technical talk reluctantly yields to the other's dictation. When the completed work falls short of expectation or requirements, it is better for that man to ever after remain silent. A ground plan, section and elevation, correctly drawn to scale, whether of the humblest type of horticultural building or the most pretentious, should, though it may not emanate from the gardener's mind through his drawing pen, be to him perfectly intelligible. Where estate artisans are brought to work under the gardener's supervision, it is very essential that all details should be made clear to them. Few tradesmen, though they be not experts, will be mystified in making a door, sash, or rafter from a plan drawn on the scale of 1 inch to the foot.

From the designing and laying out of gardens or grounds to the lesser examples of forming beds the necessity of previous arrangement is obvious. "I carry all my plans in my head," said a gardener of the old school, and doubtless a good plan too if the receptacle was less opaque. Calling one day at a place noted for the owner's taste in the summer arrangement of his flower beds, a well-deserved compliment was paid to the hard-working planter in the midst of his labours. "That bed," said he, "I have planted and rooted up three times to-day." This was the result of

employer and employed carrying their plans in their heads. If they could have shaken them out on a sheet of paper and there arranged them it would have saved much time and temper, not to speak of the gain to the silent sufferers—the plants.

Under varying circumstances—the ups and downs of a gardener's life—there may be, often is, a time when the higher branches of his education appear superfluous, so little are they required, or opportunities afforded for use. Yet possession gives a man confidence in himself, and entails the respect of those with whom he is in daily contact. Parents or friends would do well when providing a youth with the necessities for his start in the world, to pack in his box a case of mathematical instruments, and instil in his mind the value of using them. This, I think, is as essential to his proper equipment as the knife in his pocket.—A WORKER.

METHODS IN CONTROVERSY.

WILL you allow me, as one of your old-time readers and correspondents, a little space in which to refer to methods of controversy? In bygone years discussions were conducted in such a spirit as to cultivate friendships and to impart information, while of late some of these discussions have, I fear, shown a tendency to degenerate into endeavours rather to catch an opponent tripping over a word than to elicit or convey instruction. Suggestions to “stand up and fight” may be very well for pugilists, but it is not the line which has given gardening its present status, nor what has helped to make the *Journal of Horticulture* the power in the land which it is to-day. “Sit down quietly and discuss,” rather than “stand up and fight,” is the principle which has done so much for us in the past, and which I am anxious to see maintained.

May I also refer to the question of signing our correct names or employing *nom de plumes*? If one's name is to appear under a contribution is there not a temptation to say something “smart”? Then if a controversialist signs his name, do not we find ourselves inclined to “go for” him, instead of attacking only the practice or the principle which he has advocated, and which we consider erroneous? Then, of course, he must reply with something stinging, and so retort follows retort, and rejoinder follows rejoinder, until the point about which the correspondence arose is lost. “Measures, not men,” should alone form the subjects of controversy. One thinks of “Y. B. A. Z.” and “Wiltshire Rector,” and resorts again and again to their writings with pleasure and profit, of “Single-handed,” “Herefordshire Incumbent,” “D., Deal,” and many others, and is thankful for lessons learned from them both in horticulture and in journalism.

There are other matters on the same lines about which I should like to write you, but must content myself with an appeal to all to adopt a considerate and courteous style in discussions, not only because it is the most pleasing, but undoubtedly the most effective, and also appropriate to the columns of the *Journal of Horticulture*. I should like to sign myself—FRATERNITY.

[Correspondents may “sign themselves” almost what they like so long as they act honestly on the principle of “measures, not men.” We do not thank anyone for degrading any good subject by making it the vehicle of personal attack or inuendo. The letter of “Fraternity,” while containing suggestions not the less excellent from being old, represents on the whole a case of history repeating itself. We have received letters every year for a generation deploring latter-day methods as compared with those of the “good old times,” and so we suspect it will be to the end of the chapter. Judging by those letters and sundry communications that were not necessarily published, we find that on the whole a better, more courteous, and more considerate tone is apparent now than formerly prevailed amongst controversialists. The last few lines over the signature of “Fraternity” are, we think, worthy of being kept in mind by “fighting” controversialists.]

CYCLAMEN PERSICUM.

THE time has now arrived for sowing seeds of *Cyclamen persicum*. Some gardeners sow the seeds during the early part of the year, but from experience I find that much better plants are produced by sowing about this period. It is, I believe, the practice of our leading market growers to make their annual sowing during August, and most of us know the quality of the plants produced by them.

When once understood these plants are very easily cultivated. A compost of about equal parts of loam, leaf mould, and sand will be found a good medium in which to sow the seeds, seeing that the pans or pots are well drained. The seeds should be sown thinly, or what is better still, dibble them in at a distance of a quarter of an inch apart, lightly covering with the soil. *Cyclamen* seed as a rule germinates slowly and sometimes irregularly, but if placed in a temperature of about 60° very good results will be obtained. When the seedlings are

above the soil, which will be in about six or eight weeks from the time of sowing, place on a shelf near the glass, otherwise the plants will become drawn and consequently weakened. When large enough to handle place singly in thumb pots, still keeping them near the glass. This potting will be sufficient until about the middle of February, when they may be transferred into 3½-inch pots, using a compost of two parts loam, one part leaf mould, and a little dry cow manure that has previously been beaten up fine or rubbed through a quarter-inch sieve, adding sufficient coarse sand to keep the soil open. After potting keep close for a few days, lightly syringing the plants on all favourable occasions. As the season advances admit air freely, always avoiding a close atmosphere.

About the end of May or beginning of June the plants may be transferred to a cold frame, shading from bright sun. The most forward plants will be ready for their final potting about the end of June or beginning of July, 5-inch pots being the size generally used. Pot moderately firm, using a similar compost as before advised. Keep close for a few days, afterwards admitting air freely, removing the lights altogether on all favourable occasions, abundance of air being necessary in order to promote a sturdy growth. About the end of September the plants should be removed to a light airy house, standing them on a cool moist bottom, such as anthracite coal ashes. This will materially assist in keeping away thrip, at the first appearance of which the plants should be fumigated.

Should a stimulant be required a solution of manure water—that from the cowsheds being preferred—to which a little soot has been added will be found very effectual in adding to the size and colour of both foliage and bloom. After the plants have done flowering and the foliage ripened gradually withhold water, resting the plants for about two months, when the corms may be again started into growth. Ample drainage should always be afforded these plants, as they are very impatient of anything approaching stagnation at the roots.—HEDLEY WARREN.

VIOLA CONFERENCE AT BIRMINGHAM.

A NUMBER of florists interested in the Viola and Pansy met at the Birmingham Botanical Gardens on Friday, August 3rd, and Mr. William Cuthbertson, of Messrs. Dobbie & Co., Rothesay, was elected chairman. Amongst others present were Mr. John Forbes, Hawick; Mr. George McLeod and Mr. A. J. Rowberry, from London; Mr. William Sydenham, Mr. R. Dean, Ealing; Mr. Needs, Woking; Mr. W. H. Gabb, Birmingham, and W. Dean, Hon. Sec.

A paper on “Bedding Violas” was read by the Secretary, and the voting was in favour of the following as twenty of the finest varieties in cultivation for masses and bedding out purposes, viz., Whites: Countess of Hopetoun, Sylvia, Marchioness of Tweeddale. Yellows of deep shade: Bullion, Lord Elcho. Yellows, pale shades: Ardwell Gem, Lemon Queen. Dark blue or violet: True Blue, Archie Grant. Pale blue or mauve: Bluegown, Bessie Clarke. Blush or rose: William Neil, Blush Queen. Edged or border varieties: Duchess of Fife, Blue Cloud. Fancy varieties: Countess of Kintore, The Mearns, Princess Beatrice. Purple: Acme, Crimson King.

The Chairman read a practical paper on “Violas for Exhibition Purposes,” but no list was decided upon, for all are most useful for this purpose, and a large number especially so. Mr. A. J. Rowberry also supplemented by several practical remarks.

An excellent paper on the “Violetta or Miniature Section of Violas,” sent by Mr. Steel of Etal, was read by the Chairman. Mr. Steel could not attend the meeting, and it was afterwards resolved that “In the opinion of this conference the terms ‘Violetta or miniature varieties’ should now be used, and that no flowers of this section must exceed 1½ inch in diameter. Also, that flowers known as of the Sylvia type should henceforth be classed amongst the ordinary large flowering Violas, and that only the two types should be recognised, and that this conference adopt Mr. George Steel's suggestions as to the properties of the Violetta section.” Mr. George McLeod also supported these views.

Letters from other supporters of the conference were read, and a very large number of seedlings and quite new varieties were sent for examination by Miss J. D. Stuart and Mr. Samuel McKee, of Belfast; Mr. George Steel, Mr. A. Irvine, Mr. Smellie, Mr. King of Lennoxton, Mr. J. Forbes, and others, many of which are really fine, but the members of the conference decided to certificate only very first-class new varieties, and the following were selected:—Two seedlings from Mr. King, Lennoxton, Scotland; Lizzie Thorniley, from Mr. J. Smellie; Olivette, a charming miniature, from Mr. A. J. Rowberry; Ethel Hancock, from Mr. D. B. Crane, London; Rose Queen, a beautiful miniature, from Mr. George McLeod; Charm, from Mr. S. McKee. Fancy Pansies—Mahogany and John Smellie, sent by Mr. J. Smellie, Busby, Glasgow.

Messrs. Dobbie & Co., Rothesay, kindly sent a fine collection of flowers of all the varieties they grow for comparison, and proved to be most useful, all arranged alphabetically in sprays in their usual manner. Mr. Rowberry also brought with him from London a plant of the beautiful light blue-mauve “Blue Gown,” to show its excellent bedding qualities.

It was resolved that an annual conference should take place, and a Conference Association formed, with Mr. W. Cuthbertson as Chairman. Mr. A. J. Rowberry as Treasurer, and W. Dean Honorary Secretary. A report of the proceedings is in course of preparation with a view to publishing it.



GRAMMATOPHYLLUM MEASURESIANUM.

THIS is a comparatively new and distinct Orchid, and when first exhibited, three years or so ago, attracted some attention. It does not appear, however, to be generally grown. The flowers are nearly 4 inches in diameter, white with a greenish tinge, and regularly dotted with rich purplish brown. As shown in the engraving (fig. 19), the blooms are produced on racemes 3 feet in length.

LÆLIA AUTUMNALIS.

This may almost be described as an autumn flowering Lælia anceps, being similar in habit and general characteristics. It is not, however, quite as easily grown as that popular kind. It is of the utmost importance that *L. autumnalis* be kept in vigorous health at all times. If once this Orchid gets into bad condition the grower will find it extremely difficult to bring it back to health. In common with all the Mexican species, *L. autumnalis* requires a light and airy position, with a well marked season of rest. This latter is a term occasionally misunderstood. A periodical cessation of growth brought about at the proper season by a gradual lowering of the temperature and a corresponding lessening of the water supply may be thus termed; this will prove beneficial to the plants. On the other hand, simply placing the plants on a dry shelf at the completion of their growth, and allowing them to remain without attention, cannot be called restful, nor is it in any way advantageous. *L. autumnalis* is most satisfactory in shallow pans or on rafts, a large body of compost being unnecessary. The flower spikes are produced from the tops of the newly formed pseudo-bulbs, and are each 18 inches to 2 feet in length. These usually carry four or five flowers, which are each 4 inches across and very fragrant. The ground colour varies from a deep rich crimson to a light rose, and the lip is marked with yellow and crimson or purple.

ODONTOGLOSSUM INSLEAYI.

The several varieties of this fine *Odontoglossum* are among the most useful Orchids for autumn flowering. In habit it is very similar to *O. grande*, but the flowers are smaller. Like *O. grande* it thrives best in a rather higher temperature than the majority of *Odontoglossums*, but may be grown very well under the coolest system where this is most convenient. Good peat and sphagnum moss in equal proportions with crocks or charcoal added to prevent closeness in the mass will be found a suitable compost. The pots must be clean and thoroughly drained, abundance of water being required while growing. The variety *leopardinum* has the lip profusely spotted with crimson, sepals and petals yellow, and barred with the same colour. *O. insleayi splendens* is a magnificent variety. The flowers are larger than the type, varying in colour with very deep crimson spots on the lip. *O. insleayi* is an old plant, being introduced from Mexico over fifty years ago. All the varieties last well in bloom, and are useful Orchids for room decoration.

DISA GRANDIFLORA.

If we except the glowing blossoms of *Sophranitis* there is hardly another Orchid in cultivation so bright and effective in colour as this *Disa* when in good condition. Strong plants produce as many as six flowers on a spike, and a panful of healthy growths, each bearing a spike of these dimensions, should arouse enthusiasm. In many places where Orchids are a speciality, and *Cattleyas*, *Dendrobiums*, and others are well grown, this *Disa* is an absolute failure. The principal cause of this is the unnatural and unnecessary heat to which the plants are subjected. Growing naturally at the top of the Table Mountain, at the Cape of Good Hope, the plants we are told are often exposed to cold mists and frosts. It would of course be a mistake to expose the plants to such a low temperature under cultivation, but they do well with a minimum of 36° in winter, and in summer cannot possibly be kept too cool.

Before the flowers fade the young growths can usually be seen peeping through the surface of the compost. When the bloom is past the plants must be carefully taken out of the pots, and as much of the old compost removed as seems necessary, without disturbing the roots too much. If there are any of the latter decayed they should be picked carefully out, and also any decayed tubers that can easily be removed. Repot rather loosely in a compost consisting of especially good peat fibre, fresh chopped

sphagnum, and finely broken crocks. Especial care must be taken with the drainage, and the compost kept rather higher than the rims of the pots to allow of a little settling down. They may be kept fairly close for a week or ten days, after which and all through the year besides abundance of air is most essential.

Plunging the pots in cocoa-nut fibre refuse or similar material has been recommended, but as far as my experience goes this is not good practice. I like perforated pots for this species, as the roots enjoy the air moving about them as much as the leaves. Besides this, offsets are occasionally produced through the lower holes in the pots, that under the plunging system would never see the light, and in consequence a ready means of propagation is destroyed.

Daily waterings at the roots and very frequent syringings in



FIG. 19.

GRAMMATOPHYLLUM MEASURESIANUM.

hot weather must be given; a mulch of sphagnum moss over the compost helps to conserve the moisture and keeps the roots cool. With this treatment thrips will not be much in evidence, but slugs may be troublesome; these must be diligently sought for and killed, as if the shoots when partly grown are eaten through, that part of the plant will probably be killed, and a good specimen may be ruined in appearance.—H. R. R.

THE MAKING OF GARDENERS.

PERMIT me, as a young gardener, to say how well pleased I was to read the article by Mr. A. Dean (page 26) on "The Making of Gardeners." Many suggestions have been made by able men on examinations for gardeners which doubtless in many ways would be serviceable if a college or school training was sufficient to make a good gardener. This, to my mind, however, is out of the question. I do not for one moment hint that a good education is not essential, but I believe that there are many practical gardeners who cannot do the work with pen and ink, but are such as to be able to show those who are under them

the right way to perform the various operations connected with their business.

There is nothing to surpass a thorough training in a well-kept garden where a youth can be taught to properly use the scythe, the hoe, and the spade, so that when he is placed in such a position he may be able to train those under him. I am fully aware of the assistance and education a young man can render himself by careful and diligent attention to the work performed by those above him, whether it be potting, watering, or tying. These and similar operations are the stepping-stones to young gardeners. Suppose examinations were held for young gardeners; how many per cent., with the limited education some have had, would be able to answer the scientific questions that would be required of them? Take, for instance, botany, chemistry, drawing, and Latin. These are all essential to a thorough practical man; but what occupation is a man to follow supposing he should fail to pass these requirements, when at the same time he would be quite as capable of supplying his master's needs in the way of producing flowers, fruit, and vegetables?

I quite agree with Mr. Dean that some men are naturally born gardeners. I know cases myself in this locality of men who follow quite a different vocation, and yet who can compete successfully at our shows with Chrysanthemums, Roses, aye! and vegetables. My opinion of gardeners is, that as a body they are intelligent men who follow the work through ardent love of it. Of course they are not all like this. Would that it were so! But we see daily one gardener trying to be equal to, if not better than, his neighbour in the art, hence the value of horticultural shows. I quite concur, too, with Mr. Dean that to judge a man by the work of his hands is by far the most reliable course of examination. It is a well-known fact that a man who takes no interest in the work will never make a first-class gardener. He is the one that wants weeding out. Young gardeners should think and study when at work, finding out other ways and means of doing it. This is the education in gardening that I recommend. Do not depend entirely upon what you may read. Think for yourselves. There is no better practice for young men than to write short notes in their leisure hours upon the various plants with which they are connected, their cultivation and requirements. I have derived much benefit from it myself. This is the way to assist in making a good gardener and one worthy of the calling.—J. S., *Grimston*.

CARNATIONS AT THE WARREN, HAYES.

THE name of Hayes is now celebrated throughout the florists' section of the horticultural world as being the home of Mr. Martin R. Smith. For some considerable time past he, with his gardener Mr. Blick, has been working unceasingly in the cross-breeding of Carnations and Picotees, and how successful they have been may be gleaned by a glance at any list of these plants in which the raiser's name is given, for there are now scores of varieties, almost without a blemish, which have emanated from The Warren, as this beautiful home of the Carnation is called. Numbers of seedlings are tried, only to be consigned to the rubbish heap, which would be welcomed in more gardens than one in this country, simply because they do not reach the high ideal of excellence that has been laid down.

Year by year the number of sorts retained grows less. Not because a smaller collection of plants is grown, but to such beauty have they been brought that it is extremely difficult to find many better. If the work is followed as energetically in the coming years as it has been in the past—and there is no reason to suppose that it will not be—it is impossible to imagine what will be the ultimate result. Each year we conclude that the highest pinnacle has been reached, and each succeeding year brings us something a little better, either in shape, colour, or refinement. By this we can only conclude that twenty years hence we shall see Carnations and Picotees even better than those of the present day. It is to be hoped that Mr. Smith will long be spared to carry on his great work, for he has already earned the gratitude of the present generation of Carnation admirers.

The essential points of a Carnation in Mr. Smith's opinion are shape, colour, and an upright habit of growth, so that the flowers may look one straight in the face. Upwards of 30,000 plants are cultivated, these, of course, including seedlings, both those grown in pots and in the beds. The system of testing the variety is an excellent one, all the seedlings being tried both in pots and out of doors, and the ordeal through which they have to pass is, as has already been said, a very severe one before they meet with the approval of the owner. Of course it is impossible for the whole of the 30,000 varieties to be mentioned in detail in the columns of the *Journal of Horticulture*, so we must be contented with a reference to a few only, and these are the most distinct, and certainly amongst the best.

Let us start with The Day, a variety of the utmost beauty, the ground colour being clear yellow with purplish rose markings. A clear yellow kind of dwarf habit and great floriferousness is a seedling named the Phantom. Another very beautiful seedling is Sadek, which is very bright rose in shade, while Horace Trelawney is among the best of the rich pinks. Two grand whites are Mrs. Eric Hambro and Lady Ridley, the former of which is pure in colour and the latter slightly creamy. Both are very large in size and perfect in shape, and make splendid growth. Cardinal Wolsey is a fine yellow and red Fancy, and Miss Jekyll a good clear yellow. A grand scarlet is found in King Arthur, and a chastely beautiful flower is the Water Witch. A free flowering rose-hued kind is Queen Anne, and another good white is Miss Ellen

Terry. The best of the bright scarlets is Hayes Scarlet, while as a dark crimson Mephisto is not easily surpassed. A grand border variety with large yellow flowers is Corunna, while Sea Foam, Eudoxia, and Lord Sefton have many good points. No more can be named, and although these seem very few out of many thousands they must suffice, as justice cannot be done to the collection in such brief notes as these.

Though the chief feature of The Warren is the Carnations it must not be thought that other things are neglected. Fruit receives the very best attention, all kinds being excellently grown. Plums, Pears, Peaches, Cherries, and Apricots in pots under orchard house culture were producing fine crops of perfectly developed fruit. Black Hamburg Grapes, too, were splendid, the berries of good size and well finished, while the foliage was as good as could be wished, the same being the case with the Muscat of Alexandria and Black Alicante. Vegetables were also to be seen in fine condition and goodly numbers, and the Chrysanthemums promise to afford fine blooms at a later period of the year.

For his services in the Carnation world Mr. Martin R. Smith deserves everybody's thanks, and all visitors to Hayes will, I am sure, tender the heartiest congratulations both to him and his able co-worker, Mr. Blick, for the work they have done. I hope next year to have the pleasure of seeing this garden, and feel sure that there will be such an abundance of good things to be seen as will amply repay a visit.—WANDERER.

CARNATIONS AND PICOTEES AT EVESHAM.

EVESHAM is generally noted for its market gardens, its unrivalled crops of succulent vegetables, and marvellous quantities of Plums and other hardy fruits; therefore to come upon a superb collection of Carnations and Picotees is an agreeable surprise, especially to one who has a passion for these charming flowers. Mr. James Grove of the Cemetery, Evesham, has been a grower of the Carnation and Picotee for many years, and his collection comprises some of the best, both new and old, in cultivation. They are not grown in isolated clumps, but there is one bed, 60 yards long and 12 feet wide, furnished with scores of the best varieties in existence. There is also another bed, not so large as the previous one, set apart for plants of more recent introduction, in which we noticed some flowers of remarkable shape and brilliancy. I made notes of a few of the best, such as are adapted for open border culture, and which may be grown by any amateur or cottager who can command an open situation and a tolerable good garden soil.

Amongst the best varieties, both new and old, I may mention of scarlet bizarres Admiral Curzon, a flower that has been before the public for fifty years, yet as good and as fresh to-day as in the days of its youth; its colours are rich and bright, and it presents a perfect outline. It is to be found in every winning stand, and in giving votes for the best varieties it always comes very near the top. Duke of York is another flower of great excellence, and Robert Houlgrave, a seedling raised from Admiral Curzon, one of the best in the scarlet bizarre section. In the crimson bizarre group I noticed Thaddeus, a plant of recent introduction, one of the best; Master Fred, a grand flower of fine form, and as regards its perfection of contour it is such as to satisfy the most exacting florist; and J. D. Hextall, a glorious flower raised by our old friend, Mr. B. Simonite, more than twenty years ago, but still one of the best. Bruce Findley and Arline, fine flowers of the purple bizarres, and the Mayor of Nottingham, purple flake, a grand flower and good for all purposes. Being a free and vigorous grower it is well adapted to town gardens, and withal the flowers are perfect in form and of fine substance, and such as will please the most fastidious. Of the scarlet flakes mention must be made of Dan Godfrey, a plant of robust growth and a most showy flower; also John Ball, a good exhibition flower, fine form, richly marked and of good size and quality. Nor must we omit in the rose flakes Mrs. Rowan, a plant that has not been long in commerce, one of the best; also Miss Erskine Wemyss, a charming variety with smooth petals and delicate markings.

Of Sells I may mention Germania, finest yellow; Rose Celestial, beautiful rose; Mrs. Muir, pure white, free grower; Purple Emperor, bright purple; Mrs. Reynolds Hole, terra cotta or fawn coloured, fine flower and good grower; Mrs. Laird, blush; Mary Morris and Miss Joliffe, pink, the latter one of the best growers in the open ground and the most abundant bloomer we have ever seen. Those with yellow grounds and conspicuous for their excellence and beauty were Mrs. Henwood; Countess of Jersey, heavily edged with bright rose; Agnes Chambers, Terra Cotta; Victory, heavily edged and flaked with bright red; Mrs. Robert Sydenham, one of the very best, plant a free grower, the flower as near perfection as possible; Madame Van Houtte, Romulus, bright buff ground suffused with pink, a charming flower; Queen of Hearts, and Dodwell's seedlings 958, 857, 971, 930, and 931.

The Picotees were also well represented, including amongst the heavy red-edged Brunett, Dr. Epps, T. J. B. Bryant, all flowers of superb form and excellence; light red-edged, Thomas William and Mrs. Garton; heavy purple-edged, Zerlina, Redbraes, and Baroness Burdett Coutts; rose-edged, Norman Carr and Little Phil; this latter a glorious flower, bright rose with broad pink edge, and of great substance. There were many others worthy of mention that are deserving of a place in every collection, and a few new ones were being grown for the first time. Mr. Grove is deserving of all praise, and we have no doubt he will be a prominent figure in the near future at some of the leading shows in the midland districts.—QUINTIN READ.



AMATEUR CHAMPIONSHIP TROPHY CLASS AND MULTIPLICITY OF EXHIBITS.

THERE seems to be a tendency, I may, indeed, say an inclination, on the part of one or two of your contributors to draw a metaphorical red herring across the trail of the above topics. I, therefore, would like to emphasise the fact that the questions being discussed are—Firstly, the most suitable number of Roses for the metropolitan amateur trophy—viz., twenty-four, thirty-six, or forty-eight varieties; and that in this question no other classes have been referred to, nor do they need discussion or alteration; and secondly, “multiplicity of exhibits.”

I clearly stated in my letter (page 54) that my proposal is to only allow amateurs to “enter” in a certain number of classes, so that the imaginary difficulties suggested by one writer have no part or parcel in any logical reasoning on the subject. The classes open to all exhibitors including nurserymen are naturally for the moment outside the discussion. If any writer thinks that by using a cloud of words, arguing on a mis-statement of my original proposition, and introducing unnecessary hypothetical matter, he is proving a case and showing his views to be of high merit, he is quite welcome to whatever flattering unctious he may lay to his soul, but it gives me the idea that the writer must have a very low opinion of the mental fibre and critical acumen of the rosarian readers of the *Journal of Horticulture*. I certainly have not discerned the absence of such qualities in the correspondence in your columns; and may say am well pleased, as no doubt you are, sir, with the interesting, even may I say important, letters which have so far appeared on these questions in your Journal, which show that they are of importance to the National Rose Society.

May I ask, nevertheless, that in the further elucidation of the views of exhibitors we may have an agreement to keep strictly to the matter under discussion? and may I again state emphatically I should not have approached them unless I were fully aware, by being in constant touch with very many and leading rosarians, that they required the immediate consideration of our members.—CHARLES J. GRAHAME.

THE most important point in connection with Mr. Grahame's first proposition has been strangely overlooked hitherto. Perhaps some of those who have written on the subject were unaware that the number for the trophy class was forty-eight, that it was reduced to thirty-six in 1882, and again raised to forty-eight in 1885. (I am not quite sure of the dates.) Let us hear first of all from the secretaries what were the reasons and arguments which induced the Society to revert to forty-eight after a trial of thirty-six. I am sure it will generally be agreed that the discussion will be almost valueless without a reference to it. At any rate, we shall not, I trust, allow any duplicates, which are confusing alike to exhibitor and judges, and considerably detract in my opinion from the merits of a stand.

As for the second proposition, I think we are nearly restricted enough as it is; but perhaps we might bar a man from showing in classes 7 or 8 if he shows for the trophy, and similarly from showing in class 31 as well as 30, though I think in each case he ought to be allowed to enter for either. I never did like the counting-your-plants system. I could easily myself have qualified for Division D, but I have not much sympathy with the 1999 man.—W. R. RAILLEM.

I HAVE exhibited at every metropolitan show of the National Rose Society, and can well remember the fight with forty-eight for the Cranston 50-guinea cup finally won by Mr. Jowitt in 1880. The report of that year's show lies before me. As a consequence of disappearance of the Cranston cup in 1880, two “Champion” trophies were subscribed for and offered in competition for the best thirty-six varieties, and won with that number from 1881 to 1884 inclusive by Messrs. Baker, Whitwell, Slaughter and Haywood. From 1885 to the present time, owing to a resolution moved in Committee by Mr. T. B. Hall (I wish he was still an exhibitor) forty-eight was substituted for thirty-six. Annually I have made a protest in Committee against retaining forty-eight, pleading unsuccessfully for a return to the original number. I am still of the same mind.

I fail to understand all that is involved in the question of the limitation of prizes. Does it include garden Roses, singles, buttonholes

and displays? Under the present arrangement of our complicated schedule it is impossible to sweep the board, so what more do you want? Do not be jealous of success in a neighbour. Every dog has his day; it may be your turn next, make the most of it when it comes. Meanwhile let everyone show honourably in his own division and with his own Roses.—J. H. P.

As an old exhibitor in the amateur trophy class I quite think the time has come for reducing the number of varieties from forty-eight to thirty-six. When I won the trophy in 1883 only thirty-six varieties were asked for, but two years after it was thought that it would be better to raise it to forty-eight, which I considered a great mistake, and we have seen how few fresh exhibitors have had the courage to attack it and arrange forty-eight varieties, well knowing how very difficult it is to obtain them on a given day. I feel certain we should have more competitors if the class were reduced to thirty-six varieties, and I quite agree with Mr. Lindsell (page 108) that we should get rid of the “tail.”

I cannot concur with Mr. Grahame (page 54) in reducing the number of prizes an exhibitor should be allowed to take, as I believe a great difference would be made in the size of our shows. I also think if a man takes the trouble and works hard to get his classes together he should be allowed to take the prizes. We are already protected by divisions, and I should be sorry to see any alteration in the latter, but the former I shall be heartily glad to see put back to thirty-six varieties.—A. SLAUGHTER.

[A very interesting letter from Mr. H. V. Machin, of Worksop, arrived just too late for insertion this week.]

NOTES ON ROSES.

THE queenly Rose has passed through a series of trying months. In January a hard frost bit numbers of plants, and in the end of May frost again did much harm, this time to the buds, numbers of which are perfectly useless. But while that is so, the genial weather we have experienced at various short periods has done much for Roses, and on the whole it can be said that they have been most abundant and beautiful. Roses that have suffered most are Hybrid Perpetuals, mostly the better varieties. It is plain that these are less hardy than many Tea Roses, and are not so fitted for ordinary garden purposes than these and many others.

Speaking of Teas reminds me that several years ago Mr. Cocker, of Aberdeen, strongly advised me to plant them in the open. He assured me that at Aberdeen they were perfectly hardy, and that it was from bushes growing in the open that his firm cut their blooms for exhibition. I followed the advice so kindly given and planted a select number. The greater number have done really splendidly, and though they have been oftener than once frost-bitten they have not been so to such an extent as Hybrid Perpetuals in the same garden. It is as well not to prune Teas at all, but after they commence growth to cut away any weakly shoots; and, again, after the first crop of buds has expanded to remove the flowered-out shoots so as to allow the new season's growth ample room. The sorts which have done particularly well are Rubens, Marie Van Houtte, Edith Gifford, Comtesse de Nadaillac, Souvenir d'un Ami, Jean Ducher, Souvenir de Paul Neyron, Madame Cusin, Devoniensis, and Madame Caroline Kuster. On the other hand, Niphetos, Princess of Wales, Sunset, Madame Lambard, Madame Willermoz, Perle des Jardins, Madame Watteville, and Anna Ollivier have not done at all well, and indeed are not worth growing in the open in Scotland.

Many old-fashioned Roses have been and are still most beautiful. Among these none is more charming than the deep blush China. We have here a goodly number of very large plants. They have been allowed to grow much at their own will during the past few years, the knife having been used only to cut out any dead wood. The number of flowers these produce throughout the spring, summer, and autumn, and even during the winter months, is enormous. There is no more charming flower for decorative purposes in a cut state than this variety. The crimson sort Cramoisie superieure requires here a wall in order to get it really fine. I have Blairii No. 2 as a rough grown standard. It is rather curious that trained to a wall this Rose is very subject to mildew, while in the open it is perfectly clean. An old Rose that has been very pleasing is Madame Hardy. This is the most purely white Rose I am acquainted with. Charles Lawson and Coupe d'Hébé allowed to grow naturally are wreathed in flowers. The latter is one of the best of garden Roses, and of the most perfect form. Maiden's Blush, a semi-double, is lovely in the bud, and is moreover one of the softest toned of rose-coloured varieties. La France, Madame Knorr, Olga Marix, and some other Roses I have allowed to grow without being spring-pruned. These have formed large bushes, and are producing quantities of fine flowers. Of course it is only in certain positions that Roses can be allowed to grow in this semi-wild manner, and also it must be said that only some kinds are suited for such treatment. Single-flowered Roses are flowering profusely. The varieties of Rosa rugosa are already covered with hips, which in autumn will be as effective as the flowers have been.

W. A. RICHARDSON.

This Rose does not invariably do well in Scotland. With myself it has succeeded well in one position only, but there it has been so wonderfully beautiful that it was worth taking any amount of trouble to secure a result so satisfactory; and yet no great preparation was made. It would appear that a very warm position is essential to success, for although I have tried it for years on a warm wall, strong free flowering growths have never been made. Some three years ago I observed this Rose in Kent, and what I saw of it there excited a desire to succeed with a Rose so surpassingly beautiful. A front wall of a low pit kept continually at a high temperature was bare, and this I determined to cover with this Rose. I got them planted out a year past spring, the plants being rather small but with plenty of roots. A sufficient number of pits large enough to hold each a good barrowload of compost was dug out of the pathway which this pit borders on one side. The material used to fill these was good, and with the advent of fine weather strong shoots began to grow. By degrees the original plant was in each case cut away, and these young strong shoots tacked to the brickwork.

In the spring of the present year we scraped away the overlying gravel and provided a rich surface dressing to each plant, at the same time every portion of weakly growth was cut away and the strong shoots alone nailed to cover the wall. The plants commenced to flower even earlier than Gloire de Dijon. We have cut hundreds of buds, and numbers of strong shoots have been produced which have begun to flower as profusely as the year-old shoots. A number of the flowered shoots have been removed in order to give the latter full advantage of the wall, and there is an appearance that we shall have buds for many weeks still. This variety has the peculiarity of yielding, along with richly coloured deep orange flowers, others in all intermediate shades to white. Some of the flowers are partly orange and partly white; these are very pretty, but of course nothing like so beautiful as those which are full deep orange selfs.—R. P. BROTHERSTON.



EVENTS OF THE WEEK.—But few events of horticultural interest will take place during the ensuing week. The Committees of the Royal Horticultural Society meet at the Drill Hall, James Street, Westminster, S.W., on Tuesday, 14th inst., and a few provincial shows will be held, the Cardiff exhibition opening on the 15th inst.

— THE WEATHER IN LONDON.—Since publishing our last issue the weather has been of a variable character in the metropolis. Saturday was for the most part dull, and rain fell during the evening. Sunday was fine, but it rained heavily at night, also on Monday morning. Tuesday proved cloudy, but no rain fell, and Wednesday opened fine.

— ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Society will be held in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday, August 14th. The Committees will assemble, as usual, at twelve o'clock, and at 3 P.M. Mons. Chas. Baltet, of Troyes, will deliver a lecture on "Fruit Culture in France."

— SCIENCE EXAMINATIONS.—We are pleased to hear that Mr. G. A. Bishop, The Gardens, Wightwick Manor, Wolverhampton, has secured first-class honours in practical inorganic chemistry at the examination held by the Science and Art Department, South Kensington, at the first time of sitting. Mr. Bishop's well known assiduity in acquiring knowledge is worthy of high commendation, and we congratulate him on his success in this instance.

— RIPENED WOOD.—I am surprised. I expected to see "A Sceptic" (page 81) fall in the last number under an astonishing volley of replies. As he seems likely to escape, let me, as a first shot, ask him where he has spent the spring and summer of 1894, of which he says "that never in living memory has every crop, whether of fruit or flowers, been so completely disappointing as this year." I can only say that my experience as to flowers is exactly the opposite on all trees. Surely he understands that ripened wood has done its share when it has produced the flower buds, and is not responsible for those blossoms opening, still less for their producing fruit. It may possibly be news to him that a disastrous frost occurred late in May, and that notwithstanding this there are heavy fruit crops in many places. At all events, with me, forest trees, such as Beeches, as well as cultivated fruit trees, such as Apples, are in serious danger of breaking from the weight of their fruits.—W. R. RAILLEM.

— NATIONAL AMATEUR GARDENERS' ASSOCIATION.—The monthly meeting of this Association was held at the Memorial Hall, Farringdon Street, E.C., on the 7th inst., Mr. B. G. Sinclair presiding. There was a good display of exhibits, and Mr. J. Douglas, Great Gearies, Ilford, read a paper on "Carnations," dealing with the history and general management of these popular flowers. Mr. D. B. Crane, Highgate, showed a distinct new Viola named Ethel Hancock, which he raised as a seedling from Sylvia, and a certificate was awarded for it. As mentioned elsewhere in this issue, Mr. Crane secured a first-class certificate for this variety at the Viola Conference held at Birmingham on the 3rd inst. Mr. Dipper won a silver medal offered by Messrs. J. Laing & Sons for blooms of tuberous Begonias.

— ONIONS.—It seems good to read such a favourable report upon the Onion crop of this year as that recorded by "A. D." on page 74, even to one who has a failure. My Onions were doing remarkably well until a few weeks ago, when they showed signs of a disease which has increased so fast that the tops of some are quite dead. I thought at first it was the maggot, but I have failed to find it. It looks to me like a fungus of some kind. I enclose a specimen for your inspection. I have heard of two other cases of the same thing, and have seen one of them in a cottage garden close at hand where the Onions are gone, I think, worse than my own. I must differ with "A. D." about the scare he speaks of, and may have something to say about it in a future issue.—R. M., Somerset. [The Onions are attacked by the fungus *Peronospora Schleideniana*, for an account of which see "Answers to Correspondents."]

— LIGHT FOR PLANTS.—In spite of a late spring and a short and by no means hot summer, vegetation, says a provincial contemporary, makes rapid strides in Norway and Sweden owing to the long days and short nights. The further north grain is grown so much the shorter is the term of its vegetation. Barley ripens twenty days earlier at Alten, in 70° of north latitude, than it does in some instances further south. On the average years at the former place the mean summer temperature is 60°, and yet the plants are as well developed in the one place as in the other. It is also singular that this power of ripening becomes hereditary in the course of some generations, so that if taken south they grow much quicker than seed which has been grown there previously. It is because of the abundant light that grain can be grown in countries where the ground is so nearly perpetually frozen that the soil never melts to a greater depth than 2 or 3 feet.

— TOMATOES AT COOMBE BANK.—There are in a greenhouse a number of strong Tomato plants fruiting very heavily that have very restricted root room. They are about 18 inches apart, and growing in a box 7 inches wide and 9 inches deep. Others in large pots, or where in boxes they have far greater root space, are far less prolific. The sort has no name, but is the product of a cross between Challenger and Ham Green Favourite, two very productive sorts. This is but another case which shows how common is the rule for Tomato growers to intercross, and how everyone has his own special favoured variety. The fact still further shows how practically impossible it is to regard any one variety as being so much inferior to another, when hundreds of so-called varieties are so alike, and all so good. The one at Coombe Bank has the merit of throwing out clusters of flowers close to the ground, and is wonderfully productive; still, as much may be said of myriads of others.—A. D.

— PEONIES.—A correspondent recently called attention to the value of Peonies for the decoration of the herbaceous border. My experience is that the flowers are most valuable in a cut state; if taken from the plants in the morning, and before they are fully developed, it is surprising what a time they last and to what a size they reach in water. Not the least pleasing part about them is the delightful fragrance they emit, almost rivalling the Rose; certainly the scent is very similar in most varieties. For use in towns Peony blooms are valuable; they last as long as any flower in a cut state. When once established no plant that I know requires less attention; indeed, it is unwise to be perpetually shifting them about the garden. Plant the roots in deeply dug and well manured soil, choosing rather a moist situation than the reverse. Mulch the surface soil with rough leaf soil, and give abundance of water the first year if the weather is hot and dry. Place a stake to each of the branches as a support at first to prevent them snapping off at the base; afterwards a more simple method of supporting the stems can be adopted. My plants have stood in their present position eight years, and flower abundantly every season. All the attention they receive now is an annual mulching of leaf mould.—E. M.

— GARDENING APPOINTMENT.—Mr. Maurice Irwin, for some years presiding over the gardens at Marlay, Rathfarnham, has been appointed gardener to Mr. Justice Madden, Nutley, Booterstown, Co. Dublin.

— PERMANGANATE OF POTASH FOR HOLLYHOCK DISEASE.—Will Mr. J. Clarke (page 81) kindly state in the *Journal of Horticulture* how much permanganate of potash he uses to a given quantity of water for destroying the Hollyhock disease?—SOMERSET.

— HORTICULTURAL IMPLEMENTS.—The Directors of the Standard Manufacturing Company, Derby, inform us that they have received the Royal Warrant of appointment as makers and purveyors of Horticultural Implements and Appliances to Her Majesty the Queen.

— THE HAMPTON COURT VINE.—Visitors to Hampton Court Palace just now will find that the famous old Vine there is heavily laden with fruit, the bunches, according to a daily contemporary, numbering 1200. The clusters are not so fine as they have been, but this is not to be wondered at when it is stated that the Vine is 126 years old.

— DEATH OF MR. W. H. GOWER.—We regret to hear of the death of Mr. W. Hugh Gower, which occurred on July 30th at Tooting. Mr. Gower, who was in his sixtieth year, was for a time at the Royal Gardens at Kew, and previously at Jackson's nursery; afterwards he was at Messrs. Rollisson's at Tooting, and at Messrs. Williams & Son, of Holloway. He contributed much to horticultural literature, and was principally known for his knowledge on Orchids.

— ENTOMOLOGY IN AMERICA.—We learn from the "Garden and Forest" that "Mr. N. O. Howard, of New York, a graduate of Cornell, has been appointed Entomologist of the Department of Agriculture to fill the position made vacant by the retirement of Dr. C. V. Riley. Since 1886 Mr. Howard has been the first assistant to the entomologist of the department, and is the author of numerous memoirs published by the Department, and joint editor of 'Insect Life,' the periodical issued by the Division of Entomology. The position of first assistant, created by Mr. Howard's promotion, has been filled by the appointment of Mr. C. L. Marlatt, of Kansas."

— WET WEATHER AND OUTDOOR PEACHES.—So continuous has been the damp and sunless weather here for the last month that the early outdoor Peach crop has been entirely ruined. One tree of Alexander which was carrying over a hundred fruits is utterly worthless, not a fruit has been fit to gather, but all decayed upon the tree before ripening. Early Louise on a south wall is not quite in such a bad plight, but the fruits on that tree are not at all promising. Waterloo being against a west wall has escaped rather better, and is more promising, but still the fruits are a long way from being good. The almost daily showers have rendered the skin of the fruit so soft that a sudden burst of sun has caused it to decay quite suddenly. During the month of July we had only thirteen rainless days. The effect of so much continued moisture falling upon heavy soil can easily be imagined. I have had to remove the mulching of manure from the surface soil about the trees that was laid on during the short spell of dry weather experienced at the end of June and the first week in July. The total rainfall for July here was 5.56 inches.—E. M., *Swanmore*.

— ELSHAM FLOWER SHOW.—On August Bank Holiday, 6th inst., the Elsham and Warlaby Cottagers' Horticultural Society held its twenty-fourth annual show. As in previous years, Sir John Astley, Bart., very kindly placed the grounds of Elsham Hall at the disposal of the Society. In addition to the show ground the gardens attached to the residence were thrown open to the public, and by the numbers who were flocking towards the entrance it was evident that the visitors looked forward to the annual treat. One large marquee provided sufficient tabling to stage the whole of the exhibits, which were, as a rule, of very high quality. The classes were mostly confined to amateurs living in the parishes above named, though there were a few open to the whole of England. In these latter excellent Roses, black and white Grapes, Tomatoes, Peas, Onions, and other produce were exhibited, this also being the case in the amateurs' divisions. Mr. Gardner, Elsham Hall Gardens, arranged a handsome group of foliage and flowering plants down the centre of the marquee, thus much enhancing the good effect of the whole. The Secretary (Mr. Campbell), the Manager of the show (Mr. Gardner), and their assistants deserve every congratulation for the straightforward manner in which the whole affair was carried, and especially for the promptitude with which the judging was commenced at the advertised time of eleven o'clock.—H.

— THE KEW BULLETIN.—We have received a copy of "The Kew Bulletin" for August, which contains "A Summary of Information Relating to Bananas and Plantains," with descriptions of the species and principal varieties of Musk grown for use and ornament. The publication is larger than usual, and contains much useful and interesting matter.

— ANCHUSA ITALICA.—Bluest of the blue, but why so? This species is given in Paxton's "Botanical Dictionary" as pale yellow. Nearly thirty years have come and gone since the late Mr. Sim, of Foots Cray, gave me the name it is known by. Lately the Kew notes in these pages have endorsed it. As it appears to be a case of doctors differing, can anyone decide?—E. K.

— PEA TABER'S DUKE OF YORK.—This excellent early Pea has been grown by Mr. Griffin at Coombe Bank, Kingston-on-Thames, this season, and he says of it:—"I sowed a row of it at the same time that I sowed William Hurst on a warm border. Duke of York was ready together within a week after the other. It is a first-rate second early, and I am saving every pod of a later sowing for seed." The great gain such a Pea presents is that it is of such excellent Marrow quality. Gardeners now have no need to trust for early Peas to such inferior forms as are the old hard rounds. We have too many main crop or late Peas, sorts that it seems difficult to improve upon; but of first earlies there is room for improvement.—A. D.

— RUBUS DELICIOSUS.—This Rocky Mountain Bramble is probably a common garden plant in the United States, but in England, according to a correspondent in the "Garden and Forest," it is scarcely known, notwithstanding its hardiness, the beauty of flowers, its free growth, and the early date of its introduction—1822. Planted in groups on the border of a shrubbery, or in a bed on a lawn, it soon forms an ornamental mass of Raspberry-like stems, which, in early summer, are clothed with pure white Rose-like flowers 2 inches in diameter. It is the most ornamental of all the species of Rubus known in cultivation here, and if not appreciated in America as a garden plant it ought to be. At Kew it used to be grown in poor soil from a belief that rich treatment was bad for it, but a group of it, raised from layers two years ago, now fills a space of about 40 square yards, having grown rapidly in the rich loam in which it is planted, and the canes, some of them 7 feet long, were recently wreathed in flowers.

— BIRMINGHAM AMATEUR GARDENERS' ASSOCIATION.—On Wednesday in last week Mr. W. White, J.P., invited the members of the above association to a garden party at his house at Edgbaston, where a very enjoyable evening was spent. On entering the garden one is at once struck by the fact that the place belongs to a lover of Nature. Here one sees winding paths, arches covered with Honeysuckles, Roses, Virginian Creepers, beds filled with herbaceous plants, arranged with skill by a true gardener; shrubs which have been left to grow a little at their own free will, not pruned and cut in order to shape them into a perfect cone, circle, or square. The whole aspect of the place gave one the idea that for once in a gentleman's garden Nature was allowed to have matters a little her own way. After tea was over and the visitors had had ample opportunity for inspecting the grounds in general and the plants in particular, they assembled in the tent, where the usual ordinary meeting was held. Mr. William B. Griffin read a paper on "Hyacinths, Narcissi, and Other Ordinary Bulbs." He dealt with the growing of bulbs in pots, glasses, window boxes, and in the open ground, giving the best varieties which amateurs ought to cultivate. He strongly advocated the buying of any bulbs early in the season; more failures were accounted for by the fact that the bulbs were planted late than from almost any other cause, except perhaps want of water. With regard to the latter he advised members to place the pots of bulbs in pans of water for an hour or two every three or four days so as to ensure their having sufficient moisture. The paper was listened to with much interest and was productive of some good discussion, after which Mr. Cope proposed and Mr. Peake seconded a hearty vote of thanks to Mr. Griffin for his paper. Although the place of meeting was rather out of the way for most members there was a good exhibition of flowers, plants in pots, and vegetables. Messrs. H. Beech, J. C. Clarke, T. P. Cope, W. H. Peake, A. Stanford, C. Shotton, H. Smith, and W. H. Wilks were the principal exhibitors. The competition for the special prizes for six bunches of annuals offered by Messrs. Griffin and Roe was postponed till September 5th, when it is hoped there will be a large number of entries. The next meeting, August 15th, will be held at the rooms, 116, Colmore Row, as usual.—WM. B. GRIFFIN, *Hon. Sec., Alcester Road, Moseley*.

— *SPIRÆA ARIÆFOLIA*.—How beautiful is this species with its creamy white plumes brought out in relief by the foliage of the shrubbery. After the first flush of summer in the flowering shrubs is over this graceful North American plant takes a high position. One regrets the evanescent character of its flowers. Prominent, too, at this time is *Olearia Haasti*, and charming is *Ceanothus azureus* in the soft hued tint of its lavender blue.—E. K.

— AMERICAN BLACKBERRIES.—There is every prospect, should we have a warm autumn, of enormous crops of wild Blackberries everywhere about our hedgerows, but the fruits ripen late relative to the far earlier ripening which is seen on the American sorts. At Coombe Bank these, chiefly of *Laciniata* and *Wilson, jun.*, have been freely planted in some of the shrubberies, where they have made good growth, and get practically no pruning. The crop of berries these are now bearing is wonderful, the branches being borne to the ground by the weight of fruit. No doubt here, as elsewhere, the hot dry weather of last season helped to mature the growths, and thus render them particularly fruitful. When planted in cold ground, and where shaded, wood-ripening seldom follows, and the growths are largely killed by severe frost.—A. D.

— MIDDLESBROUGH FLOWER SHOW.—A well attended meeting of the supporters of the above show was held recently at Middlesbrough, Mr. Councillor Barron presiding. The accounts for the present season were presented by Mr. Carrick. These were, he said, in a very eminent degree much more satisfactory than might have been anticipated from the continuous downpour of rain which characterised the day of the show. The subscription list shows an improvement on previous years, denoting that the show has taken a firm hold on the public mind. The sale of tickets had produced a really good gate in itself. On balancing it was found that this year's show had considerably reduced the debt of the four previous years, so that there now remains a debt only of about £50, which the Committee hope to still further reduce by subscriptions promised but not paid, and tickets sold but not yet settled for. As North Ormesby have removed their show to the early part of July it was resolved to take the date thus vacant, and the Middlesbrough show for 1895 will therefore be held on Wednesday, July 24th.

— LIFE AMONGST STRAWBERRY PICKERS.—Some alarm has been caused in certain circles by the following paragraph which has gone the round of the daily press. "A glimpse into the life of the poor people who go down into Kent when the Strawberry picking is going on is afforded by a series of articles by Miss E. L. Banks in the "Lady's Pictorial." Miss Banks went herself as one of the "hands," and at the end of a couple of days or so was mentally and physically worn out by the labour. Even to get to the scene of operations was no easy matter, the way lying through wet grass, mud and thistles, and her feet slipping down in the water, that worked its way between the buttons of her boot, while her wet skirts dragged about her heels. The poor people get used to the hardships of the life and soon get over the racking pain of the first day's picking; but even they suffer terribly from the rheumatism brought on by exposure. The rate of wages varies from 3d. to 3½d. a peck, at which rate, under exceptionally favourable circumstances, 5s. can be earned in a day."

— DUNDEE HORTICULTURAL ASSOCIATION.—The monthly meeting of this Association was held on Friday evening in last week, Mr. Robt. Wilkie, the President, in the chair. A paper on "Herbaceous and Hardy Border Plants" was read by Mr. Thos. Blackley, Seggieden, Perth. In planting a new border he recommended the preparation of young plants in nursery beds, rather than the old system of slicing off pieces from old ones. The preparation of the border was next dealt with in an able manner, and moderately light soil recommended. A well planted herbaceous border should show no bare ground, and where the spring flowering bulbs were it was a good practice to sow some hardy annuals to take the place of the bulbs after their foliage had decayed. After the herbaceous border was once established there was nothing so detrimental to success as digging amongst the plants, and he pointed out that a top-dressing was a much better method of culture. He also alluded to the edging of the borders, and recommended in place of the usual box wood, an edging formed of stones and covered with dwarf alpine and rock plants, as being effective and in keeping with the surroundings. In the discussion which followed Mr. Blackley's paper was very favourably commented upon, and at the close he was accorded a cordial vote of thanks. Messrs. D. & W. Croll exhibited a magnificent stand of Roses. Mr. J. Machar, Corona, Broughty Ferry, exhibited a plant of *Lælia* (*Brassavola*) *Digbyana*. With the usual votes of thanks to the exhibitors and Chairman brought a very successful meeting to a close.

— THE TOTAL RAINFALL AT ABBOT'S LEIGH, HAYWARDS HEATH, SUSSEX, for the past month was 5.21 inches, being 2.55 inches above the average. The heaviest fall was 1.49 inch on the 10th, an amount only exceeded on three occasions in fourteen years, the heaviest of which was 2.25 inches on 8th October, 1880. Rain fell on nineteen days. The maximum temperature was 87° on the 1st, the minimum, 44° on the 14th. Mean maximum, 71.27°; mean minimum, 53.02°. Mean temperature, 62.14°—1.44° above the average. A wet month, sun much wanted for haying, which is not yet finished, and harvest is now progressing.—R. I.

— JULY WEATHER IN SCOTLAND.—Mr. G. M'Dougall, Stirling, writes:—The total rainfall here for July was 2.531 inches, which fell on eighteen days; greatest fall in one day was 0.885 inch on the 6th. The mean maximum temperature of the month was 72.8°; mean minimum, 48.7°; 72° and 49° were the respective temperatures for 1893. Highest maximum, 82.5° on the 1st; lowest maximum, 60° on the 16th. Highest minimum, 58.2° on the 27th; lowest minimum, 38.9° on the 23rd. It was altogether a favourable month, but with rather a superabundance of moisture; no burnt pastures to be seen even on the hill-tops. Peas were late, the first being gathered on the 12th, but will be soon over, as they are rapidly filling.

— THE WEATHER IN COUNTY DUBLIN.—June went out in a burst of tropical heat. July came in with a record shade temperature of 82°, but ere the dawn of its second day all was changed; alas! for the worse. Seldom has haymaking been carried on under more trying conditions. The monotonous click of the grass mowers is still heard, and weatherwise ones waiting for the long-deferred favourable weather are waiting still. Harvesting will be difficult, for the luxuriant Oat crops are much lodged by recent heavy rains. Potatoes look well, with no symptoms of disease to date. Dairymen and graziers are favoured with abundance of grass. Good straw is a scarce commodity, and overtopped the price of best hay in Dublin market last week.—E. K.

— THE WEATHER IN WALES LAST MONTH.—Mr. W. Mabbott, The Gardens, Gwernllwyn House, Dowlais, Glamorgan, writes:—The following is a summary of the weather here for the last month. Rain fell on twenty-one days. Maximum in any twenty-four hours 2.12 inches, which fell on the 24th, the greatest fall in any twenty-four hours here since a record has been kept. Minimum 0.01 on the 13th. Total for the month 5.89 inches. Total for 1894 up to date 33.74 inches. The sun shone on twenty-three days. Number of hours sunshine 111 hours 40 minutes maximum on the 5th, minimum ten minutes on the 16th. Wind was in the west and north-west for twenty-four days. A very cold and dull month. Strawberries were gathered for the first time on the 12th of this month, and three pickings of very poor fruits were all we had.

— THE WEATHER IN JULY.—We had fine warm weather up to the 10th, and then a lower temperature, and very showery until the end, with thunder on 12th, 13th, 21st, and 25th. Wind was in a westerly direction twenty days. Total rainfall was 3 inches, which fell on nineteen days, the greatest daily fall being 0.72 on 10th. Barometer, highest, 30.136 on 1st; lowest, 29.128 on 12th. Highest shade temperature, 84° on 6th; lowest, 46° on 12th and 31st. Mean daily maximum, 71°. Mean daily minimum 51.80°. Mean temperature of the month 61.40°. Lowest on grass, 43° on 26th and 31st. Mean earth temperature at 3 feet, 58.22°. Highest in sun, 135° on 6th. Total sunshine 173 hours; two days were sunless. Haymaking has been much hindered by the showery weather, and is not finished in this neighbourhood yet. Much that is made is in poor condition. Some of the corn is beaten down by heavy rains. No signs of Potato disease at present, and all crops look well in the gardens.—W. H. DIVERS, *Belvoir Castle Gardens, Grantham*.

— PROFITS OF MIDDLEMEN.—Writing to the "Agricultural Economist" a correspondent says:—"Grievous complaints have from time to time come to hand of producers of vegetables and fruit being victimised by the Covent Garden salesmen, but we have seldom met with a case so evidently rapacious as one just made public. Green Peas, as most people are aware, are largely grown in Essex and the home counties for supply to the London market, but growers should be cautious not to send them to Covent Garden salesmen if they are not in the habit of doing business with them regularly. About a fortnight since a farmer sent 2500 bags containing 30,000 pecks of Peas, and all he got back for them was 1d. per peck, or 1s. per bag. Now this was just what it cost to gather the Peas, and as the costs of carriage amounted to 6d. per bag, and the commission charges and other expenses

to another 6d., the Peas only yielded about half what it had cost to pick and market them, and the poor farmer not only sacrificed his crop altogether, but lost £125 by the endeavour to market it. Very probably these Peas were sold to consumers at not less than 6d. per peck, very few having been sold under that price by costermongers, while 10d. and even 1s. per peck have been realised by costermongers in many cases. Supposing that these 2500 bags of Peas were retailed at 6d. per peck, the magnificent profit of £700 was shared by the salesmen and the greengrocers or costermongers who retailed the Peas to the public."

— **PEARS AT HOOK.**—If all over the kingdom Pear trees are fruiting in anything like the quantity they are fruiting in the parish of Hook, just beyond Surbiton, Surrey, then must the Pear crop of the kingdom be an enormous one. Hook seems to have a soil that is specially suited for Pears, for many of the trees there are not only very old, but very large and in splendid health. There are trees of Autumn Bergamot, Crawford's, Hessel, and similar varieties that must have on them from 20 to 25 bushels each. Marie Louise, Louise Bonne, Williams' Bon Chrétien, and other good Pears are also seen on fine trees in the orchards. Crawford forms both for dark foliage and form the handsomest large Pear tree to be found; one huge tree is very handsome, quite so without its fine crop of fruit. Judged by these results Hook seems to offer specially favourable soil for Pear culture, and an orchard of better sorts would doubtless do well, for not merely are the trees fruiting heavily, but they are in such robust health.—A. D.

— **GRAPES AT COOMBE BANK.**—When Mr. Griffin, the gardener at Coombe Bank, Kingston-on-Thames, told me that from out of his one vinery he had during the nine years he had been in charge taken fifty prizes for Grapes, I thought the house had a remarkably good record. It is not a big house, perhaps about 35 feet by 20 feet, and a span. The present crop of Grapes is a capital one, the bulk of the fruit being just now in the process of colouring, but some, such as Hamburgs and Alicantes, are most advanced. For a mixed house it can hardly be excelled, especially considering that the Vines are chiefly growing in the natural soil, and have but little in the way of made border for the roots to fine food in. The varieties of Grapes grown are Black Hamburg, Alicante, Madresfield Court, Gros Colman, and Muscat of Alexandria—an odd assortment, but that all seem to like the comingling. Gros Colman on Black Hamburg has rather the finest bunches, but then it is the stronger rod; whilst the bunches on the rod worked on to Gros Maroc shows the earliest colour; indeed, seem to be fully a fortnight earlier. That is a result worth knowing, especially where Gros Colman colours badly. Madresfield Court worked on to Alicante colours better than when on own roots. Mr. Griffin seems to be a disciple of the extension or long rod system, but in a modified way, hence, perhaps, the great success which has attended his Grape culture, for he is well known as a successful exhibitor. His practice is to cut out fruiting rods after they are some four or five years old and replace with new ones specially provided. He even runs out strong growths from the base of the main stems to help stimulate root action. The wires are fixed rather close to the glass, but the rods are loosely tied, so that the foliage has plenty of room, light, and air.—A. D.

— **THE PAPAW TREE.**—A correspondent sends us the following paragraph taken from a foreign contemporary:—"Some thirteen years ago we planted a large number of Papaw trees at our station at Masasi in the Rovumo district. As these began to grow many proved to be males, and not wishing to occupy our plantation with what we considered to be useless trees, we proceeded to root up and throw away the male trees. Our native deacon who had lived many years in Zanzibar asked us why we did this, since if we wished it, he said we could probably obtain fruit from all or most of the trees we were destroying. Asked how that was to be done he replied, 'By breaking off all the upper part of the tree, and allowing the tree to sprout again from the bare trunk.' We were incredulous, but he persisted that it was a thing commonly done in Zanzibar on the Arab plantations, and induced us at length to make the experiment. It was quite successful. We broke off the entire upper part of all the male trees at a point below all the leaves and flowers. In due time they sprouted again, when we discovered that many of them, though by no means all, put forth this time the characteristic female flower, the 'squat blossom growing close to the trunk of the tree,' which in course of time set, and then the fruit formed in the ordinary manner, and was developed, in no way differing from that of a tree that is, so to speak, a born female. With regard to the others that sprouted again with male flowers, we broke them off again, when a proportion of them on the second occasion would turn out

females. Others we tried three or four times in the same way without succeeding in changing the sex. In all cases where male trees changed into female in this way, female trees were growing in close proximity to them. We would like to ask experts whether what we are now describing is known to them, and in what way it is to be accounted for? So little did we see a good reason for the tree on being broken off, sprouting again of the opposite sex, that until the phenomenon really occurred we felt that we were behaving in a manner worthy of the pork-butcher, who, noticing that the Asters in his garden were more than usually streaky, attributed the fact to his having buried a side of bacon in their vicinity the year before. After all though, and for aught we know, it may be as well known to naturalists as to others, that by the means we have been describing Papaw trees may be induced to change their sex."

— **ÆSCHYNANTHUS HILDEBRANDI.**—This is a new species, and one that is likely to become a favourite with those cultivators who are interested in pretty little tropical plants. Mr. W. Watson in the "Garden and Forest" some weeks since said it had lately been introduced to Kew by Mr. Hildebrand of Fort Stedman, Shan States, Burma, where it is epiphytic on the trunks of large trees, the roots finding nourishment in the crevices of the bark. Several little specimens of it have been established in teak baskets, and they are planted in sphagnum moss, the treatment being such as is given to Phalaenopsis. Although the stems are barely 3 inches high, they bear a considerable number of bright scarlet tubular flowers with orange and black-purple blotches in the throat; the leaves are sub-rotund, petioled, and covered with fine hairs. It appears to be nearest *Æ. gracilis*, also Indian. The charm of the plant is in the erect habit of the short stems, the rich green of the leaves, and its elegant brilliantly coloured flowers.

— **SIR JOSEPH PAXTON STRAWBERRY.**—All that "H. D." (p. 98) has written about this fine variety is perfectly true, but still its fine leafing qualities has not saved the crop about London, for it is of all sorts the most widely grown for the metropolitan market. How poor relatively seems to be our newer varieties when this really old sort still stands as a national fruiter at the top of the tree. That such calamities as that referred to seldom affect Strawberries is happily the case. Still, it is a calamity that should be as far as practicable provided against. The danger, if it comes, is always just about the third week in May, when the plants are in full bloom. Could not considerable breadths be saved from harm if there were ready to hand a good quantity of straw or ordinary long litter, such as is used to mulch the breadths, and so soon as the thermometer gave warning of a fall in temperature to have all hands set to work to strew the litter over the plants? How greatly in such case would the bloom be saved. After danger was passed the litter could be drawn in between the rows and be employed as mulch.—D.

— **THE FLOWER TRADE OF THE RIVIERA.**—For many years German gardeners have complained of the immense competition offered by the flower trade of the Riviera, and lately some statistics have been published which show the extent of the cultivation in that favoured region. The cultivation of flowers only began in Nice, Cannes, and Antibes in 1871. During the last ten years it had become exceedingly profitable, and within the last three years has increased to an astonishing extent. In Cannes and Antibes Roses are extensively cultivated; in Hyères and Fréjus only Violets; and in Grasse, Pinks, Narcissus, Tuberoses, and Jasmine. Nice has 220 hectares of land under this cultivation, the other places mentioned each 100 hectares, and in the Gulf of St. Juan 60 hectares. The Violet culture in Grasse, which was unknown twenty years ago, now yields 80,000 kilogrammes of flowers per annum. In Nice, a single garden has 400,000 Rose trees. In bad weather the blooming plants are covered with glass windows, and it may be reckoned that 400,000 square metres of land are thus covered at such times. There are besides all the hothouses, and a single garden in Antibes has about 550,000 blooming plants, and 1,800 square metres of other culture under about 2,500 square metres of glass. The export of these products may be roughly calculated in the following proportions. Taking Sweden as the place which imports least, Austria imports 4, Belgium 10, Switzerland 16, England 24, Germany 32, and France 64 times as much as Sweden. South France takes for its winter festival alone as much as all the other countries put together. In the Boulanger period not enough red Carnations could be provided for the Paris market, so great was the demand; while the year after no one wanted any. A single perfume factory on the Riviera uses every May 33,000 to 44,000 lbs. of Orange flowers daily; 2,000 to 30,000 lbs. Rose leaves, and 4,400 lbs. of Jasmine flowers. That factory works up during the season 1,100,000 lbs. of Mint, 220,000 lbs. Peppermint, and

22 million lbs. of Lavender. Seed culture is also on an immense scale. Chinese Primroses yield 30 to 40 kilogrammes of seed (600 seeds weigh only one gramme), and every kilogramme costs from 2,600 to 22,000 francs. Two years ago seven seeds of a new sort sold for 12 francs, which makes 1,028,400 francs per kilogramme. When these costly seeds produced a harvest the price, of course, fell. About 2,050,000 kilogrammes of cut flowers are exported yearly from Cannes, Nice, and Antibes. The perfume factories use 3,332,000 kilogrammes of flowers for pomades; 1,666,000 for scented oils, to the value of from three to five million francs; not reckoning the scented plants distilled for essences, which weigh millions of kilogrammes. Bulbs are also an important culture. Near Hyères about five million white Hyacinth bulbs are produced yearly, and there are 400,000 Narcissus bulbs, and 100,000 Lily bulbs per annum.—("Daily News".)

MELONS AT WOBURN ABBEY.

MELONS are in excellent condition in the houses at the Woburn Abbey Gardens, and that, too, in spite of the difficulties Mr. Calvert, the very practical gardener in charge, has had to contend with. There is every likelihood of a large, well planned range of Melon houses being constructed soon, but in the meantime the best has to be done with the low flat-roofed places that only are available. Some idea of the unsuitableness of some of the present houses for Melon culture may be gathered from the fact that the head room is so limited that the plants had to be zig-zagged as many as three times in order to keep them within bounds, and the fruits are hanging so low as to nearly touch the pots in which the plants are growing. Yet there is a very even lot of medium sized to large fruit in various stages of ripening, all of good form, beautifully netted, and otherwise promising well. By promising well I mean that there is every likelihood of the fruit proving to be of high quality, seeing that the plants are in a fresh, healthy state to the last.

It is worthy of note that Mr. Calvert places high quality before everything. This may appear a somewhat superfluous remark, but, I ask, how many growers are there who do not attach the greater importance to size and appearance, or otherwise how are we to account for their line of action? Mr. Calvert avoids overcropping, uses no decaying manure for the purpose of affording, first a brisk bottom heat, and then unlimited supplies of rich food for the roots to revel in, and is very chary of giving manure of any kind. Two, or at the most three, supplies of liquid manure is all the long rows of plants in pots on which fruit are ripening have received; but there has been no stint of water, as witness the clean healthy foliage of all. Mr. Calvert has not been at Woburn Abbey many months, and had no time to look up a heap of what he rightly considers suitable soil, or strong, somewhat clayey loam. Another season all this will be altered, as they do not appear so shy of cutting soil at Woburn as at far too many other places that could be named. Instead, therefore, of forming ridges of the light loamy soil at hand, and which thus exposed would never have sustained the plants in a healthy serviceable state, Seakale and other pots of about the same size were stood closely together in single rows and the soil rammed firmly into these. Only two fruit were allowed to swell on each plant, and yet, considering the roof area, this is a heavy crop.

In the successional houses there is more head room, or sufficient for the plants to be trained more straightly up the roof. The same plan of growing them in pots packed closely together in a single line is adopted, and the plants are surprisingly strong and luxuriant, much cramped as they must be at the roots. Mr. Calvert is evidently no believer in the theory that Melons must be grown by themselves in a house, as one long row of plants are sharing a span-roofed house with Cucumbers. This reminds me of the practice of another very successful Melon grower—Mr. Pettigrew of Cardiff Castle. At the latter place Melons are to be seen growing luxuriantly and producing grand fruit of high-class quality in houses primarily devoted to Pine Apples, Crotons, and other heat and moisture-loving plants. In this instance, again, the roots are confined to narrow brick pits and soil not always quite fresh to a Melon crop. Abundance of water is given, and canker, the only enemy dreaded, is warded off by means of glazed earthenware collars that surround the stems at that vital point—the collar. Mr. Calvert has to contend with canker, though considering the great number of plants grown, on a small scale, and he partially blames the light soil for this. His remedy is to plant rather high, and to keep the collar constantly dry. Should canker commence on any of the stems a timely application of newly slaked lime soon stops it. It is not considered necessary to scrape the wounds, but the lime is well rubbed in. Quicklime is undoubtedly the best remedy, while Portland cement answers fairly well and should be used if caustic lime cannot be had. Sulphur, soot, and such like are of no avail against this much-to-be-dreaded enemy.

A great variety of Melons are not grown at Woburn, in fact Mr. Calvert does not believe in a great variety of anything. Naturally after his experience at Gunnersbury, Welbeck, Osberton, and elsewhere, a good stock of Hero of Lockinge is favoured, and he also possesses a good scarlet-fleshed form, obtained by crossing the former with that other very excellent variety Blenheim Orange. In this seedling the good qualities of both parents are evident enough, added to which it is not quite so strong growing, and therefore more free setting than is some-

times the case with Blenheim Orange. Eastnor Castle is also grown. At its best this comparatively old variety is not surpassed, and that no one who ever tasted the grand fruit of it that used to be grown at Longleat by Mr. W. Taylor will dispute. Premier and a seedling raised from it are prominent at Woburn Abbey, and one of the handsomest and finest of all is Triumph. The latter is a scarlet flesh variety, and as well as being good to eat is for exhibition purposes one of the best.—W. I.

SCENES OF CHILDHOOD REVISITED.

AFTER an absence of some thirty years, I found myself on July 24th on the platform at Armitage Station, wending my way to Hawkesyard. Meeting with goodly company I was told of still existing old friends not seen for years. I called on Mr. Cope, now retired from active life, a most successful gardener, and who spends his hours amongst his Carnations, Chrysanthemums, fruit trees, and his vinery of superbly finished Grapes.

Farther down the village I called to peep at the seat of Mr. Thos. Birch, a most charming retreat, with delightful views of the Trent valley, and undulating woods in the distance. I heard Mr. Birch was providing a band and throwing open these grounds to the public for a gala day. When I look back what these gardens were, I thought how Mr. Birch must have enjoyed forming this beautiful place. A chat with this venerable lover of his garden would be a treat. A wall of Peaches, Nectarines, and Apricots in fine health with a heavy crop, some fruit ripe, brought back the old days. How we use to care for these trees in the open air. Everything was well done, and the neatest of order kept, from the kitchen garden with its pond of sweet white Water Lilies, to the extreme secluded walk with its quiet pool, the masses of Lady Ferns in variety, and *Osmunda regalis* dipping in its cool waters.

Leaving these shady retreats I enter the park of Hawkesyard, the seat of the late Josiah Spode, Esq., in whose death horticulture lost a strong supporter. The well known specimens of plants brought out year after year by the able plantsman Mr. Chapman were from this place. A short time back they were sold by auction, leaving the plant houses now tenantless. I found in the rock garden my first attempt at figure carving as fresh as ever. The same clumps of Fern, grown in greatest luxuriance, occupy the old spots, every path the same, with the octagonal Heath house, and its solid block and sides cut out of the rock forming the foundation and stages for the plants, now empty, except what gems have already become naturalised. The flower gardens were a blaze of colour. All these charms will be no more. We gazed on them and took a farewell look, as they are doomed to be turfed over. Thus ends one of the best and most interesting gardens for its area in Great Britain.—GEO. BOLAS.

LILAC SOUVENIR DE LOUIS SPATH.

AT a meeting of the Royal Horticultural Society, held on May 8th in the Drill Hall, Westminster, some beautiful Lilacs were exhibited by various growers, and amongst others Messrs. W. Paul & Son and Mr. Anthony Waterer had *Souvenir de Louis Spath*, for which first-class certificates were awarded. This is a splendid dark variety, producing large trusses of rich purple flowers, which are very fragrant. It is undoubtedly one of the darkest coloured Lilacs in cultivation, but is by no means dull, the flowers presenting a much brighter appearance than may be generally expected. Fig. 20 represents truss of bloom of this distinct variety, the engraving having been prepared from a sketch made on the above mentioned occasion.

ONION AND POTATO DISEASES.

I FEAR my esteemed friend, Mr. Orchard (page 106) has not quite caught the spirit of my remarks concerning the Onion maggot and the Potato disease. I made no reference to the Onion fungus or mould, because after all that last year was in no sense one tithe of the harmful nature the maggot was, and we see this year splendid Onion breadths, because the maggot has been rendered harmless by adverse weather. That the Onion fungus may be found in places even in the highly favoured Isle of Wight I can have no doubt, still I have not seen it this year so far. All the same, that should have no terrors for anyone, as by the use of the Bordeaux mixture, in which has been incorporated some treacle to render it adhesive, there need be no difficulty whatever in combatting so restricted a trouble as is the Onion fungus. The maggot did last year create a scare amongst growers. The fungus was and is a minor trouble. That the drowning out process has proved so efficacious with maggot is evidenced by the present condition of our Onion breadths.

As to the Potato disease, is it not the case this year that all early Potatoes suffered from late frosts more than any other cause? and equally is it not the case also that the severe weakening of the plants produced by the frost seriously predisposed them to an early attack of the disease? But then I said the Potato disease now has for us no terror, because the bulk of our leading late croppers are so far disease resisting that but a very trifling proportion suffer from the fungus in any case. If, how-

ever, excepting specially first early sorts, people will grow varieties that suffer severely from disease in bad seasons that is their look out.

I base my statement that the disease has now for us no terror, on the fact that for several years, even when disease has been prevalent, Potatoes have been so cheap and abundant that it has been difficult to sell at remunerative prices. When last spring old Potatoes were a drug, the prices went up at a bound directly it was known how seriously the early breadths had suffered from frost. That was, however, an accident of the season that will hardly be repeated in a hurry. All the same,

of the disease has doubtless created a scare that the application of the mixture might have at once delayed. As to the Potato disease attacking Onions that is their illusion. The two things are absolutely dissimilar, yet both amenable to the action of sulphate of copper.—A. D.

POTATO DISEASE (PHYTOPHTHORA INFESTANS).

THE fungus which causes this Potato disease belongs to the family designated Peronosporæ, and is recognised specifically as *Phytophthora*



FIG. 20.—LILAC SOUVENIR DE LOUIS SPATH.

growers will risk a repetition by planting early as usual, just as some others will prefer to plant well-known disease-takers in bad seasons rather than disease-resisters. But even in their case the disease still should have no terrors when a couple or three dressings of the Bordeaux mixture can so speedily ameliorate the evil. After all, and with a knowledge that on particularly soft-fleshed varieties the disease in such a season may be very harmful, and with the further knowledge of the great value of Bordeaux mixture dressings, how many are there who are employing this simple remedy? Shall I say how few?

Mr. Orchard's description of the way the fungus has spread in the island is distressing to read in face of the fact that here of all places was a splendid opportunity to test the Bordeaux mixture. The spread

infestans. It attacks the Potato plants by means of conidia, or microscopic spores, conveyed either by the wind, by insects, dogs, rabbits, hares, foxes, and by human beings, or by means of spores from the mycelia or vegetative centres, generated within the growing plants, and coming from infected tubers. In very dry summers, like that of 1893, there is, as a rule, but little disease. On the other hand, it has been observed that the fungus has made rapid progress in a night temperature of 47° to 50° Fahr., and a day temperature ranging between 57° and 59° Fahr. Generally speaking, it may be said that the Potato disease is generated, and causes more or less serious injury in warm, showery weather, especially after electrical disturbances, and makes its appearance between the 25th of June and the beginning of August.

The first indications of the disease to casual observers are brown spots on the upper surfaces of the leaves. These are caused by the action of the spores of the fungus which have penetrated the under surfaces of the leaves, and set up unhealthy action throughout the leaf structure. On these under surfaces, congeries, or groups, of white silky threads have been formed, from which spores are rapidly generated and distributed by the wind, or other agencies, to infect other Potato plants. It is therefore most important to prevent, if possible, the spores from germinating. If this cannot be done, steps should be taken to arrest their progress, to prevent them from forming vegetative centres from which countless quantities of spores may be generated, as well as the root-like hyphæ which, by permeating the leaf tissues, and stalks, cause premature decay, and finally descend to the tubers, making them unsound.

MEANS OF PREVENTION AND REMEDIES.

A review of numerous experiments carried out during the last few years in Great Britain and Ireland, and in many foreign countries, makes it clear that the treatment of the plants with compositions of sulphate of copper and lime has been employed preventively with satisfactory results in most cases in seasons of disease; but the treatment has not an unbroken record of success, and in a few instances the application of these compositions to Potato plants has even appeared to have an injurious effect upon the yield.

On the whole, however, there is ample evidence to prove that Potato plants dressed with sulphate of copper compositions offer much more resistance to the attacks of the Potato disease fungus than plants not so treated. It has also been demonstrated that when Potato plants have been attacked by this fungus the treatment with sulphate of copper compositions has proved remedial in a considerable degree, and has in many instances arrested the progress of the disease.

M. Girard—the greatest authority upon this subject—observes that it is most imprudent to wait until disease has appeared before the sulphate of copper compositions are applied, because the fungus spreads with such rapidity in favourable circumstances that the cultivators have not time to organise and carry out defensive measures. Treatment should be adopted as a means of prevention, even if there may not be actual disease. In short, treatment is insurance against disease; but it must be remembered that the results, both preventive and remedial, depend in a very great degree upon the time and manner of application, as well as the nature, preparation, and distribution of the compositions.

COMPOSITIONS.

The most commonly adopted composition consists of 20 lbs. of sulphate of copper, 10 lbs. of lime, 100 gallons of water. This has been found strong enough for all purposes, and does not injure the foliage if it is properly and evenly distributed, and not applied to very young plants.

A weaker composition is sometimes used, made of 15 lbs. of sulphate of copper, 7½ lbs. of lime, 100 gallons of water. This is preferred by some experimenters, especially for Potato plants whose leaves are young and tender. In experiments in Ireland last year, it was found that this composition was not so effective for treating Champion Potatoes whose leafage is coarse, as that made with 2 per cent. of sulphate of copper.

Another composition is advocated by M. Girard, consisting of 20 lbs. of copper, 20 lbs. of lime, 20 lbs. of molasses, 100 gallons of water. The superior advantages of this composition have not been seen in this country, but in wet seasons the molasses would probably make the sulphate of copper adhere better to the leaves.

PREPARATION OF THE COMPOSITIONS.

The sulphate of copper should be pure. Ordinary commercial sulphate of copper contains a large per-centage of sulphate of iron, which diminishes the action of the sulphate of copper and makes the composition of a dirty green colour.

The lime must be of the best quality, well burnt, and unslaked.

The sulphate of copper, roughly pounded, should be dissolved in cold water in a wooden or copper vessel. A good plan is to put it in a coarse canvas or sacking bag, and let this hang over the side of the vessel in the water.

The lime must be slaked with cold water in a separate vessel, and the mixture, when cold, poured into the vessel containing the sulphate of copper, and passed through a fine sieve to keep back grit and other particles. The whole should then be well stirred. A bright blue liquid is the result if properly made.

The tubs, pails, and other vessels in which sulphate of copper compositions, which are poisonous, have been put must not be used for feeding animals.

DISTRIBUTION.

On small areas, distribution may be effected by knapsack machines holding about 3 gallons. There are several kinds of these obtainable at moderate prices. A man can spray from one-third to half an acre per day with a machine of this kind.

Upon large acreages of Potatoes a horse machine would be required. With this from 8 to 12 acres can be sprayed per day.

The quantity of dressing applied usually varies between 110 and 150 gallons per acre.

Care must be observed to ensure regular distribution by means of fine spray nozzles attached to the machines, which can be easily adjusted in different directions to cover evenly the upper and under surfaces of the leaves. Though opinion is sharply divided as to the necessity of spraying the under surfaces of the leaves, it is certain that

the disease is first generated there, and it would seem to be even more important to apply preventive measures to the under surface of the foliage than to the upper surface.

Distribution will be materially assisted by strainers fitted into the machines, and by keeping the compositions constantly stirred.

If the dressing has been regularly and properly distributed, the leaves above and below should when dry be covered with bright blue spots.

It may be necessary to spray the plants again if heavy rains should fall and wash off the dressing.

If the disease still spreads after the treatment, it will be desirable to repeat the spraying.

COST OF TREATMENT.

It has been stated that the cost of treatment usually varies from 8s. 6d. to 11s. per acre for each application of the 2 per cent. of sulphate of copper composition. The composition with the molasses costs from 10s. 6d. to 13s. per acre.—(Board of Agriculture.)

NOTES ON HARDY PLANTS.

It has always been my endeavour to grow choice selections of hardy flowers rather than collections. Were I to go into the latter my small garden would soon be crowded with one particular kind of flower, the glory of which would soon be over, while there would be nothing to take its place. Roses, however, occupy a considerable space, but even here it is more a selection of the best kinds, and I have but little room for what are now ordinarily called garden Roses, and it is vain for me to attempt those combinations of colour and foliage which are oftentimes so charming, but must be by me looked upon in other people's gardens rather than my own. It is the same with regard to hardy plants, under which term I include not only what are called herbaceous plants but bulbs, and with the aid of my rockery I am able to keep up a succession of interesting plants nearly throughout the year.

VERBASCUM OLYMPICUM.

In looking round I see many plants which, although not rare, may yet be regarded as desirable even for small gardens. At the end of my Rose garden in the sheltered spot, which seems to have particularly suited it, there is a grand plant of *Verbascum olympicum*. It has resembled a golden candelabrum, the centre stem being about 11 feet high, with six side ones about 6 feet from the ground, and covered throughout with beautiful bright yellow flowers. I have seen many plants of this species, but never one which excelled—nay, I may add even equalled—this plant. It is interesting in another point of view. When this biennial species flowered last year I regarded the plant as done for, but to my surprise a side shoot was thrown off, and developed itself in due time into the magnificent plant in question. I shall be curious to see what its future history is, as I fully expect all my other plants of it have sustained their biennial character, and after flowering have perished.

HERBACEOUS SPIRÆAS.

Fine-looking plants are to be found amongst the herbaceous *Spiræas*, of which I have several kinds in my garden; their graceful feathery shoots making them very valuable contrasting with the brilliant flowers around them. Unfortunately, however, mine have increased so much in size that I am compelled to remove them, which I hope to do after they have done flowering. Those which I grow are *Astilboides*, dwarf; *Aruncus*, a grand plumose variety growing some 5 feet high, with long graceful plumes of small white flowers; *palmata*, a very beautiful variety; but, unfortunately, I have not been very successful with it, though I have tried it in various aspects, and I am told that some people find it capricious; *venusta*, a beautiful pink coloured species requiring a moist and somewhat shady situation where its bright bunches of rosy carmine show off to much advantage.

LILIES.

Although as a rule Lilies do not come into flower quite so early there are some notable exceptions, and whose period of blooming tends to lengthen out very much the season when we can enjoy this beautiful tribe of plants. Those which I have had in flower are the highly coloured and rich looking *umbellatum* or *davuricum*; *Szovitzianum*, an easily grown Lily of a beautifully clear apricot colour, when well grown attains to a height of 4 feet or more. *Hansonii*, a very pretty Japanese Lily, somewhat small in size, of a clear apricot colour, spotted with chocolate. This was one of those that was seriously affected by the drought of last summer; as it made but feeble shoots it speedily withered away, but it has come up and flowered strongly, so that I am inclined to think that the period of comparative rest that it had benefited it. It has one drawback, that of having a very unpleasant smell, so that it is impossible to use it for indoor decoration. The dwarf Lilies of the *Thunbergianum* or *elegans* types are very useful for the front of the herbaceous border where Lilies are grown. Two of the best of these are *citrinus*, pure golden yellow with black spots, and *atro-sanguineum*, a very dark red. There are others in this group which I have not yet grown.

DICTAMNUS FRAXINELLA.

This species and its variety *alba* have been in great beauty during the early summer. These are unquestionably two of the most interesting plants of this season; perfectly hardy, very free-flowering, and remaining

a long time in perfection. The flowers and foliage alike have a most powerful lemon scent. There is an idea that this plant will emit sparks if a lighted match be applied to it, but I have never been able to achieve this result. The finest plant of this that I have seen was in the garden of Christopher Powell, Esq., of The Old Hall, Southborough. It was fully 4 feet high, and as much through. It is an old-fashioned plant, and is generally known by the name of *Fraxinella*. It is easily propagated by seed.

POPPIES.

Papaver orientale, a very grand and striking Poppy, of a most brilliant scarlet colour, appears to have somewhat resented the drought of last season, as it has neither flowered so freely nor produced stems so vigorous as usual. There is also another Poppy which grows with me to the height of 4 feet, which I received under the name of *occidentale*, but it is more like the description of *P. bracteatum*; it has been very showy, and seems to have stood the drought better than its congener. I have also had in flower a dwarfed Poppy, which I received from Mr. Carrington Ley, St. Helen's, in Maidstone, of the parentage of which he seemed to be ignorant; it is about 1½ foot high, with orange scarlet flowers. It is somewhat remarkable that he has been unable to obtain seed from it that would germinate, and has only been able to propagate it by division.

Of the Iceland Poppies there is no need to say anything, these are so generally known and appreciated that I have only to say that they have done exceedingly well with me this year, and that I know no more pleasing mixture of colour than the white, yellow, and orange varieties combined.

AQUILEGIAS.

There is no flower which of late years has received so great a development and afforded us such combination of colours as the beautiful and graceful Columbine. The old garden double varieties, pretty in themselves, especially the white one, have been entirely displaced by the new race, which has originated from the admixture of some of the North American forms, such as *Chrysantha*, *Skinneri*, *cœrulea*, and *californica*. There are no flowers that are more readily, one may say so readily, hybridised by the action of insects or wind as these, the consequence is that where the species are grown together and the seed gathered or the self-sown seedling plants taken, an endless variety may be obtained. In a small garden like my own one has to be contented with a few of these hybrids, but in the garden of Mr. Wolley Dod, with whom this tribe is a great favourite, or in such a garden as I saw the other day—namely, Mr. Powell's—already mentioned, beds are devoted to it, and a most beautiful and graceful effect is obtained. The plants vary in height, habit, and flower, from the dwarf ones from which *cœrulea* has evidently come, to *Skinneri* and *californica* the taller and larger varieties. So easily are these flowers hybridised it is almost impossible to keep them pure. I have tried to obtain seedling plants of *cœrulea*, but have never been able to get them correct. *Chrysantha* is perhaps the only one about which there is any certainty, and this simply from the fact that it comes into flower later than the others, so that if seed is gathered from the later blooms of it one may be pretty sure of obtaining them correctly. But should there be any other in flower at the same time anywhere in the garden at the same time all your efforts may be frustrated.

SIDALCEA CANDIDA.

A very pretty white flowering plant of the Mallow tribe is this, hardy and easy of cultivation; in fact, the great difficulty is to keep it within bounds, and it is one of those plants which must be carefully watched. Some growers say it requires a close loamy soil, but I have found it succeed exceedingly well in an ordinary pliable garden soil.—D., Deal.

A NEW PALE PRIMROSE-COLOURED DAFFODIL (CERVANTES).

THE accompanying illustration (fig. 21) represents a bloom of a charming pale primrose-coloured Daffodil, which has been in Mr. Hartland's possession, from the Spanish Pyrenees, since 1885. He has named it *Cervantes*, and says that it has the vigour and constitution of the common *N. Telamonius plenus*. There are, he remarks, but few varieties of the *Cervantes* colour, a uniform pale primrose, possessing the qualifications and character of a market bloom, and one, too, that can be grown successfully under all conditions. Mr. Hartland ventures to surmise that *Cervantes* may prove to be but the true nobilis of *Redouté*, a lost plant to science. What say our specialists to this? The engraving has been prepared from a drawing made by Miss Gertrude Hartland, and sent us by Mr. W. Baylor Hartland, Cork.

THE MIDLAND COUNTIES CARNATION SOCIETY.

THE annual exhibition was held in the Birmingham Botanical Gardens on the 4th inst., and was a most successful one, a large number of flowers being staged and many exhibitors attended.

In the class for twelve Carnations, dissimilar, Mr. Robert Sydenham was first with Fred Phillips, Lord Salisbury (fine). Guardsman, Joseph Lakin (good), Sarah Payne, Robert Lord, Gordon Lewis, Agricola, J. D. Hextall, Thalia, and Master Fred; second, Messrs. Thomson & Co.,

Birmingham; third, Mr. Hy. Geggie, Bury; fourth, Mr. Crossley Head, Hebden Bridge; fifth, Mr. A. R. Brown, Birmingham. For six Carnations, dissimilar.—First, Mr. B. Simonite, Sheffield, with Duke of York, J. D. Hextall, Charles Henwood, Sportsman (a sport from Tim Bobbin), and a seedling; second, Mr. J. Edwards, Manchester; third, Mr. J. Walker, Thame, with others following.

For twelve Picotees, dissimilar.—First, Mr. A. W. Jones, Birmingham, with a very fine stand of Mrs. Gorton, also The Princess, light edged bloom, Esther, Favourite, Thomas William and Mrs. Payne (all especially fine), Little Phil, Brunette, Ne Plus Ultra, Mrs. Barnett, Lady Louisa, Mrs. Sharpe, and Muriel; second, Mr. Robert Sydenham; third, Mr. Charles Turner, Slough, with others following. For six Picotees.—First, Mr. C. Chappell, Lozells, Birmingham, with Mrs. Sharpe, Mrs. Beal, Nellie, Thomas William, Mona, and Little Phil; second, Mr. B. Simonite; third, Mr. C. F. Thurstans, Wolverhampton.

For twelve yellow grounds.—First, Mr. Charles Turner with a grand stand of blooms, The Miser, George Cruickshank, and The Dey (three



FIG. 21.—A NEW PRIMROSE-COLOURED DAFFODIL (CERVANTES).

superb distinct new varieties), Almira, Adela, Romulus, Edith, Mr. Wynne, Countess of Jersey, Primrose League, Janira, Agnes Chambers, and Mrs. Hammond; second, Mr. Robert Sydenham; third, Messrs. Thomson & Co. For six yellow ground or Fancies.—First, Mr. T. E. Henwood, Reading, with Almira, Mrs. Whitbourn, Cardinal Wolseley (fine), Cowslip (fine variety), Chrysolora, and Undine; second, Mr. T. Anstiss, Brill; third, Mr. G. Chaundy, Oxford; others following.

In the class for twelve Sells.—First, Mr. C. Turner, with an excellent stand of Louis Napoleon (a fine salmon buff colour), The Governor, Salamander, King of Scarlets, Germania, Cedric (white Self), Fiery Cross, Corunna, Hayes' Scarlet, Miss A. Campbell (lighter than Germania), The Hunter (darker than Germania), and Mrs. Ford; second, Messrs. Thomson & Co.; third, Mr. R. Sydenham. For six Sells.—First, Mr. J. Walker, Thame; second, Mr. Wm. Kenyon; third, Mr. G. Chaundy. In the class for six Carnations and Picotees for those who have never won a prize.—First, Mr. J. W. Bentley, Stakehill, Manchester; second, Mr. J. Grove, Evesham; third, Mr. J. Evans, Newport.

A class was set aside for twelve Carnation or Picotee blooms exhibition varieties, in a space not exceeding 20 inches, with a view to showing the calyx, and no cards or wires allowed. There were several exhibits.—First, Mr. A. W. Jones with a fine stand; second, Messrs. Thomson & Co.; third, Mr. Robert Sydenham; fourth, Mr. John Walker; fifth, Mr. J. H. Wilson. For six Carnation and Picotee blooms, staged in the same way in half the space.—First, Mr. Aubrey Spurling,

Blackheath, London; second, Mr. C. F. Thurstans; third, Mr. George Chaundy; fourth, Mr. Hy. Lovatt, Wolverhampton; fifth, The Rev. C. P. Brickwell; sixth, Mr. Jester, West Bromwich.

In the single bloom classes which were well filled and some good blooms staged, the prizes were awarded as follows:—

Carnations.—Scarlet bizarre: First, Mr. C. Turner with Dr. Hogg; second, Mr. Thurstans with Robert Houlgrave; third, Mr. B. Simonite with Robert Lord. Crimson bizarre: First, Messrs. Thomson with Lord Salisbury; second, Mr. R. Sydenham with Master Fred. Pink and purple bizarre: First, Mr. C. Turner with Ellis Crossley; second, Mr. R. Sydenham with Sarah Payne. Scarlet flaked: First, Mr. J. W. Bentley with Flamingo; second, Mr. R. Sydenham with sport from R. Lord. Rose flake: First, Mr. C. Turner with Lady Mary Currie; second, Mr. Hy. Geggie with same variety. Purple flake: First and second, Mr. Sydenham with Mrs. Douglas, Gordon Lewis.

Picotees.—Single blooms.—Heavy red edge: First, Mr. A. W. Jones with Brunette; second, Mr. Sydenham with Brunette. Light red edge: First, Mr. A. W. Jones with Mrs. Gorton; second, Mr. R. Sydenham with Thos. William. Heavy purple edge: First, Mr. Sydenham with Amy Robsart; second, Mr. W. Kenyon with Zerlina. Light purple edge: First, Mr. C. Turner with Mary; second, Mr. A. W. Jones with Mary. Heavy rose edge: First, Mr. A. W. Jones with Mrs. Burnett; second, Mr. C. Turner with Fanny Helen. Heavy scarlet edge: First, Mr. Sydenham with Scarlet Queen; second, Mr. A. W. Jones with Mrs. Sharpe. Light rose or scarlet edge: First, Mr. A. W. Jones with Favourite; second, Mr. W. Kenyon with Nellie.

One striking feature of the exhibition was the superb display of blooms of border varieties staged. A large number were shown, and in the class for twelve varieties of Carnations and Picotees, five stems of each, Messrs. Thomson & Co., Birmingham, were first; second, Messrs. A. Hewitt & Co., Birmingham; third, Mr. W. H. Weguelin, Weymouth, and this stand contained Elsie, a handsome novel light flower; fourth, Mr. S. Rogers, Whittlesea; fifth, Mr. W. Barsby, Leicester. There were other classes for six bunches of not less than twelve or more than twenty stems; also for six bunches, three stems of each, and there was a fine display of these. Some beautiful shower bouquets of Carnations and Picotees were staged, as also of Sweet Peas, and pretty sprays of both.

The honorary exhibits were very numerous and so good. Messrs. Pearson & Sons, Chilwell, Nottingham, staged a number of new Zonal Pelargoniums, including Enid, a bright rose tinted scarlet, grand truss and pip; M. Calost, a crimson tinted scarlet with large white eye, extra fine; Olivia, bright cerise, immense size of pip, and very fine; and Donald Beaton, named in his memory on account of the strong orange yellow tint of colour, reminding one of his old Indian Yellow. Mr. B. R. Davis, Yeovil, was awarded a bronzemedal for double and single Begonia blooms. Mr. Hy. Eckford, Wem, won a bronze medal for Sweet Peas, Mauve Beauty Stock, and new culinary Peas. Mr. Robert Sydenham had a bronze medal for a collection of Gladioli spikes. Mr. James Forbes, florist, Hawick, had a collection of Viola blooms and Pansies. Mr. J. H. White, nurserymen, Worcester, had an excellent display of fine Gladioli, Gaillardias, border Carnations, and hardy flowers. Messrs. Hewitt & Co., Solihull Nurseries, had a fine display of cut flowers. Mr. Thos. S. Ware, Tottenham, won a silver-gilt medal for an extensive display of Hollyhocks, Lilliums, Dahlias, and hardy border Carnations.

Mr. John Walker, Thame, staged a stand of Dahlias, and the veteran Mr. Anstiss of Brill also sent twenty-four good blooms. Mr. G. May, Upper Teddington, had a group of Uriah Pike Carnations. Messrs. Dobbie & Co., Rothesay, staged a fine collection of Sweet Peas, also some fine striped French Marigolds and Viola sprays. Mr. C. Leeson, Wrawby, Brigg, brought some excellent seedling Begonias, as also did Mr. W. Astell, an amateur in Leamington. Mr. Wm. Sydenham, Tamworth, staged two handsome table designs of Pansies, Violas, and Grasses, to show their use for such purposes.

Certificates were granted to Carnation Flamingo, S.F., exhibited by Mr. W. Bentley, a bright flower of fine quality; Carnation Radiant, C.B., by Mr. J. Douglas; Carnation Paradox, scarlet self, by Mr. A. Spurling; Picotee yellow ground Fancy John Walker, by Mr. J. Walker, very rich in the gold ground colour with bright rosy scarlet markings; Sweet Pea Blanche Burpee, white, to Mr. Hy. Eckford; Sweet Pea Britannia, maroon and blue, to Messrs. Dobbie & Co.; and new Lilliums shown by Mr. Thos. S. Ware.

HORTICULTURAL SHOWS.

BLANKNEY.—AUGUST 1ST.

THE sixth annual exhibition of the Blankney Horticultural Society was held by the kind permission of the Right Hon. H. Chaplin, M.P., in the beautiful grounds of Blankney Hall on the above date. The weather during the morning was somewhat showery, but during the afternoon it gave indications of clearing, and thousands of people made their way to the fête. Special trains were run from the towns for many miles round, and were splendidly patronised. Subjoined is given a brief report of the show, which was a highly creditable one; but as the gardeners' names were not placed on the cards, nor the addresses of the exhibitors, these cannot be given. Perhaps the Committee will see its way to providing these at future shows, as they are essential to make the report in any way complete. The Secretary, Mr. J. Hawley, and the other officials were most courteous and obliging, but the same cannot be said of the police, who appeared to be doing their best to annoy the

reporters, and they should receive instructions to at any rate give civility, which costs nothing.

The class for a group of plants arranged in a circular space with a diameter of 12 feet brought three exhibitors, each showing admirably and with much taste. R. Dawber, Esq., was first with an exhibit in which Lilliums, Crotons, Palms, Ferns, and Orchids were noticeable. The plants were admirably grown, clean, and well flowered, and arranged in a very tasteful manner. Mrs. Peake was a very good second indeed with a group composed of Coleuses, Campanula pyramidalis, Bougainvillea glabra, Crotons, and Ferns, all in excellent condition. The Right Hon. H. Chaplin, M.P., was third with a fair arrangement of well grown plants.

R. Dawber, Esq., was also first for six exotic Ferns, distinct, with grand examples, the Right Hon. H. Chaplin being second. Mrs. Peake was the only exhibitor of six distinct Fuchsias, and was deservedly accorded the premier prize for well grown plants. The Right Hon. H. Chaplin and Captain Reeve showed six Coleuses, and gained the first and second prizes in the order of their names. Tuberous-rooted Begonias were very finely staged, the first prize going to C. E. Marfleet, Esq., the second to the Rev. F. A. Leslie Melville, and the third to the Earl of Winchelsea. For four Caladiums, the Right Hon. H. Chaplin was first with superb plants, and R. Dawber, Esq., was second; no third prize being offered. C. E. Marfleet, Esq., was first in the class for Gloxinias, and the Right Hon. H. Chaplin was second. Single specimen foliage plants were well shown by the Right Hon. H. Chaplin and R. Dawber, Esq., who were accorded the prizes in the order of their names.

The classes for cut flowers were not very well filled, neither was the quality so good as might have been expected at such an extensive exhibition. Two collections of wild flowers were staged, neither being of much merit. Mr. G. M. Rawson was first, and Mr. C. Fresbey second. Messrs. Pennell & Sons, Lincoln, staged the best bouquet, a charming combination; Mr. J. Illman, Lincoln, being second, and R. Dawber, Esq., third. For twenty-four Roses, distinct, single trusses, Messrs. Norton and Co. were first with a fair stand in which Marie Baumann, Catherine Mermet, Gustave Piganeau, and Madame Victor Verdier were the best. Messrs. Pennell & Sons were second, and the Right Hon. H. Chaplin third. In the class for twelve bunches of stove or greenhouse flowers, N. C. Cockburn, Esq., was first with Allamandas, Stephanotis floribunda, and Cattleyas amongst others. Messrs. Pennell & Sons were second, their best blooms being *Pancreatum fragrans* and *Francoa ramosa*, the third prize going to Mrs. Peake.

Fruit was splendidly shown and in fairly large numbers, Grapes and Peaches being especially good. In the class for a collection of eight kinds, exclusive of Pines, N. C. Cockburn, Esq., was first, Peaches, Figs, and Grapes being particularly good; Mrs. Peake was second, the best being Peaches and black Grapes; the Earl of Winchelsea was a fair third. C. E. Matfleet, Esq., was first in the class for two bunches of black Grapes with fine berries well coloured, N. C. Cockburn, Esq., being a good second, both staging Hamburgs. The last named exhibitor was first for two bunches of Muscat of Alexandria, Mrs. Peake being second, each with good fruit. For six Peaches Mrs. Peake was first with an admirable exhibit, N. C. Cockburn, Esq., being second. Mrs. Peake was also first in the class for six Nectarines, and the Right Hon. H. Chaplin was a good second. For a dish of Cherries N. C. Cockburn, Esq., was first, and Captain Reeve second. The Earl of Winchelsea was first for eight baking Apples with good fruits, and Captain Reeve was second.

The vegetable classes were well filled, and some splendid produce was staged by the various exhibitors. The chief class was for a collection of ten distinct kinds, R. Dawber, Esq., taking the premier award. The stand was composed of Celery, Carrots, Vegetable Marrows, Tomatoes, Cucumbers, Cauliflowers, Onions, Potatoes, Peas, and Kidney Beans, the Right Hon. H. Chaplin being second. The best examples in this stand were Onions, Cauliflowers, and Celery. The latter exhibitor was first in the class for a collection of Potatoes in ten distinct sorts, Mr. H. Craven being a good second. For a brace of Cucumbers Mr. D. Beasley was first, and the Earl of Winchelsea a close second. In the class for a dish of Tomatoes Mr. J. Illman was first, and Mr. D. Beasley second, both with fine fruits.

Miscellaneous exhibits numbered two only, Messrs. Pennell & Sons sending Sweet Peas and foliage, and Mr. J. Illman a beautifully arranged cross of white flowers.

LIVERPOOL.—AUGUST 4TH AND 6TH.

ON Saturday last the fifteenth summer show was opened by the Lord Mayor at the Review Ground, Sefton Park. The exhibition of plants and fruits hardly attained the excellence of former years, for one missed some of the large and handsome specimen plants formerly exhibited by Messrs. Finch and Cromwell, and the fruit of Messrs. Middleton and Bennett. Notwithstanding all this, the classes in the former were well filled. The trade exhibits were really grand, and better than have been seen for many years, and more than compensated for the absence of some of the groups of plants. The weather, unfortunately, was of such a character as to render any of the outside attractions quite out of the question.

Mr. Bracegirdle, gardener to W. H. Watts, Esq., Elm Hall, Wavertree, was a good first for eight stove and greenhouse plants, four in flower, the most noticeable of which were Crotons Queen Victoria and Disraeli, fine but a trifle short in colour, with a handsome *Ixora Regina*. Mr. Jellicoe, gardener to F. H. Gossage, Esq., Camp Hill, Woolton, had for second place handsome plants of *Croton mortefontainensis*, *Allamanda nobile* and *Kalosanthes coccinea*, with others. Mr. R. Pinnington was

third. In class for six stove and greenhouse, Mr. G. Leadbetter, gardener to W. J. Davey, Esq., Holmleigh, Grassendale, staged fresh and pretty plants, noticeable being *Statice profusa*, *Allamanda grandiflora* and *Phœnocomia prolifera* Barnesi. Mr. T. Healcy, gardener to Colonel Wilson, Hillside, Allerton, was a good second, his best plants being *Ixora Williamsi* and *Allamanda Williamsi*, very fine. For four stove and greenhouse plants in bloom Mr. Healey staged *Ixora Williamsi*, *Ericas* insignis and depressa, all very choice and well flowered. Mr. McFall, gardener to E. C. Leventon, Esq., Oakfield, Roby, was a close second, very fine being *Bougainvillea glabra* and *Kalosanthus coccinea*. For three plants in bloom Mr. Jellicoe was awarded the prize, the prizes for single specimens going to Mr. Carling, gardener to Mrs. Cope, Dove Park, Woolton, for a splendid *Ixora Pilgrimi*, and to Mr. Leadbetter for *Kalosanthus coccinea*.

Fine-foiled plants and Palms were shown to much advantage, the prizes for four and one fine-foiled, and three Palms or Cycads, being awarded to Messrs. Jellicoe, Leadbetter, and R. Pinnington. The classes for six Ferns, three Ferns, and one, were well contested. Mr. Gower, gardener to J. A. Bartlett, Esq., Lynton, Mossley Hill, was first in the former with excellent specimens, Messrs. Bracegirdle and Pinnington being second and third. Mr. Jellicoe won with three Ferns, and Mr. Geo. Eaton, gardener to W. H. Shirley, Esq., Allerton House, with a handsome *Davallia Mooreana*. The prizes for hardy Ferns and Lycopods went to Messrs. D. Field and J. Harrison.

Orchids were fresh, but not particular in merit, Mr. Healey winning in the class for four with *Cattleya labiata* and *Sanderiana* and others. Mr. J. Wilson, gardener to C. H. Williams, Esq., Fulwood Park, had a choice *Lælia purpurata* and *Oncidium crispum grandiflorum* amongst his plants. Greenhouse, flowering, and foliage plants were all of fine quality, Mr. Leith, gardener to Mrs. Ihler, Huyton Hey House, Huyton, winning with two former; Mr. E. Bridge, gardener to Mrs. Jowett, Greenhill, Huyton, being a long way ahead with handsome Zonal Pelargoniums; Mr. J. Stoney, gardener to Sir Thos. Earle, Bart., Allerton Tower, won in both classes for Ivyleaf Pelargoniums; Mr. Hitchman, gardener to Arthur Earle, Esq., Childwall Lodge, with *Coleus*, and Mr. G. Eaton with handsomely grown *Caladiums*. *Gloxinias* and *Cockscombs* were marvels of good culture and much admired, the prizes going to Mr. James Grant, gardener to W. S. Gladstone, Esq., Thornlea, Aigburth, and to Mr. Hitchman. Mr. T. Ankers, gardener to the Right Hon. the Lord Mayor of Liverpool, was a good first for six tuberous Begonias, and Mr. T. Green, gardener to Thos. Gee, Esq., Greenhill, Allerton, for one plant. *Liliums* were bright and effective, Mr. J. Bounds, gardener to A. L. Jones, Esq., having two handsome specimens of *Lilium lancifolium melpomenc*, and for single plant Mr. J. Pattinson, gardener to S. J. Waring, Esq., Palmyra, Aigburth, was first with a giant plant of *Lilium lancifolium roseum*.

There were only two exhibits of note for circular group of plants, viz., Messrs. Bracegirdle and Jellicoe, the former winning with a handsome light and tastefully arranged group, in which every plant was seen to advantage, the only fault possible to find being the somewhat formal edging of *Panicum variegatum*. Mr. Jellicoe's was also very effective, but a rather heavier arrangement.

CUT FLOWERS.

Four nurserymen had entered for the forty-eight cut Roses, but only one turned up, this, no doubt, being caused by the heavy rains of the past few days. Messrs. Harkness & Sons, Bedale, had a superb box, the best of which were Duke of Fife, Mrs. J. Laing, Chas. Lefebvre, Caroline Testout, Suzanne Marie Rodocanachi, Madame Eugène Verdier, Earl Dufferin, The Bride, Alfred Colomb, Rosieriste Jacobs, Chas. Darwin, Star and Pride of Waltham, Gustave Piganeau, Duc de Morny, and Innocente Pirola. For eighteen Teas, Hybrid Teas, and Noisettes, the same exhibitors were first, having Caroline Testout, Comtesse de Nadaillac, Duchess of Albany, Souvenir de S. A. Prince, Marie Van Houtte, Caroline Kuster, Princess Beatrice, Etoile de Lyon, The Bride, and Catherine Mermet. They also won with six dark and six light varieties, showing Mrs. J. Laing and Alfred Colomb. In the amateurs' class Mr. Carling had a very fair stand; W. Bell, Esq., St. George's Mount, New Brighton, being a good second. Boxes of Roses arranged for effect were greatly improved, the first and second prize boxes, staged by Messrs. Green & Grant, being faultless.

Mr. Carling secured the prize for twelve varieties of stove and greenhouse cut flowers. Herbaceous flowers were splendid, the first prize stand of twenty-four varieties staged by Mr. Geo. Eaton being the admiration of many persons. In the class for twelve bunches Mr. Grant was first. Bouquets, Carnations, and Picotees appeared in grand condition, the prizewinners including Messrs. Geo. Downes, J. Bounds, and H. Holford.

FRUIT AND VEGETABLES.

For six dishes of fruit, Pines excluded, Mr. J. Elsworthy, gardener to A. R. Gladstone, Esq., Court Hey, Broad Green, placed small but beautifully finished Muscat and Madresfield Court Grapes, Royal George Peaches, Court Hey Seedling Melon, Negro Largo Figs and Pineapple Nectarines. Mr. J. Stone was second, and Mr. Oldham, gardener to T. Beecham, Esq., Ewanville, Huyton, third. For four bunches Mr. Elsworthy was again first and Mr. Oldham second. There were two handsome bunches of Black Hamburgs for first and second places, Messrs. J. Barker, gardener to F. W. Raynes, Esq., Rock Ferry, and G. Grey, gardener to Sir G. Meyrick, Bart., Bodorgan, winning. The latter won for any other white with Foster's Seedling. For two bunches of Muscats and same number of any black Grape Mr. J. Stoney

outdistanced all with bunches grand in berry and handsome shape; he was also first with a dish of Peaches, Mr. R. Pinnington winning with Nectarines and Melons. Six dishes hardy fruits brought out a strong number, Mr. Craven, gardener to J. G. Grant Morris, Esq., Allerton Priory, winning easily. Mr. Stoney was first with a basket of fruit arranged for effect. The prize for four pots of Tomatoes, one plant in each pot, was worthily awarded to Mr. Carling.

Although not quite so strong in collections, vegetables were of equal excellence to those of last season. Mr. J. Hathaway, gardener to Lord Latham, Latham House, Ormskirk, won with twelve varieties, having Cranston's Excelsior Onion, Ormskirk Beet, Matchless Cucumber, and Celery, very fine. Mr. J. Stoney was a very good second. The same order was maintained in classes for six varieties. Mr. J. Rainford won in the amateurs' class for twelve varieties with grand produce. Peas and Potatoes formed heavy classes, Mr. Hathaway and Mr. Mackarell, Formby, winning in classes for four and two dishes of Peas; and Mr. McFall and Mr. J. Pownall for same number of dishes of Potatoes. The Tomatoes were very fine, Mr. Carling winning for three dishes, noticeable being handsome fruits of Blenheim Orange. The prize for one dish was taken by Mr. Craven, and Mr. McFall won with Cucumbers.

NURSERYMEN'S EXHIBITS.

The exhibits in this section were of a higher and more extensive character than for many years. Dicksons, Ltd., Chester, had a grand stand, the arrangement of which was perfect. It consisted of Gladioli, Lilies in variety, Phloxes, Iceland Poppies, Pentstemons, Heleniums, bunches of the finest Carnations and Tea Roses. Mr. Jno. Forbes had a stand consisting twenty-five dozen single and fifty bunches of Carnations, ninety-six bunches of Violas, in which were the sweet-scented Violetta type. A new flaked Carnation called Pride of Buccleuch, and a bedding Fuchsia, Dunrobin Bedder, scarcely a foot high and remarkably prolific, were noticeable. Mr. Eckford sent sixty vases of Sweet Peas, containing many new varieties, and gained a first-class certificate for a handsome and most prolific culinary Pea named Royalty. Messrs. Charlesworth, Shuttleworth & Co., Heaton, Bradford, had a stand of choice Orchids. Messrs. Jno. Cowan & Co., Ltd., Garston, showed Orchids extensively. Messrs. R. P. Ker & Sons, Aigburth, had Carnation Uriah Pike, Crossandra unduliflora, *Caladiums*, and other plants; a first-class certificate being unanimously awarded to *Gloxinia Aigburth Crimson* and *Cannas*. Messrs. J. Davies & Co., Wavertree, contributed handsome Gladioli, specially fine Gaillardias, Carnations, herbaceous plants and Pelargoniums. Mr. H. Middlehurst, Manchester Street, had thirty-six varieties of mixed seedling Gladioli. Mr. C. A. Young, florist, West Derby, sent fine bunches of Carnations, and a new free flowering variety Countess of Sefton. Messrs. W. Edwards & Son, Sherwood, Notts, had their unique Edwardian ware decorations, and Mr. Jno. Edwards, gardener to H. Tate, Esq., jun., Allerton Beeches, showed new Orchid pottery. All the above, in addition to those mentioned, received certificates of merit.—R. P. R.

SOUTHAMPTON.—AUGUST 4TH AND 6TH.

THE summer exhibition of plants, flowers, fruit, and vegetables, held under the auspices of the Royal Horticultural Society of Southampton, took place at Westwood Park on the above-mentioned dates. On the 4th inst., the opening day, wet weather prevailed, which somewhat prevented a large attendance of visitors, though these, doubtless, were more numerous on Bank Holiday, a gala being held in connection with the show. Regarded as a whole the exhibition was a remarkably fine one. Specimen plants are always a feature here, but for the two previous years a falling off has been noticeable in this respect, primarily through the absence of such noted growers as Mr. J. Cypher of Cheltenham. The present year, however, saw this well-known plantsman to the fore, and he succeeded in gaining premier honours in some of the leading classes. He staged some magnificent examples of patient and skilful cultivation, as did other growers, the liberal prizes bringing forth a keen competition. The groups, which were placed in the centre of a tent, were also good, better indeed than one usually finds at provincial shows. They were composed of choice plants, all arranged in a most effective manner, and consequently much admired by the visitors. Cut flowers form a striking feature of the exhibition, as did fruit and vegetables, the latter including some splendid produce.

SPECIMEN PLANTS AND GROUPS.

In the class for six stove and greenhouse plants, five in bloom and five foliage, distinct, there was a very strong competition, and some splendid specimens were staged. Mr. J. Cypher, Queen's Road, Cheltenham, was first, showing *Erica tricolor vera*, *Phœnocomia prolifera* Barnesi, *Statice profusa*, *Allamanda nobilis*, and *Erica Austiniana* as flowering plants. The foliage plants were magnificent specimens of *Crotons* Sunset and Chelsoni, *Kentia Fosteriana*, *Latania borbonica*, and *Kentia australis*. Mr. T. Wilkins, gardener to Lady Theodora Guest, Inwood House, Henstridge, was a good second. His contribution included a beautiful plant of *Kalosanthus coccinea major*, also *Croton* Queen Victoria, *C. montefontainensis*, and *Bougainvillea glabra*. Mr. F. C. Jennings, gardener to W. Garton, Esq., Roselands, Woolston, was third, showing grand plants of *Croton Warreni*, *Allamanda nobilis*, and *A. Hendersoni*, with others. Mr. E. Wills, Winchester Road, Shirley, was fourth with well grown plants. It is seldom that so many fine specimen plants are shown in one class as there were in this instance. Mr. J. Cypher was again first in the class for six stove or greenhouse plants, showing *Erica Parmenteriana*, *Cassia corymbosa*, *Ixora Pilgrimi* (very fine), *Phœnocomia*

prolifera Barnesi, Kentia Belmoreana, and K. australis. Mr. F. C. Jennings was second, showing a fine Croton Queen Victoria and Allamanda nobilis. Mr. T. Wilkins was third; and Mr. W. Peel, gardener to Miss Todd, Sidford Lodge, Shirley, fourth, all staging well.

For a collection of six miscellaneous plants, not less than three to be in bloom, and open only to gardeners, Mr. N. Blandford, gardener to Mrs. Haselfoot, Moore Hill, West End, was first. This exhibitor had with others good specimens of Stephanotis floribunda, Ixora Duffi, Allamanda Chelsoni, and a magnificent Cycas circinalis. Mr. W. Peel followed, showing Croton Warreni and Ixora Prince of Orange in fine condition. The third prize went to Mr. T. Hall, whose best plants were an Ixora and Stephanotis floribunda.

As previously observed, the groups were very beautiful, particularly in the leading class, in which four exhibitors competed. This was for a group of miscellaneous plants arranged for effect, occupying a space of 12 feet by 8 feet in a semicircle. The first prize was awarded to Mr. E. Carr, gardener to W. A. Gillet, Esq., Fair Oak Lodge, Bishopstoke, for a very charming arrangement. The background of this was composed of three medium-sized Palms and the base of Maidenhair Ferns. From this rose plants of Crotons, Asparagus plumosus nanus, Francoa ramosa, Oncidiums, Dracaenas, Salvia patens, Celosia pyramidalis, and the front was formed with a row of Panicum variegatum, the whole presenting a delightful appearance. Mr. E. Wills, Shirley, was second with an arrangement similar to that described, and very beautiful. Mr. T. Wilkins, Inwood House Gardens, was third, with a group composed of excellent material though somewhat crowded, the same applying to Mr. B. Ladhams' group, for which the fourth prize was awarded.

Mr. W. Peel, gardener to Miss Todd, Sidford Lodge, Shirley, was first in another class for a group of miscellaneous plants arranged for effect with a beautiful exhibit. This consisted of a groundwork of Adiantum, graceful plants of Francoa ramosa, Alocasias, Dactylis glomerata variegata, scarlet flowered Lobelias, and other plants rising from the green base. The comparatively new Strobilanthes Dyerianus was conspicuous here, and it appears to be well adapted for this work. Mr. T. Hall was second with an effective group, but rather closely arranged. This comprised Palms, Tuberoses, Celosia pyramidalis, Pelargoniums, Francoa ramosa, Crotons, Asparagus plumosus, Coleus, and Begonias, with a margin of Panicum variegatum. Messrs. Longster, Bros., St. Mary's Road, were third with a fine contribution, amongst which Tuberoses and Liliums were conspicuous. Mr. T. G. Bealing was fourth, these being the only exhibitors.

A noticeable feature at this show is the class for "the best miscellaneous collection of nursery stock, pots not to exceed 8 inches, space 16 feet by 4 feet," and open only to nurserymen. So far as inducing a large number of exhibitors to stage a group of plants, and the filling of space are concerned, this class must be termed a success, and the exhibits usually make a fine display. On this occasion the class was no exception to the rule, for no less than six competitors brought groups of plants. These were for the most part of an ordinary character, but as before said were effective, particularly those staged by Mr. E. Wills, Shirley, to whom the first prize was awarded. Mr. F. G. Bealing was second; Mr. W. T. Rosomen third, and Mr. B. Ladhams, Shirley, fourth.

Ferns were well shown, the plants being large and of a healthy appearance. Mr. Jennings secured the premier award for six stove and greenhouse Ferns, distinct, staging splendid plants of Davallia Mooreana, Adiantum cuneatum, A. elegans, and A. fragrantissimum, amongst others. Mr. J. Amys, gardener to the Hon. Mrs. Yorke, Hamble Cliffe, was second with excellent plants, including a beautiful specimen of Lomaria gibba. Mr. E. Carr was third, and Mr. W. Peel occupied a fourth position.

Orchids were fairly well represented. In the class for a group of Orchids there were three competitors, and the first prize went to Mr. E. Carr, who had a collection of choice kinds. These included Odontoglossums in variety, Lælia elegans, Epidendrum vitellinum majus, Oncidium incurvum, and Cypripediums. Mr. N. Blandford was second, this group including fine baskets of Saccolabium guttatum, with plants of Dendrobium infundibulum, Anguloa Clowesi, Odontoglossum hastilabium, and Oncidiums in variety. Mr. W. Peel was third with an interesting group. The prizes for single specimens of Orchids went to Messrs. E. Carr, E. Wills, and W. Peel.

There were many classes for various plants, and in most instances these were well filled. Mr. E. Wills was first with six Begonias in flower, the second and third prizes going to Messrs. J. Hughes and E. Carr. Mr. J. Hughes, however, had the best four Begonias, and was followed by Messrs. E. Wills and T. Hall. Mr. J. Stratton, Shirley, won in the class for four single Pelargoniums, Mr. G. Windebank, Bevois Mount, Southampton being second. The last-named exhibitor secured the premier award for four Pelargoniums, showing well grown specimens. Mr. T. Hall was well to the front with six Coleuses, Mr. N. Blandford following with smaller plants. Mr. E. Wills had by far the best half dozen specimens of Celosia pyramidalis, but was disqualified, owing apparently to having more than one plant in each pot. Mr. R. C. West, gardener to H. J. Wigram, Esq., Northlands, Salisbury, was in consequence placed first, Mr. F. C. Jennings following. Mosses were well shown, and Mr. W. Peel secured the leading award for six specimens in pans. Mr. J. Evans was second with smaller specimens. The prizes for Gloxinias went to Messrs. R. G. West and E. Carr, whilst Mr. Bealing had the best Achimenes. Mr. Cypher scored in the class for one specimen stove or greenhouse plant, showing a splendid Erica Austiniana. Mr. Jennings was second with a fine Allamanda Hendersoni; and Mr. J. Evans, Melchet Court Gardens, was third with a grand specimen of

Agapanthus umbellatus carrying fourteen large heads of bloom. Mr. Evans was first, however, with a single foliage plant, staging a huge Cycas revoluta; Mr. Jennings was second with a fine Croton Williamsi. Cockscorns were best shown by Mr. T. Hall, the second prize going to Mr. E. Carr. Small collections of plants were also well shown in the amateurs' classes.

CUT FLOWERS AND TABLE DECORATIONS.

The cut flowers made a charming display, the same applying also to the table decorations. For twelve bunches of flowers to be staged the same as Roses, and a dressing of Fern allowed, Mr. J. Evans was first. This exhibitor had, amongst others, sprays of Bougainvillea glabra, Allamanda Schotti, Gladiolus The Bride, and some Orchids, and tastefully arranged as regards colour. Mr. A. Henbest, Crawley Court Gardens, was second, and E. Carr third. Mr. B. Ladhams, Shirley, won in the class for twelve varieties of hardy flowers, staging an attractive stand. The flowers were very fine and fresh, especially Gaillardia maxima, Platycodon grandiflorum, Gladioli, and Achillea rubra, the last named being very effective. Mr. J. Evans occupied a second position. Mr. F. Hughes won with a dozen blooms of Carnations, and was followed by Mr. E. Carr.

Roses were very good for the time of year, but not particularly numerous. In the class for twenty-four blooms Messrs. Perkins & Sons, Coventry, were awarded the first prize. The varieties shown were Charles Lefebvre, Madame Caroline Testout, Earl Dufferin, Marie Baumann, Baron Wolseley, Madame Verdier, Devienne Lamy, Madame Eugenie Verdier, Duc du Rohan, Mrs. J. Laing, Louis Van Houtte, Gustave Piganeau, Etienne Levet, Duke of Wellington, Alfred Colomb, Madame Victor Verdier, Marquise de Castellane, The Bride, Pierre Notting, A. K. Williams, Francisca Krüger, Prosper Laugier, and Damask. Messrs. Keynes, Williams & Co. were second, and Mr. W. Neville, gardener to J. W. Flight, Esq., Cornstiles, Twyford, third. The last-named exhibitor had the best dozen blooms; Dr. Seaton, Rutland Lodge, Bittern, being second, and Mr. T. W. Martin, Bittern Lodge, third.

Messrs. Keynes, Williams & Co., Salisbury, were first with twelve Dahlias, showing fine blooms of William Rawlings, Mrs. Langtry, Peacock, Mrs. Saunders, Gaiety, Duke of Fife, Gloire de Lyon, Colonist, Harrison Weir, Mrs. John Devine, R. J. Rawling, and Thomas Hobbs. Mr. J. Evans was second, and Mr. R. C. West third. Messrs. Keynes, Williams & Co. had the best dozen Pompon Dahlias, amongst which Midnight Whisper, Phoebe, Leila, and Lady Blanche were noticeable. Mr. Evans was second, and Mr. R. C. West third.

As usual Messrs. Perkins & Sons were to the front with bridal and hand bouquets, staging in all the classes some charming arrangements. Miss Golding also secured some of the leading awards in this department, the other prizewinners including Miss E. B. Hobby, Messrs. J. Stratton, B. Small, and F. Vardy. The buttonhole bouquets and baskets of wild flowers also formed an interesting feature of the exhibition.

FRUIT.

In the open classes much excellent fruit was staged, an improvement in some respects being noticeable on last year's exhibits. For six dishes of fruit there were five entries, first-class produce being shown. Mr. H. W. Ward, gardener to the Earl of Radnor, Longford Castle, Salisbury, was first with the following dishes:—Black Hamburg and Foster's Seedling Grapes, fine in bunch, medium-sized berries, well coloured; a grand Longford Seedling Melon, extra large Sea Eagle Peaches, Moor Park Apricots, and Pineapple Nectarines. The second award was taken by Mr. J. Evans, gardener to Louisa Lady Ashburton, Melchet Court, who had Madresfield Court well finished, and fine bunches of Muscat of Alexandria Grapes, large in berry but rather green; Hero of Lockinge Melon, and Barrington Peaches as the best dishes. Mr. G. A. Inglefield, gardener to Sir J. W. Kelk, Bart., Tedworth House, Marlborough, was third. There were six entries for three bunches of black Grapes. The first prize in this class was awarded to Mr. W. Mitchell, Chilworth Manor Gardens, who staged excellent bunches of Black Hamburg, large in bunch and well finished. Mr. H. W. Ward was second with the same variety, smaller in bunch and berry, but highly coloured. Mr. T. Hall was third, staging Madresfield Court, large in bunch and berry, but a little wanting in colour. For the same number of bunches of any white variety, Mr. J. Sanders, gardener to Mrs. Shelley Bontein, Paulton Park, Romsey, was deservedly first with Muscat of Alexandria, the best coloured of any of that variety exhibited in the show. Mr. Ward was second with compact bunches of Foster's Seedling, good in colour. Mr. G. A. Inglefield was third with Muscat of Alexandria, green, but moderately sized bunches. For two bunches of white Grapes, Mr. J. Evans had good Muscat of Alexandria, with which he secured first place. Second and third, Mr. W. Mitchell and Mr. J. Hughes in the order of their names, both also staging Muscat of Alexandria. There were only two entries in the class for two bunches of black Grapes—Mr. H. J. Wigram, Northlands, Salisbury, and Mr. T. Wilkins, who were awarded first and second respectively. The class for a single bunch of black Grapes brought seven entries, all good. Mr. Mitchell was well first with Black Hamburg, Mr. J. Hughes second, and Mr. H. W. Ward third, both the latter showing the above variety. Mr. Ward was first with a single bunch of white Grapes, exhibiting a good bunch of Muscat of Alexandria. Mr. Evans second, and Mr. G. A. Inglefield third with the same variety.

The best scarlet flesh Melon was shown by Mr. A. Henbest. Mr. J. Hughes had County Councillor (a new variety), for which he was awarded second prize. Mr. W. Mitchell was third. Mr. F. C. Jennings was first with a green-fleshed Melon, showing Sutton's Green Flesh. Second,

Mr. Evans, with Hero of Lockinge. Third, Mr. J. Hughes, also showing Hero of Lockinge. Peaches were good, and in the class for one dish there were seven competitors. Mr. H. W. Ward scored again here, being first with a splendid dish of Prince of Wales; Violette Hâtive variety was placed second, this dish of fruit was staged by Mr. F. C. Jennings; Mr. G. A. Inglefield third with Walburton Admirable. A single dish of Nectarines brought out seven entries. The colour was good in these, too. Messrs. H. J. Drover & Son, Ventnor, Isle of Wight, were first, showing Pine Apple; Mr. F. C. Jennings and Mr. G. A. Inglefield second and third in the order of their names. For six dishes of fruit, outdoor growth, Mr. R. C. West staged Peaches (good), Plums, Gooseberries, Red Currants, Cherries, and Raspberries, and was awarded first place. Mr. Evans was second, and Mr. J. Miles third.

VEGETABLES.

Vegetables were shown in splendid condition, and the competition was keen in many classes. For nine distinct varieties, round and kidney Potatoes allowed, there were five entries. Mr. T. Wilkins and Mr. W. Pope, Highclere Castle, had splendid exhibits, and at first glance no difference could be seen in them, so evenly were they matched. First honours, however, fell to Mr. Wilkins, who staged Green Globe Artichokes, Pearl Cauliflower, Ailsa Craig Onion (grand), Perfection Tomato, New Intermediate Carrot, Model Turnip, Duke of Albany Peas, Windsor Castle Potato, and Tender and True Runner Beans. Mr. Pope's collection contained Perfection Tomato, New Intermediate Carrots (very good), a fine brace of Cucumbers, Matchless and Duchess of Albany Peas. Mr. J. Hughes was third, and Mr. W. Henbest fourth. For four sorts of round and four sorts of kidney Potatoes, Mr. R. C. West was first with Fiddler's Prizewinner, Satisfaction, Edgcot Purple, Chancellor, King of Russets, Mr. Bresee, Windsor Castle, and Reading Russet. Mr. J. Hughes was second, and Mr. J. Evans third. Every dish was of a high order of merit, clean and shallow-eyed.

For twelve spring-sown Onions Mr. H. Andrews was first with Sutton's A1; Mr. J. Simpson, Eastleigh, was second, the third prize being awarded to Mr. W. Lipscomb, St. Denys. Mr. J. Amys was first with twelve autumn-sown Onions, Mr. J. Hughes and Mr. R. C. West being second and third respectively. For one brace of Cucumbers first honours were awarded to Mr. C. E. Isted, Freemantle, for a beautiful pair. Second, Messrs. Longster Bros., nurserymen, St. Mary's Road; third, Mr. F. D. Woolf, Severn Nursery, Shirley.

Tomatoes made a fine display. In the class for twelve Tomatoes nine dishes were staged, Mr. W. Sanders, Andover, being first with very fine samples. Second, Mr. F. C. Jennings. Third, Messrs. F. & G. Cozens, Rowhams. For twelve round Potatoes, Mr. R. C. West was first with Windsor Castle. Mr. J. Hughes second, and Mr. J. A. Inglefield third, both staging the above variety. In the class for twelve kidney Potatoes, Mr. J. Hughes was here first, staging very fine Satisfaction. Mr. J. Evans second with International, and Mr. R. C. West third. With one dish of Peas Mr. J. Hughes was placed first out of nine entries, winning with Sutton's Perfection Marrowfat. Mr. W. Mitchell and Mr. Inglefield were second and third in that order. There were nine entries in the class for a dish of Beans, also Mr. Inglefield being well first with Sutton's A1. Mr. W. Webster second, and Mr. Wilkins third. Mr. Wilkins had highly coloured Carrots, winning first place, Mr. R. C. West second, and Mr. J. Evans third. Cauliflowers, with the exception of the first prize exhibits staged by Mr. Inglefield, were not up to their usual standard. Mr. R. C. West and Mr. Evans were second and third in the order of their names.

The special prizes offered by Messrs. Sutton & Sons, Reading, brought forth some splendid exhibits. Mr. W. Pope won with six varieties of vegetables, staging Duke of Albany Peas, Satisfaction Potatoes, Ailsa Craig Onions, Perfection Tomatoes, Canadian Wonder Beans, and New Intermediate Carrots. Mr. T. Wilkins, Inwood House Gardens, was second, showing splendidly grown Onions with others. The third prize went to Mr. J. Hughes. Mr. Pope also secured the first of the special prizes given by Messrs. E. Webb & Sons, Wordsley, Stourbridge. The varieties shown were Windsor Castle Potatoes, Canadian Wonder Beans, Jubilee Tomatoes, Anglo-Spanish Onions, Defiance Intermediate Carrots, and Duke of Albany Peas. Mr. T. Wilkins was second, and Mr. J. Evans third. Mr. J. Simpson, Eastleigh, won the first prize of those given by Messrs. Toogood & Sons, Southampton, the second one going to Mr. W. Follet.

MISCELLANEOUS.

Messrs. Cutbush & Sons, Highgate, sent a charming collection of hardy cut flowers and Carnations. Mrs. Reynolds Hole, Germania, Empress, Terra Cotta, Mary Morris, Duchess of Fife, Lorna Doone, Alice Ayres, and Raby Castle were very fine amongst the Carnations. Mr. J. Douglas, Edenside, also sent some cut blooms of Carnations which were much admired. Mr. Rogers, Red Lodge Nursery, Southampton, had a fine group of miscellaneous shrubs and flowering plants. Mr. E. Hillier, Winchester, sent a number of cut Roses and a splendid group of shrubs and various plants. Mr. B. Ladhams had a beautiful collection of hardy flowers, including many choice kinds. Messrs. Stuart and Sons, Bournemouth, had garden Roses and Gladioli in variety; and Messrs. Keynes, Williams & Co. sent three boxes of Roses, the blooms being fresh and well coloured.

BEDDINGTON AND CARSHALTON.—AUGUST 6TH.

THE fifth annual show was held on August 6th in the beautiful grounds attached to Carshalton Park, and was in every respect a great success. In the section open to gardeners and amateurs in the district some good competition took place. For a group of plants arranged for

effect in a space not exceeding 80 square feet, D shape, first honours were well gained by Mr. G. W. Cummins, gardener to A. H. Smee, Esq., for a beautifully light arrangement. *Cattleya aurea* and *Odontoglossums* in variety were very conspicuous; *Hemerocallis flava variegata* was also noteworthy. Second, Mr. J. H. Stevens, gardener to E. G. Coles, Esq.; Crotons well coloured. Third, Mr. F. Smith, gardener to Capt. J. W. Taylor, J.P., C.C.; a creditable exhibit. Four flowering plants, distinct.—First, Mr. J. Slater, gardener to Mrs. Hulse; *Francoa ramosa* was well shown here. Second, Mr. John Wright, gardener to Mrs. Bridges, with well grown examples. Six *Gloxinias*.—Freely flowered examples gained the prizes to Messrs. J. H. Stevens, T. A. Glover, and J. Slater.

In the fruit classes Mr. G. W. Cummins was first with Nectarines, fine examples of Dryden; also with Peaches, an excellent dish of Stirling Castle. Messrs. H. Shoebridge and J. Slater gained the chief prizes for Grapes through staging the best finished examples, and Messrs. W. Harris and J. Davis had the best Melons.

The class (open to all) for a collection of vegetables, nine distinct kinds, some really good produce was shown. The judges were a considerable time in determining the awards, which eventually were made as follows:—First, 57 points, Mr. J. H. Stevens, gardener to A. G. Coles, Esq. Here were fine examples of Early Gem Carrot, Ailsa Craig Onion, Snowdrop Potato, Student Parsnip, Pragnell's Exhibition Beet, Cabbage Early Express, Cauliflower Watchman, and Blair's Prolific Cucumber. Second, 56 points, a most creditable exhibitor for a cottager, Mr. A. McCrae. This exhibitor wants a little teaching in arranging vegetables in the most effective way. Third, 55 points, Mr. H. Shoebridge. Fourth, 54 points, Mr. J. Slater. Fifth, Mr. J. Davis, 53½ points. Sixth, Mr. W. Henn, 33 points. The prize money in these classes was apportioned in accordance with the number of points.

Amongst the competitive exhibits, which were a good feature, may be mentioned a beautiful table decoration from Miss Cooper, a charming anchor of cut flowers from Miss King, Messrs. J. Cheal & Sons herbaceous flowers, Messrs. J. Peed & Sons a group of hardy herbaceous flowers, Messrs. J. Laing & Sons a beautiful miscellaneous group of flowering and foliage plants, the Surrey Orchard Company, seed and fruit; Mr. J. R. Box a beautiful assortment of hardy flowers and cut Begonias. It should be mentioned that the show was well arranged by Mr. G. W. Cummins, the efficient and courteous Hon. Secretary.

A conference on gardening for cottagers and allotment holders was held at five o'clock, in a large marquee. Produce of marked excellence was displayed from a number of continuation school gardens. The Right Hon. Jesse Collings, M.P., presided. He was introduced by A. H. Smee, Esq., and made an admirable speech containing valuable suggestions. E. J. Halsey, Esq., Chairman of the Surrey County Council, also gave a weighty address. Mr. J. Wright followed, and showed, by specimens, right and wrong methods pursued in the production of vegetables and fruit. The crowded audience gave the closest attention for upwards of two hours, though various kinds of sports were either going on or being waited for in the park. Mr. Collings expressed his extreme gratification with the show and proceedings, and was evidently satisfied with the warmth of the reception accorded to him on the occasion of what he described as his happy escape from political turmoil to the pleasant, restful, neutral ground and peaceful work of gardening.

NORTHAMPTON.—AUGUST 6TH AND 7TH.

A STRANGER on entering the town of Northampton last Monday could without much difficulty see that a gala was being held. The gorgeous display of bunting would have been sufficient for affording evidence of this, but in addition to that decorated arches formed here and there over the main streets showed that something unusual was about to occur. It was the thirteenth annual exhibition and floral fête of the Northampton Horticultural Society, which accounted for the phrase, "Success to Horticulture," that met the eyes of the visitors on their way to the show. It was obvious, too, that the fact of its being a gala day was well known, inasmuch as thousands of persons were early in the forenoon trudging their way towards Delapre Park, where by kind permission of J. A. S. Bouverie, Esq., J.P., the exhibition was held. It may not have been the plants, fruit, and vegetables that attracted so many visitors to this charmingly wooded place, for there were other sights, but all held in connection with the flower show. It reminded one of York Gala, for there were sports of all kinds and the inevitable military tournament. Quite a village of canvas was apparent on entering the Park, upwards of half a dozen large marquees being devoted to horticultural exhibits.

Regarding the show, which of course concerns us most here, it must be admitted that it was a very fine one. The specimen plants were large and profusely flowered, especially those shown by Mr. Cypher. These, with other fine plants, were given a place in a circular tent of huge dimensions, and were patronised by the public. The groups of plants arranged for effect, however, were the chief feature of the show, these occupying the centre of a long marquee. Brief descriptions of the primary groups are given in the following report, and, therefore, nothing further need be said here other than remarking that they were exceedingly beautiful. Fruit could hardly be termed first-class, the Peaches and Nectarines lacking colour, and the smaller fruits were small and unattractive. Grapes were on the average fairly good; and vegetables, it was remarked, were of a superior quality, the collections containing some very fine examples of good cultivation. The arrangements were admirably carried out under the supervision of Mr. W. B. Troup, the Secretary, assisted by an efficient Committee.

SPECIMEN PLANTS AND GROUPS.

The specimen plants were excellent, and for the most part were arranged in a manner that admitted of an easy inspection. Mr. J. Cypher, Queen's Road Nursery, Cheltenham, was first in the open class for twelve stove or greenhouse plants, half to be in bloom, and the remainder foliage specimens. The plants shown were, as usual, very fine, and included *Erica Thompsoni*, *Statice profusa*, *Phenocoma prolifera* Barnesi, *Stephanotis floribunda*, *Erica obbata* purpurea, and *Ixora salicifolia* as flowering plants. Those staged as foliage specimens were *Cycas circinalis*, *C. revoluta*, *Crotons Johannis* and *Queen Victoria*, *Kentia Fosteriana*, and a huge *Latania borbonica*. Mr. W. Finch, gardener to J. Marriot, Esq., Coventry, was second with smaller but well grown plants, which included two splendid *Crotons*. The third prize went to Mr. William Vause, The Nursery, Leamington Spa, who had quite small plants.

In the class open to residents or their gardeners in the county of Northampton for six stove or greenhouse plants, three in and three out of bloom, distinct, Mr. J. Copson, gardener to Mrs. Phipps, Collingtree Grange, was placed first. This exhibitor had *Agapanthus umbellatus*, *Allamanda Schottii*, *Hoya carnosa*, *Dracaenas indivisa*, *Latania borbonica*, and *Kentia Belmoreana*. The *Dracaena indivisa* was a very fine plant. Mr. H. Roberts, gardener to Mrs. Pressland, Wallington, was second with a specimen of *Allamanda Hendersoni* and *Adiantum cuneatum*, amongst others.

Ferns were good in this division if not numerously staged. Mr. F. Holland, gardener to W. Jeffery, Esq., Beaumont Villa, had the best half dozen exotic species, these comprising *Adiantum farleyense*, *A. cuneatum*, *A. gracillimum*, *Gymnogramma Laucheana* giganteum, *G. Dayanum*, and *Gleichenia Mendeli*. Mr. J. Copson, Collingtree Grange, was second with fine specimens, and Mr. W. Pearce, gardener to S. Loder, Esq., Floore House, was third. *Fuchsias* were grand, and showed evidence of excellent culture. Mr. J. Reeve, gardener to W. Coulson, Esq., Cliftonville, was first in the class for four plants, Mr. F. Beard, Great Brington, following. *Coleus* made a very fine display, and the class for six plants was keenly contested. Mr. F. Copson was first with fine pyramidal specimens. Mr. F. B. Palmer, gardener to R. Turner, Esq., was second with bush specimens 3 or 4 feet in diameter. Mr. J. Reeve was awarded the third prize for smaller but well coloured plants.

Mr. J. Copson secured the premier award in the class for six *Pelargoniums*, three single and three double flowered varieties. These were fine plants, the kinds shown being *A. Duprée*, *Cato*, *Lucie Lemoine*, *Sbenna*, *Lady Chesterfield*, and *Lord Mayor*. Mr. F. Meacock, Floore, was second, the third prize going to Mr. F. Beard. Mr. J. Reeve won in the class for six single tuberous *Begonias* in flower, staging well grown plants. Mr. Holland was second, there being no other competitor. Mr. D. Harris, Headingstone, had the best half dozen *Cockscombs*; Mr. Owen Soden being second, and Mr. G. Mackinlay, Lamport Hall Gardens, third. Table plants, *Gloxinias*, and similar plants were also well shown in various minor classes.

As before mentioned the groups of plants in the open section were remarkably good. Four of these were placed in the centre of a large marquee, the stipulation being that each group should cover a space of 20 by 12 feet, the first prize to consist of £9. Mr. J. Cypher in this class showed his skill, as he had done with the specimen plants. The group was admirably arranged, and much admired by the visitors, frequent comments being heard to the effect that it was one of the best ever seen at Northampton. The centre was a large Palm, and around this grouped in moss and rustic cork were *Liliums*, *Caladiums*, and *Ixora salicifolia*, the orange colour of the latter showing well with the foliage of the *Caladiums* and white *Liliums*. At the base was a mass of green *Adiantums*, from which rose *Odontoglossums*, *Oncidiums*, and other *Orchids*. At each corner a small mound was similarly arranged, lesser ones being placed at intervals throughout the group. The whole was cleverly and tastefully put together, and reflected credit on the exhibitor and his assistants. Messrs. Thomas Perkins & Sons, Kingsthorpe Nurseries, Northampton, were second with a splendid group, though not so effectively arranged as that of Mr. Cypher. The plants used, however, were good, and the whole produced a good effect. The third prize went to Mr. W. Vause, The Nurseries, Leamington Spa, who had a group of the same character as that which secured the first prize.

In the restricted class for a group of plants Mr. J. Holland, gardener to W. Jeffery, Esq., Beaumont Villa, was awarded the first prize for an excellent arrangement. A mound was formed in the centre by making a base of Maidenhair Fern around a large Palm. Pot plants of *Cocos Weddelliana* and *Liliums*, with *Francoa ramosa* springing from a groundwork of Ferns, *Gloxinias* and *Orchids*, made a charming effect. Mr. Holland has, it was said, won this prize for five consecutive times, and no other exhibitor competed against him.

CUT FLOWERS AND FLORAL DECORATIONS.

Cut flowers were shown in excellent quality, although in this department some spare tabling was noticeable. In the open class for twenty-four *Roses*, distinct varieties, there were three competitors, and the first prize was won by Messrs. Thos. Perkins & Sons, Kingsthorpe Nurseries, who had a box of fresh blooms. The best of these were *Louise Van Houtte*, *Dupuy Jamain*, *La France*, *Ulrich Brunner*, *Grand Mogul*, *Mrs. J. Laing*, *Pride of Waltham*, *Queen of Queens*, *Alfred Colomb*, *Her Majesty*, *Charles Lefebvre*, *Lady Mary Fitzwilliam*, *Duke of Edinburgh*, *Earl Pembroke*, and *Captain Christy*. Messrs. J. Perkins & Sons, Market Square, were second, and Mr. W. Lane third. Messrs. T. Perkins & Sons had the best dozen *Tea Roses*, the Rev. Dr. King,

Gayton Rectory, being second and Mr. W. Vause third. Mr. F. Beard was placed first with twelve *Roses* in the section open to gardeners and residents of Northampton. The second prize went to Rev. Dr. King and the third to Mr. Scole. Mr. F. Beard also succeeded in winning the prize for twelve fancy or show *Dahlias*, the second award going to Mr. J. E. Mallard, gardener to J. D. H. McCullum, Esq., Woolton Hall.

Messrs. T. Perkins & Sons were the only exhibitors in the open class for twenty-four *Dahlias*, show or fancy varieties. The flowers staged were fresh and of good form, especially *Goldfinder*, *Erich Fisher*, *James Vick*, *Mrs. Langtry*, *Defiance*, *Miss Henshaw*, and *Condor*. Mr. W. Finch was placed first in the open class for twelve bunches of stove or greenhouse flowers. These were effectively arranged, and comprised *Dipladenia*, *Lapageria alba*, *Ixora javanica floribunda*, *Allamanda Hendersoni*, *A. grandiflora*, *Stephanotis floribunda*, *Gloriosa superba*, *Ixora coccinea superba*, *Erica Shannoni*, *Pancratium fragrans*, and *Statice Holfordi*. Mr. W. Vause was second with smaller bunches. Mr. S. Cole had the best hand bouquet, the second prize going to Messrs. T. Perkins & Son; and the third to Mr. W. Vause.

Mr. J. Knightley won in the restricted class for twelve bunches of stove and greenhouse flowers with a creditable stand. Mr. J. Copson was second. Mr. S. Cole had the best three buttonholes and three sprays; Mr. H. Law following. Mr. Cole was also first for a hand bouquet; in this section Messrs. J. Holland and J. Reeve being second and third. Mr. J. Knightley was also first with twelve bunches of hardy flowers, showing, amongst others, *Carnation Raby Castle*, *Gladiolus The Bride*, *Montbretias*, *Echinops*, and *Coreopsis lanceolata*. Mr. F. Beard was second, and Mr. Mark Loasby, gardener to Major Gould, Salcey Lawn, third.

FRUIT AND VEGETABLES.

Fruit was not so plentiful as might have been expected, neither were the exhibits, apart from *Grapes*, of any particular merit. There was apparently only one collection of fruit in the open section. This consisted of eight varieties, and was staged by Mr. G. Mackinlay, gardener to Sir Chas. Isham, Lamport Hall, to whom the second prize was awarded. The fruits shown were *Black Alicante* and *Muscat of Alexandria Grapes*, a fine *Queen Pine*, *Dr. Hogg Peach*, *Sutton's Scarlet Melon*, *Elruge Nectarines*, *Brown Turkey Figs*, and *Sir Joseph Paxton Strawberries*. Mr. S. Cole was first in the class for six dishes of fruit, showing *Madresfield Court* and *Muscat of Alexandria Grapes*, *Sutton's Scarlet Flesh Melons*, *Lord Napier Nectarines*, *Negro Largo Figs*, and *Prince of Wales Peach*. A silver medal of the Royal Horticultural Society was given with the first prize. Mr. J. R. Wilson, gardener to Mrs. Middleton, Haselbeach House, was second, and Mr. J. Mackinlay third. Mr. J. Copson won with three bunches of *black Grapes*, showing medium-sized bunches of *Black Hamburg*. Mr. J. Reeve was second with the same variety, and Mr. J. R. Wilson third with well-coloured *Madresfield Court*. Mr. Copson was likewise to the front with three bunches of *white Grapes*, these being *Foster's Seedling*. Mr. Jordan, gardener to Lord Clifton, Holinby House, was second with the same variety, the third prize going to Mr. J. Reeve.

Melons were only poor as regards size and appearance. Mr. H. Roberts had the best flavoured fruit, according to the judges—a small *scarlet flesh Melon*. Mr. Mark Loasby was second with a green fleshed fruit, and Mr. Jordan third with a *scarlet fleshed fruit*. None of the *Melons* were named. *Peaches*, *Nectarines*, and *Apples* were only second rate, the principal prizes being won by Messrs. J. Copson, W. Pearce, and Roberts. *Gooseberries* were fairly good, and Mr. H. Roberts was placed first for two dishes; Mr. F. Simmons, Headingstone, being second. Mrs. D. Harris had the best three dishes of *Currants*, Mr. W. Pearce being second and Mr. J. Douglas, Collingtree, third. Mr. W. Pearce was first with a dish of *Cherries*, Mr. S. Cole second, and Mr. H. Roberts third. Mr. Cole was first with a dish of *Strawberries*, showing fine fruit of *Sir Joseph Paxton*. Mr. G. Mackinlay was second. Mr. Mark Loasby was first with *Raspberries*, and Mr. S. Cole second.

Vegetables were well represented, being numerous, clean, and of excellent quality. In the open class for a collection of twelve varieties, Mr. S. Cole, gardener to Earl Spencer, Althorp Park, was awarded the first prize for a splendid collection. This exhibit consisted of *Cranston's Excelsior Onion*, *Pragnell's Exhibition Beet*, *Autocrat Peas*, *Perfection Tomatoes*, *Veitch's Autumn Giant Cauliflower*, *Globe Artichokes*, *Telegraph Cucumber*, *Chelsea Giant Bean*, *Veitch's Select Carrots*, *Snowdrop Potatoes*, *Dobbie's White Turnip*, and *Major Clarke's Celery*. Mr. J. Knightley, gardener to Sir H. H. Wake, Bart., Courteen Hall, was a close second with well-grown examples; Mr. J. Copson was third; and Mr. H. Rogers, gardener to Lord Rendlesham, Rendlesham Hall, Woolbridge, fourth, all showing well. Mr. Cole also had the best collection in the restricted class, and was followed by Messrs. Mallard and Mackinlay. These, with other exhibitors named, were also amongst the prizewinners in the smaller classes for vegetables.

In the amateurs' and cottagers' sections the exhibits were numerous and of a diversified character. Small collections of plants in pots were very conspicuous, and many of them were creditable to the respective growers. The cut flowers, too, were of excellent quality, the same applying to the table decorations, a class which was keenly contested. Fruit was only fairly represented, but vegetables formed a striking feature in this section. Special prizes were offered in other divisions by Messrs. Sutton & Sons, T. Perkins & Sons, and J. Perkins & Sons for collections of vegetables grown from seeds supplied by the respective firms. Miscellaneous exhibits included a group of plants from Messrs. T. Perkins & Sons, who also had a collection of cut flowers, amongst which *white Sweet Peas* were conspicuous.



FRUIT FORCING.

Pines.—*Preparing Houses for Plants.*—Thorough cleanliness is very important in the cultivation of Pine plants; wash the houses, therefore, as they become vacant before being again employed. Attention must be given to the beds, as bottom heat is absolutely necessary. Whether the beds are of tan or leaves, the whole should be removed at least once a year, as insects, particularly woodlice, rapidly increase; the old material also harbours other vermin. All brickwork must be scalded and brushed with fresh made limewash, the wood and ironwork with carbolic soap and water, thoroughly cleansing, using a brush, keeping the soapy water as much as possible from the glass, which should be cleansed inside and outside with water only. If necessary, the wood and ironwork may be painted, always in time for the paint to become hard before putting in the fermenting material, the roof being made as watertight as possible. Beds that are chambered—that is, the hot-water pipes covered with slate or other material, are very much in advance of those surrounded or passing through beds of rubble. Those composed of the latter should be turned over, and any dirt removed to allow the heat given off by the pipes to penetrate the whole uniformly to the bed. Provide fresh tan in other cases; if wet, turn it occasionally on fine sunny days. With hot-water pipes beneath about 3 feet depth of tan is ample, but more will be needed where such aid is not obtained.

Potting Suckers Started in June.—These will soon have filled the pots with roots, and must be shifted into larger pots before the roots become closely matted together. Queens are accommodated in 9 or 10-inch pots, and those of stronger growth in 11-inch pots. Give water immediately after potting if the soil be at all dry, and plunge in a bed having a temperature of 90° to 95°. Avoid crowding the plants—one of the greatest mistakes made in growing young Pines, as they become drawn and weakly instead of having a sturdy base, a condition that should always be secured if possible.

Routine.—Attend to the bottom heat of beds that have been recently disturbed or upset by removing or replacing plants, not allowing the heat to exceed 95° at the base of the pots without being immediately raised, as too much bottom heat will disastrously affect plants with fruit, or those having the pots filled with roots. Examine the plants for watering about twice a week, and maintain a moist, genial, well-ventilated atmosphere. The climatic conditions are now so favourable that Pine plants grow luxuriantly, therefore discontinue any shading, such as may have been employed for an hour or two at midday, when the sun was powerful, through the months of May, June, and July, the plants after this having the benefit of every ray of sunlight, admitting air plentifully when the temperature ranges from 85° to 95°, affording fruiting plants a night temperature of 70° to 75°. Some suckers should be reserved on the shoots for starting in September.

Peaches and Nectarines.—*Late Succession Houses.*—Every attention must be given the trees in syringing to keep the foliage free from red spider, and in watering the inside borders. It will be an advantage to mulch the borders with short lumpy material, as stable manure freed from the straw, but it must not be used in great amount at a time in the fresh state, or the ammonia vapour will seriously injure the foliage, particularly if the lights for ventilation are kept close, a little air constantly being a safeguard against scorching, soft and attenuated growth. The value of using manure rather fresh, but not rank, as a mulch is that the ammonia given out is inimical to insects and invigorating to the plants, the waterings making its soluble constituents available for taking up by the roots, and by being lumpy or open atmospheric influences have freer access for effecting the assimilation of food in the soil than when it is practically sealed by a close mass of little manurial value. The shoots must be regularly tied-in, allowing space in the ligatures for the swelling of the shoots. To assist the colouring and ripening of the fruits they should be exposed as much as possible to the influences of sun and air by removing or shortening some of the foliage where too thickly placed. When the fruit is on the under side of the trellis the shoots may be untied and regulated, so as to bring it with the apex to the light, supporting each fruit in position by a lath placed across the trellis. Discontinue the syringing when the fruit commences to ripen, and lessen the supplies of water; but on no account must water be withheld, to the prejudice of the health of the trees. A piece of soft netting (hexagon) placed below the trellis, and so arranged as to form pockets to save the fruit from a long run against each other, will prevent any fruit being bruised should they fall. Both top and bottom ventilation will be necessary constantly, except in cold weather, after the fruit commences ripening.

Late Houses.—Continue syringing the trees as often as necessary to keep red spider in check, but avoid keeping the foliage constantly moist. Inside borders must be well watered and mulched. Tie in the shoots regularly and evenly, keeping them rather thin. Stop any gross shoots, or preferably, cut them clean out, thereby causing a division and more equalisation of the sap and vigour throughout the tree. When the fruit commences swelling after stoning, and it being desired to accele-

rate the ripening of the fruit, close the house somewhat early in the afternoon, let the temperature rise to 80°, or 85° or 90°, ventilating a little before nightfall. Increase the ventilation early, and keep through the day from 70° to 85° whenever practicable. The wood is so unripe—that every possible advantage should be taken of the solar heat alike to perfect the current crop and the wood and buds for the ensuing season, especially in unheated houses.

THE KITCHEN GARDEN.

Late Peas.—The practice of sowing quite new seed of William I., Chelsea Gem, or any other early variety directly it is fully ripe is a good one, as it usually ends in the production of a few extra late dishes of Peas. This season the ripening is very late, but the plan of sowing some should yet be tried. New seed germinates the most quickly and strongly, and the plants maintain their superiority over those resulting from sowing old seed from first to last. Failing new seed, try what can be done with old Peas. Select rather high ground, free working, and not very poor soil for this crop, and the rows may then survive frosts long after those on lower ground have been cut down. Sow the taller growing varieties in drills 3 feet apart, and the dwarfs 20 inches apart. The ridges between late Celery trenches answer remarkably well for the dwarf early varieties, such as Chelsea Gem, English Wonder, and William Hurst. A single row may be as much as should be sown on each ridge, or otherwise soiling up the Celery may be interfered with. Late sown rows of Ne Plus Ultra, Latest of All, and others known to be good mildew-resisting varieties should not suffer from want of water or liquid manure at the roots, and they will then do good service in October and probably in November. Unless rainfall is exceptionally heavy there is seldom enough of it to moisten roots of Peas to their full depth.

Winter Spinach.—The ground for this important crop ought to have been prepared ere this. It should be moderately rich and free working, cold, badly drained lumpy soil not answering at all well. Having a finely divided surface is not enough. If there are lumps underneath give the ground a good forking over, and break all clods found. Where grubs are troublesome, or a good plant is not often obtained, give a surfacing of soot and lime, and well stir this in with a Dutch hoe. Drills 1½ inch deep should be opened not less than 12 inches apart, and if at all dry give a gentle watering prior to sowing the seed. Sow the seeds moderately freely, and if unfortunately the ground is still somewhat hard and lumpy cover with a little sifted soil. There is little likelihood of the first week in August being too early; but if a good breadth of ground is sown now, and more again a fortnight hence, no mistake will be made. The Victoria is suitable for this crop, and is a fine broad-leaved variety. With this may be sown either the prickly seeded or round-seeded forms, one answering quite as well as the other.

Onions.—During the second week in August Tripoli and other Onion seed should be sown. The White Spanish types are quite as hardy as the Italian or Tripoli Onions, and ought really to be sown freely, especially where Onion maggot is troublesome. The Tripoli, notably the white-skinned varieties, are the mildest flavoured, but they are the most liable to mildew, and do not keep nearly so well as do the White Spanish varieties. Those of the latter that succeed well when sown in February or March are equally well adapted for autumn sowing. Select rather high and dry, and not very poor ground, and get this into a good working condition; then open drills 10 inches apart, or if ground is scarce sow two drills in the spaces between newly planted Strawberries. Sow somewhat thickly, as should the plants come up rather too thickly the thinnings will prove acceptable for mixing in salads. Spring-sown Onions must not be left very thickly this season, and should also be kept quite free of weeds, or the probability is many of them will fail to mature properly. When the Tripoli and other autumn-sown varieties are dying at the tops, and come away very readily from the ground, they ought to be cleared off and properly harvested. In hot and dry weather they might be left on the ground to harvest; but in dull showery weather they would do best on shutters or boards, or, better still, on a dry bed under glass, turning them occasionally in any case. Treat underground Onions, Garlic, and Shallots as advised in the case of Tripoli Onions.

Turnips.—When the seed is sown during showery weather the seedlings are apt to come up and disappear again just as quickly, slugs in particular proving most destructive. If this cannot be checked by means of occasional dustings over with soot and lime, and the rows are very gappy accordingly, hoe over the ground and sow more seed. A considerable breadth of Potatoes ought now to have been either dug or be quite fit for lifting, and Turnips should be sown in close succession as well as in quantity now, in order to have abundance for storing and leaving on the ground during the winter. Chirk Castle Blackstone is one of the best for this important crop, and with this may be sown Veitch's Redstone, Orange Jelly, and Snowball. Sow the seed thinly in drills 15 inches apart.

Tomatoes.—Now is a good time to place a number of strong young plants in fruiting pots, the 11-inch size answering well. Use a good loamy compost, and only about three-parts fill the pots at first, this allowing good room for top-dressing later on. Should the weather be hot and dry during the next three weeks the plants may safely be stood in a sunny sheltered spot till September, but in the event of its being showery then the plants will be safer under glass. Potato disease has already shown itself in different localities, and will most probably soon spread to Tomatoes in the open. If room can be spared a row of plants might also be planted in narrow ridges of loamy soil and trained up the roof, say in succession to Melons or Cucumbers. They set and ripen

heavy crops of fruit more surely when grown on the roof trellises, but may also be planted 18 inches apart in rows 3 feet asunder, across moderately high houses and staked uprightly. Free setting varieties, such as Conference, Ham Green Favourite, and Large Red, are suitable for these autumn and winter crops. Plants that have been in full bearing for several weeks past, and are free of disease, might be made to produce good crops for late autumn and winter use. Reserve a few young growths all up the stems, and set a cluster of fruit on each, or lay in strong young growths from the base of the old plants, and let these take the place of the latter. Bare the surface roots, give a soaking of liquid manure or a surfacing of special manure, and top-dress with loam and manure. Turn on fire heat freely whenever the weather is dull and showery, and avoid quite closing the house, otherwise disease will soon prove troublesome.

THE BEE-KEEPER.

APIARIAN NOTES.

THE last week of July began and ended our Clover and honey seasons. Heavy yields are reported from different parts in the south of Scotland. Bad as the season has been, my hives are heavier in honey, and have as much surplus as in 1893 at the same date. My pure Carniolans have been at the moors for three weeks, so I cannot compare them with other kinds. A fact which cannot be concealed is that Punics have given the greatest surplus, and are the heaviest hives. Several of them during the honey flow must have risen 70 lbs. From these hives I have taken 10 lbs. surplus.

Many bee-keepers take all the honey they can from their under-sized hives, then feed to bring them through the winter, feeding again in the spring. I prefer to have my hives stocked with their own gatherings, less those hives having for their stores all the Heather honey, taking only the surplus they can spare. That, with what the increase of stocks have, is what I term surplus. If I have to feed, it is deducted from the surplus. I expect my Carniolans at the wild Thyme will have done well, and if that be so I shall, for their cleanly style of producing white comb, increase those only. I have kept Carniolans for about twenty years, and beyond flying long distances when swarming have no fault to find with them.

My test swarm has since it was hived increased in weight about 30 lbs. It gradually, as all swarms do, decreased its gathering from about ten days after being hived, as young bees were hatching out their cells, after which they become more active and increase their ingathering if the weather be favourable. In this case it gathered double to what it did while sitting closely upon the brood. I am on the eve of starting for the moors, and will have nearly a hundred hives to look after, and many of them, unless the weather continues broken, are likely to swarm.

HOW TO PREVENT SWARMING.

"A Young Bee-keeper" wants to know how he can prevent swarming in hives little more than half full of combs. My reply was, "You have now learned a salutary lesson that room will not prevent bees swarming, even although it has been given them from the first. In your case alternate the empty with the full frames. There are times when bees do not appear to be intent on building combs, even during the height of the honey season." I have had strong hives that were supplied with full sheets of foundation where frames of combs had been removed the summer previous, yet these were untouched by the bees when examined twelve months after.

When at the Heather all hives will have careful watching, but which cannot be written in an explanatory manner. The sounds of the hives are grand indications of the condition bees are in and what they may be expected to do. With unfavourable weather I will have to exercise patience. With ten days or more of it, it will likely put an end to swarming, then it will be an easier task for me when settled weather comes. The sound will guide me when supers are wanted, which will all be placed upon the top of the nearly filled ones. Everything is gained and nothing lost by adopting this practice.

WEIGHING THE HIVES.

All my hives will be accurately weighed before starting, also at the close of the Heather, and I will let your readers know the result. The weighing of these in 1893 revealed the fact that good hives lost 30 lbs. during their stay at the Heather, when other seasons proved that 20 lbs. were too little to keep bees in good condition. I do not speak of small hives, but those with full accommodation for 150,000 bees or more, which are able to carry in from 10 to 20 lbs. daily during serene weather.—A LANARKSHIRE BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

W. Bull, King's Road, Chelsea.—*Tuberous Rooted Plants and Bulbs.*
Cooper, Taber & Co., Southwark Street, London, S.E.—*Wholesale Bulb Catalogue.*

Dicksons & Co., 1, Waterloo Place, Edinburgh.—*Flower Roots.*

Sutton & Sons, Reading.—*Illustrated Bulb Catalogue for 1894.*

J. Veitch & Sons, King's Road, Chelsea.—*Hyacinths and Other Bulbous Roots.*



TO CORRESPONDENTS

All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Examinations in Horticulture (A. A.).—Your letter has been forwarded to the desired address.

Broad and Kidney Beans for Fowls (A. M.).—If the Beans are not musty you might grind them up and mix with the soft food in the morning to the extent of about one-sixth of the whole.

Antirrhinums (J. Laing & Sons).—The yellow and white Antirrhinums are very attractive, and appear to be excellent companions to the crimson variety for bedding. A mass of them would produce a charming effect.

John Bright Stock (W. Clibran & Son).—The Stock, of which you ask our opinion, is worthy of its name, and that is, in these days, high praise. The spikes are 10 inches long, not too closely crowded, with large double flowers, glowing crimson in colour. The variety will form a handsome companion to the pure and stately Princess Alice, and both flowering together would produce a beautiful effect.

Aspidistras (H. B.).—These plants require sweet turfy soil, or sandy loam with a small admixture of peat and bruised charcoal pressed down firmly in well-drained pots, in order that good supplies of water can be given without making the compost sour. They also enjoy warmth and a genial atmosphere when making their growth, with shade from bright sun. Avoid overpotting. We shall probably be able to publish more detailed cultural notes in an early issue.

Muscat of Alexandria Vines Unsatisfactory (R. M.).—The growths are very weak and have the appearance common to Muscats when growing in an unsuitable border. There is no disease caused by parasites, but the colour of the leaves and their clammy "feel" indicates "browning" presence, yet we could not detect any Plasmodiophora vitis in the tissues. The Vines certainly want phosphate (superphosphate), magnesia, and a little sulphate of iron, but the soil may possibly contain enough, only the Vines need both phosphoric acid and potash to make use of it. The proper thing to do is, as you propose, namely, lift the Vines and replant in a well made border of suitable material over thorough drainage. That, with good after management, is the best means of avoiding shanking.

Onion Growths Diseased (Idem).—Although the Onion leaves have the appearance of being attacked by the rust fungus (*Puccinia mixta*), the pustules are devoid of "fruits." The surrounding tissues, however, are invaded by the spawn of some fungal parasite, and on the decaying portion we find Onion mildew (*Peronospora Schleideniana*) sparingly, with some detached conidia and many stems of the fungus. There is also the growths of a *Fusiporum*, evidently *F. atrovirens*, *Berk.*, and there is the outgrowth of *Aspergillus glaucus*. The *Peronospora* is the cause of the disease, but as it is a mild form possibly it will not materially affect the perfecting of the Onions. A dusting of quicklime would not do the Onions any harm, and it will help to dry up the disease spots, possibly acting effectively on the mycelium and erect hyphæ. When the foliage is mature it would be advisable to burn it, as the resting spores of the *Peronospora* remain in it during the winter.

Marrow Peas (Somerset).—You ask, "What is the difference between Marrow Peas and Peas that are not Marrows?" Marrow Peas are buttery in texture and sweet, the seeds of the most advanced forms being wrinkled when dry. Non-Marrow Peas are mealy, not buttery,

and have smooth, dry seeds. The Marrow Pea is the outcome of an evolutionary process. Here is concisely the genealogy—1, the common gray field Pea; 2, the small white field Pea, known as Charltons; 3, the larger white early frame Pea; 4, the Blue Prussians, so named from the colour of the seeds, these also being slightly larger and a little more tender than the preceding; 5, the Imperials, still larger and more tender, with a marrowy texture, and the dry seeds slightly pitted. 6, The wrinkled sweet buttery Marrows. We have known persons when enjoying Ne Plus Ultra Peas remark how much better they were than Marrows, evidently not knowing there are green as well as white forms of the type, and in blissful ignorance that they were eating Marrows all the time. It is creditable in any person to ask what he does not know in connection with his vocation.

Wintering Androsace coronopifolia and Sowing Seeds of Perennials (Baby).—*Androsace coronopifolia* is a biennial, and it is safer not to sow seeds until July. Plants from seeds sown in April cannot be depended upon to stand the winter, and would be better potted and kept under glass than on a south rockery. They should, however, stand an ordinary winter at Torquay. *Papaver alpinum* should be sown at once, or may be kept until spring. *Anemone pulsatilla*, *A. sulphurea*, *A. sylvestris*, *Dodecatheons*, and *Erythroniums* should be sown at once in pans, pots, or boxes. They are slow in germinating, and the seedlings will hardly appear before next spring. The *Dodecatheons* will germinate very irregularly, and some may not appear until late next year, or even the spring of 1896.

Tomato Leaves Injured by Ammoniacal Carbonate of Copper Solution (Cross).—There is no disease whatever in the Tomato leaves. We can only account for the injury from the ammonia being of a much greater strength than that used by Mr. Woodcock, and recommended on page 70; the liquid ammonia of the shops being a variable article, ranging from a 2 or 3 per cent. up to 22° (Baumé). Ammonia has a disastrous effect on foliage, and being strong a considerable portion would be left over after dissolving the copper, that may be the cause of the mischief in your case. Bordeaux mixture (half strength), as repeatedly given in the *Journal of Horticulture*, is quite strong enough, and thoroughly efficacious against Tomato fungi. Antibleight powder is a preventive of Tomato fungi attacks, but a weak Bordeaux mixture adheres better to the foliage, and is the same thing as antibleight when dry—lime and a small portion of copper. The peculiarity of the leaves which arrived as we are preparing for press is possibly accidental—a freak of Nature.

Packing Grapes to Travel Long Distances (Enquirer).—The chief thing is to pack firmly, so that the Grapes cannot move about. Boxes are preferable to baskets, and should always be closely and well filled. The depth of the box, also its width, will be determined by the size of the bunch or bunches, but need not exceed 5 inches in depth. A little sweet, clean dry moss or wood wool should be placed at the bottom of the box, then several sheets of thin (tissue) paper placed over that, lining the box with paper, and one-half the top sheets hanging free for the purpose of being folded over when the box is filled. The bunches should be laid in the box as cut, beginning at one end, placing them with the stalks upwards, as closely together as they can be, and keeping them well up to allow for settling. The larger the box the greater the care required. When the box seems full a slight shaking whilst holding it a little on one side will cause the bunches to settle down still closer, when one or more bunches can be added, or if not room for them, tissue paper may be placed in the hollow, and that filled with cotton wool. After filling the box the paper is folded over the top of the Grapes, and all the vacant spaces between the paper and the sides of the box filled with packing material. Nothing but the paper is placed on the Grapes when they quite fill the box, but if flat and too low a sheet or two of cotton wool may be placed over the paper. The lid is then screwed down. Such Grapes will travel safely to any part of the world if placed in another package, so that the box cannot get thumped and jolted about. Cotton wool or any packing substance should never be used next the Grapes.

Vine Foliage Ripening Prematurely (Six-years Subscriber).—Though we have received several samples of leaves similarly affected to yours we are not able to connect the appearance with anything but "rust," and rusted they are, but with something worse than cold currents of air or sudden depressions of temperature. The leaves are covered closely with small raised growths, which you will notice readily with the naked eye, and here and there are small black dots, less than a pin's head in size, with some much larger. From some of these black dots outgrowths appear of the very common fungus, *Aspergillus glaucus*. This fungus was noted in this *Journal* as being found on similarly affected leaves in the spring, but could not, or is it now, be connected with the disease. The black dots have been caused by mites; these produced the "rust" and the premature ripening of the leaves. What the fungus wanted there in the spring or early summer time is not clear; possibly to live on the extravasated juices. What became of the mites is a mystery, but the black dots the size of a pin's head are really dead bodies of an insect carnivorous on the mites, and that accounts for there being no hairs (erineum) and no galls formed—that is, the insect cleared them all away, and then something else happened. These creatures died in the down, and the fungus drained their bodies and formed sclerotia from which the fungus is reappeared on the decayed parts of the leaves where there was sufficient moisture. You may see the subjects described with an ordinary microscope; indeed, the dead

insects can be seen with a good pocket lens, but you will need a microscope to distinguish the fungus properly. We do not think the Vines will be materially injured for another year, but the premature ripening of the foliage in the case of the Gros Colman will probably tell disastrously on next year's crop. Collect all the leaves as they fall and burn them, and when they are all down and the Grapes cut wash the Vines with a solution of sulphate of iron, half a pound to a gallon of water, applying with a brush. It would also be desirable to remove an inch or so of the surface soil, taking it clean away, and supply fresh loam in its place. We sympathise with you, yet think you may take courage, as mites seldom attack Vines in this country, which we think is due to the carnivorous creature clearing them out quickly. The whole question is much involved in mystery—that is, lack of knowledge, and "authorities" are not by any means clear on many points in the life history of mites.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*Old Subscriber*).—1, *Maurandya semperflorens*; 2, *Lasiandra macrantha*; 3, *Hydrangea paniculata*; 4, *Hieracium aurantiacum*; 5, *Campanula dubia*; 6, *Kerria japonica variegata*. (*D. B.*).—*Oncidium macranthum*. (*H. G.*).—*Lælia elegans*. (*Ignoramus*).—The plant, which was given as being "not identified" last week, is *Dracocephalum fruticosum*. (*F. J.*).—The shrub is a *Berberis*, but the species cannot be recognised without flowers. The other flower is *Epilobium angustifolium*. (*A. B.*).—*Hieracium pilosella*; the only means of eradicating it is by digging up the weed. (*Reader*).—*Prunus padus* (the Bird Cherry); the Apple is the French Crab.

COVENT GARDEN MARKET.—AUGUST 8TH.

BANK Holiday week. Trade disorganised.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Cherries	2	6 to 5	Lemons, case	10	0 to 15
Currants, Black, half sieve	3	0	Peaches, per doz. ..	1	0 to 8
" Red,	2	0	St. Michael Pines, each	2	0
Grapes, per lb.	1	0	Strawberries per lb. ..	0	0

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Beans, Kidney, per lb. ..	0	6 to 0	Mushrooms, punnet ..	0	9 to 1
Beet, Red, dozen	1	0	Mustard and Oress, punnet	0	2
Carrots, bunch	0	3	Onions, bushel	3	6
" new, bunch	0	9	Parsley, dozen bunches ..	2	0
Cauliflowers, dozen	1	6	Parsnips, dozen	1	0
Celery, bundle	1	0	Potatoes, per cwt.	2	0
Coleworts, dozen bunches	2	0	Salsafy, bundle	1	0
Cucumbers, dozen	1	6	Scorzoneria, bundle ..	1	6
Endive, dozen	1	3	Shallots, per lb.	0	3
Herbs, bunch	0	3	Spinach, bushel	1	6
Leeks, bunch	0	2	Tomatoes, per lb.	0	4
Lettuce, dozen	0	9	Turnips, bunch	0	3

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchid Blooms in variety.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blooms ..	1	6 to 3	Orchids, per dozen blooms	3	0 to 12
Asters (French) per bunch	0	6	Pansies, dozen bunches ..	1	0
Bouvardias, bunch	0	6	Pelargoniums, 12 bunches	4	0
Carnations, 12 blooms ..	0	9	Pelargoniums, scarlet, doz.		
" doz. bunches	2	0	bunches	2	0
Cornflowers, doz. bunches	1	0	Pinks, various, doz. bnchs.	1	0
Eucharis, dozen	1	6	Poppies, various, dozen		
Gaillardia, dozen bunches	1	0	bunches	0	6
Gardenias, per dozen ..	1	0	Primula (double), dozen		
Gladiolus, dozen sprays ..	0	9	sprays	0	6
Lily of Valley, doz. sprays	1	0	Pyrethrum, dozen bunches	3	0
Lilium longiflorum, per			Roses (indoor), dozen ..	0	6
dozen	2	0	" (outdoor), doz. bnchs.	3	0
Maidenhair Fern, dozen			" Tea, white, dozen ..	1	0
bunches	4	0	" Yellow, dozen	2	0
Marguerites, 12 bunches ..	1	6	" Safrano (English), doz.	1	0
Mignonette, 12 bunches ..	1	6	" Maréchal Niel, doz. ..	1	6
Moss Roses (English), doz.			Stephanotis, dozen sprays	1	0
bunches	6	0	Stocks, dozen bunches ..	2	0
Myosotis or Forget-me-			Sweet Peas, dozen bunches	1	0
nots, dozen bunches ..	1	6	Tuberose, 12 blooms ..	0	4

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ (golden) dozen	6	0 to 12	Hydrangea, per dozen ..	9	0 to 18
Arum Lilies, per dozen ..	6	0	Ivy Geraniums	4	0
Aspidistra, per dozen ..	18	0	Lilium auratum, doz. pots	12	0
Aspidistra, specimen plant	5	0	" Harrisii, per dozen	12	0
Calceolarias, dozen pots ..	3	0	" lancifolium, dozen		
Dracæna terminalis, per			pots	9	0
dozen	18	0	Lobelia, per dozen	3	0
Dracæna viridis, dozen ..	9	0	Lycopodiums, per dozen ..	3	0
Ericas, per dozen	9	0	Marguerite Daisy, dozen ..	6	0
Euonymus, var., dozen ..	6	0	" yellow, doz. pots ..	6	0
Evergreens, in var., dozen	6	0	Mignonette, per doz. ..	3	0
Ferns, in variety, dozen ..	4	0	Myrtles, dozen	6	0
" (small) per hundred	4	0	Nasturtiums, per dozen ..	1	6
Ficus elastica, each	1	0	Palms, in var., each ..	1	0
Foliage plants, var., each	2	0	" (specimens)	21	0
Fuchsia, per dozen	3	0	Pelargoniums, per dozen ..	6	0
Heliotrope, per dozen ..	4	0	" scarlet, per doz. ..	2	0



POOR PASTURE.

THE influence of the weather upon farming is so important as to demand more—much more—than mere recognition to be worthy of careful study, in order that by skilful practice as little harm and as much good as possible may be had from it by all farm crops. This can only be when thorough tillage and sustained fertility of soil are in combination with timely culture, prompt action, and a habit of always being beforehand with our work. Applying as this reasoning does to every crop on the farm, it has especial force just now in its relation to pasture good and bad. It is a lesson of the seasons that is easily grasped however they may differ. It told as powerfully in the great drought of last year as it is telling in the showery weather now. Then it gave us a fair hay crop, and an aftermath of the highest value, now it has given a heavy crop of hay, with an aftermath of remarkable abundance, the luxuriance of which has been admirably sustained by true St. Swithin's weather.

Only to rich pasture so forward in growth that the hay was all in stack before St. Swithin's Day does this statement apply, and it is worth while remembering that on such pasture the growth always is comparatively early. Poor pasture, on the contrary, is so late and slow in growth that it is altogether the sport of seasons. At best the haymaking is some weeks after that on rich pasture, at worst it is months behind time. The best summer grazing is lost altogether, autumn grazing is only possible, even that being lost if dry hot weather sets in after the haymaking. Take the present season for example. On the 1st of August haymaking had been in hand for full three weeks at many a farm, some had been put into stack, much was still out, some had yet to be mown; all that was mown had been more or less exposed to rain in the making, had suffered in quality, and had been in and out of cock so many times that deterioration in quality was very much upon a par with extra labour. Loss of colour and loss of flavour were coincident, so, too, was loss of time and loss of money, to say nothing of the attendant anxiety. Compare all this with the hay made in June or the first week in July. The bright settled weather enabled us to get through the work with dispatch and certainty. The hay is as high in colour as it is in flavour, and as usual the best hay is the cheapest hay, owing to the little labour required in making it. The rain which proved so troublesome and costly for the late hay was altogether a boon and blessing on the early mown meadows. Is not the lesson obvious—the inference clear? To be able to mow early there must be early growth. To obtain this we must feed the land, must store it with fertility, must give it an annual dressing of manure. Had part of the money spent for labour in saving much of the late hay been used in the purchase of pure chemical manures, applied to the pasture at the end of February, early growth would have been a certainty; and then by mowing when the grasses were in full bloom and before any seed was visible, early and cheap hay of the best quality would have been equally certain, as, too, would an abundant aftermath, and the best of summer grazing.

We invite attention to this important matter now while cause and effect are before us. To regard any pasture as permanently good or bad is absurd; that which is naturally good will deteriorate if neglected, that which is naturally so bad as to be very poor may be gradually improved at a moderate annual outlay as to be highly profitable both for hay and

grazing. To the owners of such land whose interest clearly lies in its improvement we advise an inquiry into the condition of its drainage. A glance at its herbage is often sufficient for an expert. When there is a doubt a few trial holes soon show if water is present hurtfully in the soil. If it is, then thorough drainage is the key to a radical change in the condition of the pasture. How the drainage is done depends altogether upon the nature of the soil. Once get the drainage right, then the improvement of the herbage, the enrichment of the soil, and full crops are all an easy matter.

In the tenants' interest we should like it made compulsory for soil fertility to be fully sustained by him, and for him to afford proof to his landlord of doing so by annual dressings of pure manure. We do know tenant farmers whose annual expenditure upon chemical manures amounts to thousands of pounds, but they are few and far between; while those who never spend a penny upon manure of any sort, taking all that offers out of the land and putting nothing back beyond the excreta of the animals turned out to graze upon it, are numerous enough. These are the men who have poor pasture, who are the sport of seasons, who clog the wheels of progress, and who complain of hard times.

WORK ON THE HOME FARM.

Corn is changing to ripeness very fast, and harvest is already progressing in the south, though even there we have seen some backward crops on cold heavy land. Rye and Winter Oats were hardly cleared before Wheat cutting began where the sowing was done early last autumn. For our part we see nothing to gain; rather much to lose by leaving Wheat and Oats unreaped after the grain becomes firm, or from which the milky juice ceases to come when pressed between the finger and thumb. Get the reaper at work early, say we; look well to the thorough exposure of sheaf bottoms if they contain much growth of weeds, Clover, or seeds, turning them once or twice in shock if necessary, and push on carting and stacking, never missing a day of fine weather. Under good management there should be little need of attending markets during harvest. The corn may be let by the acre; but there are numerous other matters requiring the master's eye, and he has much to consider both for the present and future.

The clearance of the first corn field should be followed by the swine herd. The flock may have a run upon the stubbles for an hour or two daily, care being taken to have the sheep off before they cram themselves with corn ears, as they will do to their hurt. Clean up the fallen corn in one field, and so on, in order that skim coulter, horse hoes, and harrows may get to work upon the land promptly. Autumn tillage before all things. Get the land clean and ridged as fast as you can; every hour of good work now points to a fine seed bed, early sowing, and speedy seed germination next spring. If *Trifolium incarnatum* answers with you select a clean stubble, sow it broadcast in August, and harrow the seed well in with light harrows. It is important with this useful forage crop to get a full strong plant well established before cold weather sets in. Where the harvest is early a few stubble Turnips may be worth while, but with abundance of late Swedes we should not sow them. It will be only by making a special effort now and onwards that the stubbles can be finished in time to turn to the root crops, which are now making such extraordinary progress.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet

DATE.		9 A.M.				IN THE DAY.				Rain.	
1894. July and August.		Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.		On Grass.
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday ..	29	29.984	71.5	65.4	N.E.	62.2	77.3	57.0	111.4	51.8	0.172
Monday ..	30	29.958	61.0	58.2	N.	62.4	70.9	57.8	113.2	56.1	—
Tuesday ..	31	30.023	64.4	58.6	Calm.	61.9	76.6	54.6	114.9	51.6	—
Wednesday ..	1	29.907	62.9	59.2	S.	62.6	68.2	58.1	93.0	55.8	—
Thursday ..	2	29.708	63.1	58.4	S.	62.0	69.4	59.0	114.0	57.9	0.023
Friday ..	3	29.598	62.8	56.1	W.	61.4	69.8	52.1	121.9	49.1	—
Saturday ..	4	29.790	64.0	57.9	W.	61.7	71.1	52.1	117.5	50.2	0.010
		29.853	64.2	59.1		62.0	71.9	55.8	112.3	53.2	0.205.

REMARKS.

29th.—Overcast almost throughout, threatening in afternoon; spots of rain about 9 P.M.
30th.—Rain from 4 A.M. to 6.30 A.M., and overcast till noon; generally sunny in afternoon.
31st.—Fine, but generally hazy, and occasionally threatening.

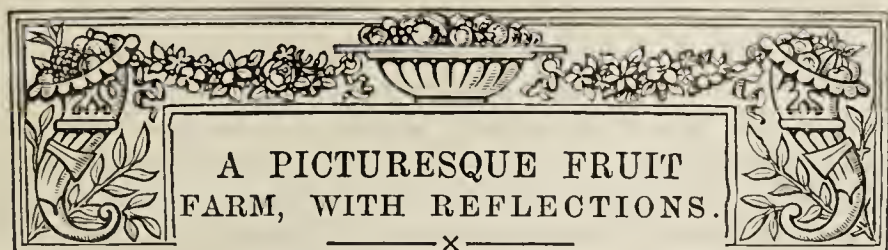
1st.—Overcast, with frequent spots of rain or drizzle till about 2 P.M., occasional sunshine later.

2nd.—Overcast, with frequent drizzle or spots of rain, and showers at 1.45 P.M. and 6 P.M.; generally sunny from 2.30 P.M. to 5 P.M.

3rd.—Fine, and frequently sunny, but spots of rain at 4.30 P.M.

4th.—Occasional sunshine in morning; overcast afternoon; spots of rain at 6 P.M.

A variable week. No day absolutely sunless, but much cloud. Temperature very near the average.—G. J. SIMONS.



IF the orthodox style were followed in the preamble to a description of the fruit farm in question, it would in all probability commence somewhat in this way:—"It is well known that Surrey is one of the most beautiful counties in England;" but such a sentence would be incomplete as regards accuracy without a qualification—namely, that the fact is only well known to a few, a very few persons indeed, out of the, in round numbers, 30,000,000 inhabitants of the British Isles. In truth, the landscape charms of the south-western half of the county are not known at all to the overwhelming majority of Englishmen, to say nothing of their brothers over the border lines that mark the distinctive geographical parts which, in their whole, constitute the United Kingdom.

It is not suggested that Surrey is the *most* beautiful county, or anything of that kind; any such proposition would approach absurdity, for there are many types of beauty in our island home, and each has a community of adherents. Some love a land of placid lakes and broad level stretches of luxurious meads; others give preference to woodland solitudes, in which they can rest alone with Nature, and enjoy the music of the wind in all its varied cadences; others, again, have as ideals a land of lofty mountains and wild ravines, of rocks and rushing cascades, with rivulets, down which the waters race between Fern-clad banks to the near or distant sea. The landscape effects of Surrey differ from all those types. They savour not of the romantic, there is nothing stern about them, yet nothing that can be described as monotonous in its level uniformity; in a word, there is nothing to startle, yet at almost every turn of the curling leafy lanes some pleasing vista is brought in view—some delightful vale, fresh, cool, and luxuriously green, broken by the rounded base of a tree-clad hill.

The Surrey hills have a bold yet placid beauty all their own—a blending of pastoral and arboreal effects, with here and there purple glints of Heather, as if stealing their way among the bracken or in openings between the trees. The hills are of nearly all sizes, and everywhere in the hilly parts, the smaller close together, the larger more widely separated; and it follows that there are valleys between them, also that the more numerous these are the shorter and more varied. It is the great variety, this ever-recurring change, as we twist and turn in the up and down lanes that gives a charm that is satisfying. It is among the hills and dales of Surrey that a fruit farm is situated which may be fairly described as picturesque, both in respect to the configuration of the ground and the quaint old time residence of the farmers of bygone years.

The Bramley Fruit Farm, so called because near the village of that name—with a railway station on the line between Guildford and Horsham—is the property of Mr. Edwin Ellis of Shalford near Guildford. Mr. Ellis is a large farmer and a successful one, his 700 acres of land, or that portion not in grass, being like a garden; but he is something more—namely, a Justice of the Peace, a County Councillor, and he has a seat on the Board of Directors of the new South-Eastern Agricultural College at Wye. In this position his experience and success as a cultivator must be of great service. He is in a position to bring knowledge to bear

on the management of both pasture and arable land, as well as on fruit cultivation. He farms "high," buying 1000 tons of London manure at a time, for he finds that, notwithstanding the teachings of scientists, this is better to rely on than chemicals, as imparting humus and holding moisture in his sandy soil, though artificials are not ignored.

Mr. Ellis in his practice takes into consideration the nature of the soil and the advantages of position, and turns them to account. As both these may be said to be of a "warm" nature, he deems it better to grow early than late Potatoes, selling the crop quickly at £10 a ton, as he has done this year, thus being in advance of the disease period; and not only so, but obtaining a second crop off the land, instead of its being occupied with late Potatoes all the season, risking the disease, and if there should be none selling the crops, as many growers were glad to do last year, at £2 a ton and less. Here is an example of routine. A field of early Potatoes cleared off at the price named, and the land sown with Swedes in July. The Swede crop becomes a full one under good culture, and is eaten off by sheep, thus enriching and consolidating the land. The Swedes are followed by spring Wheat, and at the present moment as fine a crop of the bearded kind may be seen as anyone could desire. It is too true that farming does not pay in many instances, but still it may be assumed that a margin of profit follows such a course of cropping as this—Potatoes, Swedes, mutton, and Wheat, all following as closely as is possible, the land not remaining idle for a day, nor men either; and labour pays under prudent guidance. The kind of Potato chiefly grown for early sale is an admirable selection of the white Beauty of Hebron or Duke of Albany—tubers pebble shaped, eyes almost invisible, and the crackled skins shining like silver—the best consignments sent to the London market this year, and therefore the demand exceeded the supply. It is always so with the best of anything or everything. It is the below-average or too-late produce that gluts the market and "fetches nothing." No apology is made for this digression, and it is not altogether inappropriate, for Potatoes of the variety named are extensively grown between the lines of fruit trees where space permits of their profitable cultivation.

The Bramley Fruit Farm, to start again, covers an area of eighty acres. It was not all planted at once, but the results of the start some ten years ago being encouraging, additions were made until now the enclosure is about full, in some places almost too full, but hundreds of trees three years planted are in splendid condition for removal, and may profitably supplant some of the varieties which are not proving suitable in the sandy soil. As a rule the strong growers are succeeding the best—for instance, Lord Grosvenor, and Apples similarly free, making altogether satisfactory progress; while Cellini, so good in many gardens in the North, is not worth the ground it occupies here. There is no intention, however, to discourse on varieties—more time is required for proving the adaptability of many of them to the position; but a few remarks on the principles of pruning and general management may not be inappropriate, as there are trees on the farm that suggest lessons which should not be ignored.

The Bramley Fruit Farm is described as picturesque. Mr. Cheal knows it very well, for he has supplied many trees, and he will scarcely challenge the description. On entering we see what is like a twisting gorge between miniature mountain ranges. In some far remote age the sea has rushed through the district, twisted and turned about as rushing waters will according to the law of least resistance, the waves throwing up banks and islands in their progress. Broadly speaking there are three ranges of hills and two deep valleys occupied with fruit, but the valleys curve about so suddenly that sharp declivities appear as if facing nearly all points of the compass. So bold is the configuration of the ground and abrupt the changes, that there is apparently a difference in altitude of 200 feet in a distance of about 300 yards. So

steep are the slopes that some of them could not be cultivated agriculturally with the plough, and therefore ran into a waste of useless copse. This was trenched out, and tons of Gooseberries and Plums are now gathered and sold from the once profitless expanse, and hundreds of pounds a year invested in labour. The change has proved as advantageous relatively to the workers of the district as to the proprietor, for they receive at least ten times the amount of money that is earned by the land now than it could possibly yield before the change in routine—from Wheat and scrubby waste to Gooseberries and Plums mainly, with a great prospective output of Apples, to say nothing of other fruits and probable developments.

In an hour's survey of this extensive fruit plantation we ascended the southern slope, apparently one of the first sections planted with standard Apples and Gooseberries. Some persons object to this combination system, while others have Apples so firmly fixed on the brain as to almost or quite ignore the humbler bush fruits. Fortunately for himself and his workers Mr. Ellis was not one of these, and his Gooseberries have yielded gold, the Apples only silver in comparison. The trees are tall standards, and by no means all the varieties are likely to be profitable. Some of the trees show signs of weakness, as if when the roots passed down into the lower strata they could not find the essential food elements; and the best thing to do with some of these trees will be to graft them with other varieties that are found to be more at home on the land. There is as much difference between Apples as animals—sheep, for instance, some kinds of which will thrive where others would starve in a given locality or pasture. The method of increasing the value of still young but not profitable fruit trees by the simple process of grafting is not, generally speaking, sufficiently practised, and is well worthy of trial on numbers of trees, not at Bramley only, but in various parts of the kingdom.

Such tall-stemmed trees are not the best for fruit farmers; and this Mr. Ellis appears to have discovered, for his later plantations of thousands of trees consist of bushes, and the majority of these are making a splendid start on what it is hoped will be a profitable career. For this soil especially, or any soil where the underlying strata are not favourable to healthy growth, the trees are best on stocks of a surface-rooting nature, but yet not lacking in constitutional vigour. Stocks with broad leaves and stout young stem growth are altogether better than those with narrow pointed leaves and weak growth, call either by whatever name we may. The latter produce precocious trees; very much too precocious some are. Though they may be looked on admiringly as little wonders, most of them are delusive regarded from a commercial point of view, which is the favourite point in these days. With a free surface-rooting system free growth does not mean fruitlessness under a proper system of branch disposal, but the reverse. Branch management consists in cutting back for a year or two for obtaining the requisite number of growths for extension, and then preventing the least semblance of crowding in the summer. There should be sufficient space between the branches for the sun to shine right through the trees, not in the winter or even the autumn, but in and all through the summer, and all growths impeding this should be cut out *before* they become obstructive. If that principle were followed, and it is simple enough, blossom buds would form in far greater numbers than is possible under the thicket system, which results from too much shortening of the branches and too little thinning.

There are numbers of bush Apple and other fruit trees not only in the plantation in question, but in various parts of the country which have been planted three or four years, and made strong and even luxuriant growth, the result of free root action and winter pruning—branch-shortening. There are sufficient branches now for bearing, and in many trees more than enough. In this case the superfluous growths should be taken out at once; not in a month or two's time, but now. The mere tips may be

pinched off the ends of those branches which are running ahead of the majority, and then immediately most of the leaves can be shaken or rubbed off by drawing the partially closed hand up, not down, the branches in the autumn, the trees should be taken up and replanted, quickly, yet carefully; the strong broken roots cut smooth, any of a vertical nature transversely, those of a horizontal character slantingly, making a clean undercut holding the back of the knife to the stem of the tree. Neither an upper cut nor a side cut can be so conducive to new roots taking the right direction as an under cut, and as it takes no longer to make the one than the other it is better to choose the right. All young bush trees—say, 5 or 6 feet high, and nearly as much through, with summer shoots 2 to 3 feet long, and few blossom buds, can be brought into productiveness better by the summer thinning and autumn replanting methods indicated than by any other routine. To cut back such trees closely in the winter and leave the root force unchecked would be the best of all ways of preventing blossom bud formation, yet unfortunately it is a far too common practice in the case of men who appear to like to make a good show with the knife.

It is because it is thought mere descriptions of gardens, without taking what may be seen in them as affording lessons for practical suggestions, is not the most acceptable method of treatment, that a departure from the mere narrative form has been to some extent taken in this instance, and in the hope that the hints, founded on experience, may be helpful to those readers of these lines who may not have had time nor opportunities for gaining something like a mastery of the principles that underlie successful fruit cultivation.

The summit of the southern range of the Bramley fruit farm has been wisely planted with Filberts. Long rows of Apples, mainly, run down the slope right into the bed of the gorge, and the trees that are in a fruiting state appear to be bearing equally well at all altitudes. A steep climb takes us up to the central range, on which are some acres of bush Pears, too many possibly, but that remains to be proved, and the site suggests itself as excellent for Red Currants. On the other side is another fine valley, chiefly of Plums and Gooseberries, also several Apples, with in the heaviest land Strawberries. Of the latter Noble has afforded a full crop this year, sold for 1s. lb., so Mr. Ellis does not despise the variety. The eastern end of the farm, hill and valley, is mostly devoted to Plums and Gooseberries. How many tons of Victoria and Pond's Seedling there are it would not be easy to guess. The crops are prodigious. Several other varieties are grown, the late Grand Duke being one of the favourites. Gooseberries bear bountifully. This is perhaps the best paying crop, Lancashire Lad, Whitesmith, and Crown Bob being the favourite varieties, and answer better than Whinham's Industry. Keepsake and Early Kent are also grown for testing their distinctness, and the latter has made the better progress so far.

A lesson in land preparation is afforded here. When this work commenced everything had to be learned, and ploughed land was thought good enough for Gooseberries. Knowledge came with experience, and as a consequence thorough preparation, deep working, and careful planting followed, with the result that the bushes two or three years younger than the originals, are of more than twice the size and thrice their value now. The time has gone by for slipshod methods to prove in any sense satisfactory in fruit production.

When the trees on this farm of bold hills and deep dales are in blossom a scene of great beauty must be afforded—like rolling clouds of pink and silver over a firmament of tender green. The effect can be nothing short of picturesque, and in its way must be unique.

Favourite boxes for packing choice fruit are 20 inches long, 12½ inches wide, and 3½ inches deep, sides ¼ inch (full), and ends ½ inch, smoothly planed deal, well strapped at the corners to give strength combined with handiness and lightness, the owner's name

being branded in, not painted on them. It may perhaps be useful to say they are obtained from Messrs. C. H. Glover & Co., Old Kent Road, London, and are found to answer their purpose well.—EXPERIENTIA DOCET.

HARDY FLOWER NOTES.

WHEN August comes with fields of ripening grain and trees of ruddy fruit we are prone to think that the season of flowers is drawing to a close, and that our pens should speak of the flowers of the past. But though the rock garden looks somewhat bereft of colour and the borders reveal to us many plants which, having yielded their tribute of beauty, are now sinking into the sere and yellow leaf, there are hosts of flowers ready to give us delight. Carnations beautifully striped and flaked or of delightful self colours charm us, as do their sisters the Picotees, some of which with the narrowest edge of colouring are enchanting flowers. Little wonder is it that such exquisite flowers continue to grow in favour, and that each season sees some worthy addition to the already rich store of varieties obtainable. Like all other florists' flowers they require a specialist to speak critically of their respective merits, but at least one may be permitted to join in drawing attention to their merits in the garden as well as for cut blooms.

Some time ago a most suggestive article on hybrid *Dianthus*es from the pen of Mr. Wm. Dean appeared in the *Journal of Horticulture*, and those persons who have time and space to spare might do worse than devote some attention to the work shadowed forth in that valuable article. Not that it has been left untouched, as much has already been done, but in the large number of species there must be much valuable material for the hybridist. For some years I have had in my garden hybrid rock Pinks, and last year the Rev. C. Wolley Dod kindly sent me seedling hybrids of much variety, some with fringed petals like those of *D. superbus*, and others with the flowers of the Sweet William, but having a different habit. Very effective are many of these, but as they are unnamed they cannot well be described. Many others under name are offered by various nurserymen, and among these will be found one worthy of inclusion in any garden. This is *Dianthus Cyclops*, which is, I understand, of French origin. It does not appear to come quite true from seed which can be obtained. By far the finest specimen I have seen was a plant in the rock garden at Kew, which was very superior to those in my own garden. The habit of the plant was extremely good, the foliage being healthy, broad, and robust; and the large single flowers exceedingly beautiful with their rose-white petals and the fine crimson zone or eye in the centre. The seedlings raised here varied considerably, but none were so fine as the Kew plant. Another *Dianthus* was also very fine at Kew, but it seems to have the fault there which caused its loss in my garden, *i.e.*, of flowering so profusely that it makes little "grass" for propagation. The flowers are large and of a deep yet bright crimson, of great effect in the border or rock garden. It is one of the most brilliant flowers of its kind.

One must, however, reluctantly leave this "flower of the gods" to speak of those of other types of beauty, and there are few more admired than the *Gentians*. Useful as is the herb in medicine—and I suppose its name was derived from its virtues having been discovered by Gentius, King of Illyricum—it is for its beauty in the garden that flower lovers treasure it. One of the most attractive plants in the border, as I write, is the "heart-leaved" variety of *Gentiana septemfida*, known as *G. s. cordifolia*, but perhaps as often met with as *G. gelida*, under which name it was frequently figured in gardening books. It grows from 6 to 18 inches in height, and is very ornamental with its heads of brilliant yet dark blue flowers, and dark green leaves. It comes from Asia Minor, while *G. gelida* comes from Siberia. It seems to do better in a stiffer soil than that of my garden, where I find it benefited by partial shade from the mid-day sun and good supplies of water in dry weather.

The *Campanulas* are special favourites of mine in their various forms and sizes, from the tiny Alpine species to the noble *C. macrantha* or *C. pyramidalis*. Among the most prized of the dwarf species is *C. Waldsteiniana*, a native of Hungary, and introduced about 1824. It is a charming Bellflower, only seen to full advantage in a large sized plant. The violet-blue flowers are small, being only about half an inch in diameter, and are produced a few (three or four generally) at the top of the stem. The flowers are always upright and are rather flat in form. The leaves are of a greyish green, and the plant grows to about 6 inches in height, sometimes, however, attaining a greater height in suitable soils and situations. A plant a foot in diameter is a beautiful object, the pretty little flowers and the graceful foliage making it

very pleasing. *C. Waldsteiniana* does well in good loam and grit, and is perhaps more suited for the rock garden than for the border. It is a favourite with the snails, and it is a useful precaution against their ravages to protect the plant in the earlier stages of its growth with a zinc ring cut at the top, so as to form a miniature *chevaux de frise*.

Fine-foliage plants are as welcome in the garden of hardy flowers as in that devoted to sub-tropical plants. Among the most noteworthy of these is the curious yet pretty *Gunnera scabra* with its great broad rough leaves sometimes 4 feet or more in diameter, and about 4 feet in height in good soils. The petioles are quite prickly, and the curiously lobed leaves when rubbed on the hand seem to have a surface as rough as sand-paper. One defect possessed by this *Gunnera* is that it is barely hardy in most places, and is all the better, even in favoured situations, of a little covering in winter. Some recommend ashes, but I find slugs are not averse to these here, and harbour among them, disfiguring the leaves by eating them while young. A useful covering for such half-hardy plants will be found in the dry stalks of the Michaelmas Daisies. *G. manicata* is a noble species, requiring a larger space to do it justice, and I cannot recollect of meeting with one named *G. perpensa*. There is, however, a singular little member of the genus which is the very antipodes in size to *G. manicata*. This is grown sometimes as *G. patagonica*, and also as *G. magellanica*, and from at least a garden point of view appears to be similar to the plant figured and described in Hooker's "Icones Plantarum," vol. i., new series, tables cdlxxxix and cdxc, as *G. Falklandica*. Whether this is so or not this neat little *Gunnera* is very interesting, for the rock garden in particular. It is said to be quite hardy, but my experience leads me to recommend similar treatment to that advised for *G. scabra*. I have not seen this miniature *Gunnera* growing to more than 9 inches in height, the leaves only being 2 or 3 inches across. The flowers are interesting, but neither showy nor attractive, but as a foliage plant it is worthy of a place.

While rare or new plants are more attractive to some than even the best of our older introductions the latter should not be forgotten. Very useful for cutting, and also at times as an exhibition flower, is *Achillea millefolium roseum*, of which there appear to be several shades, the deeper coloured being the most useful. This red Milfoil grows from 1 to 3 feet high, and produces its flat heads of flowers for some months in succession, a feature which is sure to be appreciated where cut flowers are in request. It runs freely at the root, and is apt to spread over more than its allotted space. It will grow well in almost any soil. Some varieties of inferior colouring probably raised from seed are hardly worth growing, but a deep red variety here is frequently remarked upon by visitors.

Interesting at this time is a small clump of the red-fruited spiked Baneberry, *Actæa spicata rubra*, with its darkish green foliage and its dense clusters of bright red berries, which are unfortunately poisonous, a fact worth noting, as their bright colour and wax-like appearance are likely to attract the attention of children and to tempt them to taste the luscious-looking berries. The typical species has black berries, but the red-fruited variety is more attractive in the garden. It is an excellent plant for growing under trees or in shady places. The flowers are white but are inconspicuous. Even with the faults of its poisonous berries and poor flowers this plant, which was dedicated to St. Christopher, and named *Actæa* from the resemblance of its leaves to the Elder, the *Aktaia* of the Greeks, is desirable for many gardens.

But the borders and the rockeries possess too many beauties for these notes to do them justice, and though as I write rain falls heavily and sky and sea are alike grey and cheerless, the garden is bright with colour. Annual Poppies are still gay, and other flowers of similar duration come in to brighten places which would otherwise have been left bare while spring-flowering bulbs are dormant. The lace-like *Gypsophila paniculata* floats gracefully in the wind, Snapdragons of many hues are bright on the rougher portions of the rockeries. Tall Alliums, with globular heads of deep purple, raise their heads among lowlier plants. St. John's Worts from the fine *Hypericum patulum* to the charming little *H. nummularium* show their golden blossoms on the rockeries. Sunflowers and Anthemises, with *Coreopsis* and *Heleniums*, are among the yellow composites in bloom, and spikes of blue or white or pink show well the beauty of the *Veronicas*. Among these and many more there is much to admire, colours such as no artist can produce from his palette; grace of form and delicate chiselling, such as no carver can imitate; and, with many, an exquisite fragrance which the perfumer seeks, with only partial success, to retain in the products of his skill. And these are not mere ephemeral pleasures, for when these charms are faded their memories will linger with us till a new season restores them to us once more with their matchless beauty and grace.—S. ARNOTT.

DRAWING FOR GARDENERS.

I AM glad to see that "A Worker" (page 121) considers drawing an acquisition in a gardener. To my mind it is an absolute necessity. Gardeners are continually complaining of the low wages they receive, the long hours, and arduous duties they have to perform; and gardeners, depend upon it, you will long have to submit to this treatment unless you strike out afresh and leave this "rule-of-thumb" and "plans-in-your-head" system.

Would a master builder tell his foreman to build a house, without, besides giving him full details as to quantities and qualities, a minutely drawn plan? If he did, what kind of a house would it be when done? And yet there are many head gardeners who say to their understudies or assistants, "This or that portion of the garden must be done so-and-so" without giving them any set plan or better idea than what kinds of material are to be used.

Can we wonder at so many failures? I have in my eye at the present moment a garden of some 8 acres, 5 of which are included in the pleasure garden. This garden for some years has been charming, and each year there is a material change; often the shape of the beds on the lawn are altered, some removed, and others added. Although this continual change is going on it is always up to excellent, the colouration of the various beds and borders is always in keeping, and the harmony of the different occupants always complete. Why? For the simple reason that the gardener is an exceedingly good draughtsman, and every winter prepares the plans for next year's improvement in such detail that all the flowers and coloured foliage plants are marked in in crayon. Thus the new garden can be seen in such form that the dullest of his assistants knows what to expect when the work is completed and the beds and borders planted. Although I have closely watched this garden for several years I have not seen or heard of a bed being "planted and pulled to pieces three times in a day."

Then, again, there are few horticultural architects, and how many failures do we see where ordinary ones have been employed in the construction of conservatories, vineries, and other glass houses. These failures might be minimised, if not entirely done away with, if the gardener were consulted; and if he were (even in a rough and ready way) able to demonstrate the shape and position the various houses should assume, so as to leave nothing but the ornamental or finishing-off part to the architect proper. I do not wish to run architects down, but I must say there are very few who understand the requirements of plant houses; and if the growers or gardeners could combine with the architect the result would be obvious. But how few architects would condescend to consult an illiterate gardener, whereas if the said gardener could convey to paper his ideas, he might with success assert his right to be heard?

Then there is another aspect, the kitchen garden. If plans were prepared, and spaces for various beds allotted, how much it would facilitate the preparation of the seed order and the proper rotation of crops, and how much it would relieve the principal, as he would not be required at his assistant's elbow continually. How many of us have, at various times, had a well-grown fruit or a very beautiful flower which we should like to have immortalised? This has had to go, because words could not describe it as it deserved, and our hand could not give the pencil or brush the impetus necessary to portray it on paper. The acquisition or necessity lies near our door, but how few persons like to open the door and take it in. I live in the centre of a community where some 4000 persons earn their living directly or indirectly by gardening, and during the past winter it was hard work to keep a class of a dozen going, although the charge was only 2s. per head for the session.

And again, as secretary of a large horticultural society I had an offer from a gentleman of a substantial sum of money for prizes for a design of a garden by gardeners under twenty-one years of age, and although I brought it under the notice of fully twenty who were qualified, not one would take up the pencil. Consequently the matter dropped through. Gardeners, wake up!—W. BELL, *Leicester*.

FLORAL FACTS AND FANCIES.—4.

POETS and naturalists have both noted the fact that the wild Daisy braves every sky; there is no month of the year when it may not be seen in bloom by the wayside or along the fields. We may add that in our gardens and houses Daisies are also to be found all the year, varied as to size and colour by crossing or cultivation; one of the most curious, perhaps, is the proliferous or "Hen-and-chicken" Daisy. Those general favourites, the Marguerites, are often called Daisies, though nearly allied to the Asters and the Chrysanthemums, and the usual name reminds us of Herb Margaret, one of the oldest belonging to the "little Cyclops with one eye." Again, there are the Michaelmas Daisies. Our ancestors

were partial to them because they flowered at a time when the garden was getting almost bare; but these gawky plants are largely superseded by more attractive species of the tribe. Probably it was from its flowering late in autumn that the Michaelmas Daisy became a token of "farewell."

For the origin of the name "Daisy" we must inquire of old Chaucer, who is so full of the praise of the "Ee of daie," a flower he evidently associates with dawn, and which he is almost inclined to worship as a type of purity and exalted virtue. He reminds us that into this little flower the Queen Alceste was said to be changed, who sacrificed her life to rescue that of her husband. Following Chaucer many others take the white Daisy to represent "innocence," and partly for this reason, perhaps, partly because children are very fond of the flower, about North Britain it is the Bairnwort. In the name of Margaret (or Marguerite, as we have it now) there may have been, so it is thought, a comparison made between the flower and a pearl, and some Margarets of historic renown have taken the Daisy for their symbol or device, notably our own Margaret of Anjou, whose followers often wore Daisies, and the beloved Margaret of Valois, the "Marguerite of Marguerites" of her royal brother, Francis I. As to the cultivated Daisies, generally the significance of "sympathy" is attached—this may be the floral meaning of our Marguerites; but to the crimson Daisy belongs one that is special, it represents "beauty unconscious of itself." The Italians have given a name to the Daisy expressive of its being markedly the flower of springtide, and the shy habit of the common species has also led to its having in addition the significance which attaches to the Pansy of "thoughtfulness."

Opinions vary with regard to the meaning of the Passion Flower, but a preponderance of authors give it that of "religious feeling" or "deep faith," which is connected with the fancy that saw in the flower emblems of the "passion" or "suffering" of the Saviour of mankind. A curious mistake, however, has arisen in reference to this. Parkinson, indeed, describes the plant as one well known in 1629, his species probably being not the familiar *Passiflora cærulea*, but *P. incarnata*, and alludes to the odd notions of the Jesuits then current; but it is certain the flower was not a sacred emblem during the Middle Ages, because it had not left America. It appears to be the case that the object to be seen on some church glass of old date, which was thought to be the Passion Flower, is really what is called the "Rose-en-soleil," a favourite badge of the Yorkists, drawn in outline, with added embellishment. It does bear a resemblance to the other species deemed so suitable for Easter decoration, and which is frequently represented now on windows or screens. Imagination saw on the column of the flower the scourging post, and its tendrils represented the scourges and bonds, the stigmas were the nails, its stamens the five wounds of our Lord. According to some the ten petals were the Apostles, excluding Peter and Judas; but others took the three sepals also to make the number thirteen, adding Matthias. The inner circle of rays showed the crown of Thorns, the outer and larger circle that of Glory.

Varieties of the Foxglove are, I think, becoming more common in gardens, nor is it surprising that the bells of a plant thus named should be generally fancied to represent "dissimulation" or "insincerity." Though Miss Pardoe, who noticed the wild species growing, as oft it does in the West of England, upon arid unpromising ridges, regards it as a figure of virtue striving against adversity, and appearing more beautiful by contrast. But why should its name be Foxglove? Discussions upon the subject have brought out some curious facts, yet they cannot be said to have settled the question. It seems probable that the name was originally "Fox's Glew," or music, the comparison being not to a glove, but to a bell, referring to one favourite instrument of Anglo-Saxon times, a ring of bells hung upon an arched support. "Fox-bell," indeed, is one of the names for the plant that occurs in Norway. This, however, leaves the "fox" unexplained. A familiar supposition is that instead of Foxglove it should be "Folks'-glove;" the allusion may be, not to the designing quadruped, but to the fays or fairy folk, and in that case "glove" would mean that our ancestors fancied the Foxglove bells might be suitable hand coverings for the tiny people. It is probable, though not quite certain, that the earlier gloves had no fingers. But on the other hand, from its growing oftentimes in places that foxes might frequent some still think the plant received its name from them. It is in evidence that the Celts regarded the fox with reverence; more, that they made gloves, and laid them near his den to propitiate him, believing that if he was tempted to put these on his sense of honour would prevent him touching their fowls!

Probably the old notion, that the honey of the Rhododendron was of a poisonous character, led to its flowers being taken as a symbol of "danger," and the same significance attaches to the Oleander. Both plants were sometimes called "Rosebay." The

name of Bay, like that of "Rose," was given inexactly to a variety of species by our ancestors, because their leaves had a resemblance to the true Bay or Laurel. Turner wrote unfavourably of the Rhododendron—"I have seen this shrub in Italy, and hope it may not come into England; it is like a Pharisee, beauteous without, and within a ravaging wolf;" but some think he meant the Oleander. He was recalling the old stories of the strange effects produced in Pontus and adjacent places by the honey from the Rhododendron, and also of the Azalea. Of course it was the yellow-flowered Azalea that was suspected, our first visitant of the tribe, which has somehow been chosen as a fitting symbol of "temperance." I doubt whether either of these is harmful in our cool climate, whatever they may be in warmer regions. As to the Rhododendron near Cobham Park, famous for its fine display of this flower, there are many bee-keepers; the insects of their hives draw part of their stores of honey from the species, but I do not find that any ill effects have arisen in consequence during any season. It is curious how rich in honey some kinds of Rhododendron are; from the scarlet-flowered *R. arboreum*, grown under glass, it will fall like drops of rain when the shrub is shaken. About the Oleander we have a tale that it poisons some streams of Algeria, upon the banks of which it grows plentifully. Though a handsome plant, it is no longer in favour with us, probably because of its tendency to bleed, which prevents its being kept in proper trim.

Plants of the Daphne tribe call up a vision of the nymph Daphne, who, fleeing from Apollo, was transformed suddenly into one of these, and thus escaped. Did this myth arise out of the fact, that, like other evergreens, they can thrive in winter when sunshine is scarce? Hence the Spurge Laurel, with its green, slightly fragrant flowers, became a symbol of "coquetry," because Daphne, first fascinated the deity, then ran away. To the Mezereon, said to derive its name from a Persian word, is attached the meaning of "a desire to please," and its early array of pink blossoms is a welcome omen of Spring's approach. I wonder the winter-flowering variety is not more cultivated. —J. R. S. C.



ODONTOGLOSSUM CRINITUM SAPPHIRATUM.

ACCORDING to my experience *Odontoglossum crinitum* and its variety *sapphiratum* are not generally well known in gardens, inasmuch as they are seldom seen in ordinary collections of Orchids. The type of medium growth, the pseudo-bulbs small and ovoid in shape, the leaves long and narrow. The flowers are borne on a slightly arching raceme, but are somewhat clustered near the upper part. In the variety *sapphiratum* the spots, of a bright soft bluish purple tint, are shown up most clearly on a white or light ground; the sepals, petals, and lip being long, tapering to a twisted point; the sepals and petals narrow, and nearly equal in size, the lip being triangular at the base.—C. B.

[The illustration (fig. 22) represents *Odontoglossum crinitum sapphiratum*, which is a graceful Orchid, and, as our correspondent remarks, apparently "not generally known in gardens."]

DENDROBIUM HILDEBRANDI.

ACCORDING to the "Kew Bulletin" this handsome species was collected in the Shan States by H. H. Hildebrand, Esq., in April, 1893, and sent to Messrs. Hugh Low & Co., of Clapton, together with living plants, which flowered in their establishment a year later. It has the general habit of a strong *D. signatum*, *Rehb. f.*, to which it is perhaps most allied. The sepals and petals are somewhat twisted as in *D. tortile*, *Lindl.*, though their shape and colour are quite different. The sepals and petals are very light whitish yellow, and the lip deep orange-buff with a broad light yellow margin. Mr. Hildebrand collected three different forms—one with sepals and petals pale green and lip sulphur yellow, one with sepals and petals creamy pink and the lip yellow, and a third like the last, with the addition of two dark chocolate blotches in the throat. He observes that it grows in magnificent huge masses, and on one of the plants he counted upwards of 1500 blooms. The old pseudo-bulbs show it to be as floriferous as *D. nobile*, *Lindl.*

DENDROBIUM HAMATUM.

This is a very distinct species which flowered in the establishment of M. Alexandre Regnier, of Fontenay-sous-bois, Seine,

France, in April last, having been introduced by him from Cochin China. The "Kew Bulletin" says it belongs to the section *Pedilonum*, but, so far as can be ascertained, is very different from any described species. The sepals and petals are very light whitish yellow, with several broad stripes composed of innumerable purple dots more or less suffused together. The pandurate lip is light yellow with a faint purple stain on the middle of the front lobe. The callus of the lip is peculiar, being a kind of boat-like extension of the conduplicate sides of the unguis, and is stained with purple in the cavity. The name is given in allusion to the shape of the mentum.

ODONTOGLOSSUM ROSSI MAJUS.

THIS is a useful and effective Orchid when well grown, but there are many persons who do not succeed with it so well as a



FIG. 22.—ODONTOGLOSSUM CRINITUM SAPPHIRATUM.

gardener with whom I am acquainted. Plants that have been suspended at the warmest end of the *Odontoglossum* house since they flowered in October last have completed their growth. At this season they are liable to start again unless they are removed to the coolest end of the house, or better still to a very cool airy position. This will retard them. They must still be liberally supplied with water and shaded from bright sunshine. I have found that no injury results from suspending them under the shade of Vines, where the ventilators are open day and night. On established plants an autumn growth is not desirable, and may with a little care be prevented. It is clear that this variety will bear without injury a very low temperature.

When a succession of flowers is required over a lengthened period of time some must be pushed into growth in a warmer atmosphere than is necessary for the general stock. The only drawback to this is the liability of the plants to make a second

growth. Few Orchids with which I am acquainted yield a better return for the room they occupy and the labour required in cultivation. The flowers last well in a cut state, and are suitable for any purpose, especially for furnishing small vases. All my plants are grown in small shallow pans, 5 and 6 inches in diameter, and very little more than 2 inches deep. A good layer of crocks is placed at the base, and the plants potted in peat fibre and small lumps of charcoal, with a thin layer of moss on the surface. The plants are but slightly elevated, as they require very little rooting material, but what is given them should be open and sweet. From six to twelve good flowering pseudo-bulbs are grown in each pan.—SPECIALIST.

THE MANRESA VINE AND ITS CROP, 1335 LBS.

I SEND you the last bunch from our large Vine, so that you may taste the flavour; also a few leaves, that you may note their size and substance. A visitor here was so taken with the Vine he thought he would write about it. I can now give you the exact weight of the crop, which has deceived me very much, and I am sorry for leaving so much fruit on as 1335 lbs.—all about the same as this bunch I send. We have had many persons to see the Vine this season, including Mr. Kay, of Finchley, and every one was astonished.—M. DAVIS.

BEING on a visit at present at Manresa House, I quite share in the satisfaction expressed by others in the *Journal of Horticulture* in regard to the celebrated Vine. It is my delight to visit it each day and feast my eyes on its beauty of form and bountiful productivity. For symmetry and cleanness of stock and branch as well as for vigour and vitality from root to tiniest tendril it appears to me a marvel. Its prodigious stretch is in no part affected by weakness or deformity—an immunity that rarely happens in cases of such abnormal growth.

As for the fruit, it is a ravishing sight to view the heavy purple pendants hanging at short and regular intervals all along its immense branches, right and left. In my appreciation of the glorious clusters I have not been limited to the sense of sight. During the whole of last week I, with other guests here, was treated to an abundant supply of the Grape as dessert, and I never tasted any fruit of the kind more delicious, though I may call myself a connoisseur on this point, having lived for years in Grape-growing countries. The merits of the Manresa Grape as a table luxury consist in the satisfying size of the berries, the coolness and consistence of their juices, and a certain flavour which is at once a taste and a perfume that through sense reaches sentiment and exalts and refines the ideal while gratifying the material man. It is a tonic of the pure *agro-dolce* kind.

I quite agree with the praises that have been bestowed in several issues of the *Journal* on Mr. Davis, the planter and caretaker of this Vine. It certainly adds very much to the interest and admiration the plant itself excites in the observer to know that it is of nowise doubtful or mysterious origin. Here stands the man who set the shoot thirty years ago from which this noble growth developed. Thus no conflicting array of grandfathers can be marshalled forth to account for the setting of the Manresa Vine, as in the case of other notable specimens of more ancient years. I would respectfully suggest that if there be an institute that gives honour where honour is due to horticultural enterprise and success it should bestow some distinction of title or insignia on Mr. Davis.—R. HOWLEY, D.D., *Manresa House, Roehampton*.

[We fear there is small chance of any distinctions being bestowed on anyone for meritorious work in practical horticulture in this country unless he can show something in a hall or a marquee. It seems very absurd that medals are granted for half a dozen bunches of Grapes, or less; chosen, it may be, as the best from as many Vines, whereas an example of patient and skilful culture extending over a generation, of a Vine bearing much more than half a ton of Grapes, immeasurably superior to half the Black Hamburgs which are seen at shows, should have no official mark of recognition. But so it is.]

Mr. Davis could not take his crop of 12 cwt. of Grapes from a Vine of his own rearing to a show, and therefore his unique accomplishment is ignored. The "last bunch" of the season's crop was of first class exhibition character, not for its weight, though it was heavy enough, 3 lbs., so much as for the size, colour, and quality of the berries. They averaged $3\frac{1}{4}$ inches in circumference, some being $3\frac{1}{2}$ inches, and all as black as Sloes, fleshy, juicy, and equal to the best in flavour we have tasted.

No living man, other than Mr. Davis, can point to a Vine of his own raising approaching the noble specimen at Manresa in size, health, training, and high condition, the result of masterly cultivation over the period above named; and Dr. Howley must be

surprised to learn that we have no institute in this country to bestow well-merited honour for such an unparalleled achievement.

The largest leaf sent was 15 inches in diameter, of remarkable substance, and the best of colour. These leaves and the fruit do not suggest that the crop has been unduly exacting.]



NATIONAL ROSE SOCIETY.

AMATEUR CHAMPIONSHIP TROPHY CLASS AND MULTIPLICITY OF EXHIBITS.

I THINK the correspondence sent you so far on these subjects has proved incontestably that those most directly interested in one of the subjects—viz., the amateur trophy class, are in favour of their future exhibits consisting of thirty-six and not forty-eight varieties. When Mr. Lindsell, Mr. Pemberton, Mr. Machin, and Mr. Slaughter, who have competed in this class for many years, say they desire this alteration surely there are strong and substantial reasons for the proposition.

Mr. Lindsell distinctly states that only twice has he in recent competitions for forty-eight varieties considered the winning box to be worthy of its position. I knew that he and other amateurs of experience were in agreement with me that there is always a considerable "tail" in the exhibits of this class, and notwithstanding the opinion expressed by another writer in contradiction to Mr. Lindsell that he has seen a considerable number of boxes without a single bad flower, his opinion as an expert can hardly be said to be on an equality with that of the great Hitchin amateur rosarian.

In regard to the multiplicity of exhibits I was fully aware I should be trampling on the susceptibilities of several exhibitors, some of whom no doubt feel there is justification in my proposals, but I am confident that I have not gone very far wrong in what I have stated, nor in my proposal, which was tentative, and no doubt open to improvement; and I may here say I did not intend to suggest that garden Roses, new Roses, or the open classes should come within its scope. It will be granted that everyone reserves his best flowers for the contests in which he more especially wishes to win, and that the Roses placed in his other exhibits of minor consequence are flowers of a quality inferior to the boxes he is principally interested in. This proposition being granted, and every exhibitor of position and experience will agree with it, I further state that more than frequently these minor exhibits are not only of no advantage to the shows of our Society, but in reality are discreditable to us as the leading Society in Rose culture. I contend, therefore, that the objection made on the score that the Society may suffer by fewer exhibits is one that will not bear criticism, as I consider the National Rose Society shows will stand higher if the flowers staged are of a more select class.

I go further than this and say that the numbers of exhibits will not suffer, as the knowledge that A, B, C, D, or L, M, N and O, are restricted from over-exhibiting, and cannot in future show more than a reasonable number of Roses, will stimulate competition in classes which the more timid rosarians may then hope to gain honour in. As I have said before in the *Journal of Horticulture* so I now repeat, I should be delighted if the winning of money could be expunged from the arrangements of our amateur classes. We should soon see who were true amateurs, and whether some would be anxious to gain honour merely as their guerdon of success.

I have this year been, through the disability imposed on me by the frosts of May, to many shows without any obstacle to the full enjoyment of the flowers staged by others for exhibition, and I have had more than my usual opportunity of discussing N.R.S. matters in many places with rosarians as far south as the Isle of Wight and as far north as Yorkshire. Having been north and south twice, as well as in the metropolitan and midland districts, I have come to the conclusion that although it may suit some to write in lofty tones, in the manner of Joseph Surface, of the absence of grumbling in the N.R.S. and the general superiority of ourselves, as also on the immorality of jealousy, there is a want of candour in such statements, as it is well known that they are totally at variance with the true position of affairs, and that there is much grumbling as well as jealousy. There is cause for annoyance, and it is idle to ignore the fact, or pretend to do so.

It is with the object of removing this soreness that I have asked you

to ventilate these questions, and it is not by contradiction, strong assertion, or moral platitudes that such evils will be cured, but by a serious attempt to find an effectual and permanent remedy.—CHARLES J. GRAHAME.

I HAVE carefully read the letters of Messrs. Grahame, Lindsell, and others on the above subject in your columns during the last few weeks. I do not for one moment wish to encourage "Rose showing" as opposed to "Rose growing." Mr. Lindsell, who has proved that he can usually show forty-eight varieties better than other amateurs can at the Crystal Palace, has stated his opinion, which ought to carry considerable weight. If Mr. Lindsell (page 108) confesses that his forty-eights usually have a tail—i.e., half a dozen, or more, blooms in them inferior to the rest—surely we may take it for granted that amateurs' forty-eights usually have a tail. If thirty-six varieties are enough for Mr. Lindsell and others to show, they ought to be for the majority of amateurs. The trade growers are only called upon to show thirty-six distinct varieties for the Jubilee trophy at the northern provincial show of N.R.S., and surely "the best man's" Roses are picked out and win the coveted prize. Is it not quite as possible, if not more so, to pick out the best amateur's Roses in a thirty-six distinct competition at the metropolitan show? I say this, although I contend that, all other things being equal, the more the number of varieties to be shown is reduced the greater the chances of the smaller growers as opposed to those of the larger. I say all other things being equal, because the smaller growers can and do beat the larger under various circumstances—e.g., when the Roses of the former are in bloom, and those of the latter not in.

Having carefully considered the whole matter, I have decided in favour of thirty-six being the number of varieties to be shown at the Crystal Palace for the amateur trophy instead of forty-eight distinct. There are few amateurs who can show a good even forty-eight, and fewer can show forty-eight than can show thirty-six. I would rather see a good level thirty-six than an uneven forty-eight, and think the change from forty-eight to thirty-six might induce more exhibitors to compete in the trophy class.

With regard to the "number of prizes an exhibitor ought to be permitted to take," I should think this is a matter which ought to receive the due attention of the N.R.S. I have not had time to fairly weigh this matter, but it seems to me that the present classification of exhibitors at N.R.S. shows must keep an exhibitor in his proper division; I mean giants have to compete with giants, and so on; and as our old yachts (Foxhounds) motto stated, "Every dog has its day," so every exhibitor will probably have his. Perhaps the present possible maximum number of prizes that can be won by any one exhibitor at any one show might be curtailed with advantage, but I am an advocate for a "happy medium in all things," and I am not in favour of so curtailing the number of prizes as to make the sum of the maximum possible ones permitted to be taken so ridiculously small that the honour of winning the said sum would cost exhibitors residing at any considerable distance from the place of exhibition more than the incidental expenses incurred in winning them. Such restrictions would be unfair to exhibitors residing far from the place of exhibition; in fact they would be exclusive to them, and all in favour of local exhibitors. Some societies put such restrictions on concerning the number of prizes to be taken, the result of which is, that if an exhibitor travelling a long distance won three first prizes (i.e., the maximum number permitted to be taken) the sum of them would not cover railway expenses, and consequently he would have to pay through the nose for winning the honour. It is not every exhibitor who can, or will, afford to exhibit under the above circumstances. In fixing the "happy medium" we must think of exhibitors of all classes, and who reside at all distances from the place of exhibition. I do not believe in what is vulgarly called "pot hunting" any more than I do in "paying through the nose for honour."

The cost of conveyance of garden Roses, in addition to exhibition varieties, is a serious item, owing to the large boxes some of us find it necessary to take about with us. I almost fancy my box must have "excess luggage" somewhere on the top in letters only visible to railway officials. Please do use your influence with the railway companies, and get them to be as lenient as possible, or else the conveyance of those exhibits of garden Roses, which are so much admired by the many railway travellers amongst others, will cost the fortunate and unfortunate exhibitors a considerable sum before landing home from the next Crystal Palace show.—H. V. MACHIN.

W. R. RAILLEM (page 125) asks the secretaries of the N.R.S. to explain the reasons which induced the Committee in 1882 to change the

number of varieties in the premier amateur class in the metropolitan schedule to thirty-six, and in 1884 to revert to forty-eight varieties. As far as I can remember there were no exceptional reasons for either of these changes, and therefore they need in no way influence the present discussion. The fact is that ever since this champion class was started there has been an almost equal division of opinion on this point—some favouring the larger and some the smaller number of varieties. One thing I think is certain, and that is that it would be a very serious mistake to lower the number of varieties in the champion class below thirty-six.—E. M., *Berkhamstead*.

MAY I trespass once more on your space and amend an incorrect statement which I made in last week's issue with reference to the number of Roses required in this class in the year 1881? The number being raised to forty-eight in 1884, an extract from the report in the *Journal* of the 1884 exhibition may be of interest:—"There was a noticeable falling off in the quality of the collections in the class for forty-eight, and it appears that this is too large a number for amateurs to make up in a satisfactory manner, and it is thought probable that the society will reduce the number to thirty-six again."

I have been asked if I can remember why the class was raised to forty-eight. If my memory serves me, Mr. T. B. Hall contended that whilst the National Rose Society required only thirty-six for the championship, other societies, notably the Crystal Palace, had forty-eight as the chief class, and surely the champion trophy ought to be competed for by the largest number of blooms required of an amateur; forty-eight for the amateur was like seventy-two to the trade grower. Besides which, reducing the number of Roses reduced the number of varieties that would be cultivated, and many would be lost sight of altogether. From this point of view I think Mr. T. B. Hall was right. But a glance at the subjoined table will show that the class was raised from thirty-six to forty-eight at the loss of competition. Observe the gradual falling off in the number of competitors. I advocate a return to thirty-six because I think there will be greater competition. But should forty-eight be retained, then to ensure a good competition you must hold the show later, more at the height of the season.

At the present more or less early date it is all chance whether the majority of champion exhibitors can cut forty-eight, and I venture to say, although I know I am treading on dangerous ground, that had the metropolitan show been held this year on July 10th we should have had a grand competition in the class for forty-eight. Wolverhampton on the 10th had by far away the best Roses of any show that I attended this year, and I am told that the Roses at Gloucester on the same date were very good. There are two courses open to the Society—either to hold the metropolitan show on the first Saturday in July, and reduce the number to thirty-six; or else to hold it on the nearest Saturday to July 6th, and retain the forty-eight.—J. H. P.

CHALLENGE TROPHY COMPETITION FROM 1881 TO 1892.

Year.	No. of Blooms.	First.	Second.	Third.	Fourth.	No. of Competitors.
1881	48	R. N. G. Baker.	Tomlinson.	T. B. Hall	—	3
1882	36	Whitwell.....	Waterlow..	C. Davis	Mitchell ..	10
1883	36	Slaughter ...	Haywood..	Girdlestone ..	Mitchell ..	11
1884	48	Haywood.....	Berners ..	Girdlestone ..	Waterlow..	8
1885	48	Pemberton	Grant	Girdlestone ..	Hales	11*
1886	48	Pemberton	Grant	Haywood	Budd.....	8
1887	48	Grant	Pemberton.	T. B. Hall	Slaughter..	9
1888	48	R. N. G. Baker.	Grant	Slaughter	T. B. Hales.	6
1889	48	Grant	Pemberton.	Budd	Pitt	Unknown
1890	48	Lindsell	Pemberton.	Foster Melliar.	Slaughter..	6
1891	48	Lindsell	Budd	Pemberton ..	Slaughter..	5
1892	48	Lindsell	Budd	Pemberton ..	—	4

* July 7th.

STANDARD ROSES.

So often as these are condemned there are still several points in their favour, providing one would but grow suitable varieties only in this form. But so long as the purchaser insists upon certain kinds being supplied to him in standards, simply because a bloom or two of that particular variety commended itself to his fancy—probably in an exhibition stand or in some other cut state—we are sure to find many most unsatisfactory Roses when cultivated as standards. But there are standards and standards. Some I have recently seen were really splendid. Not only is it a matter of judicious selection as regards varieties, but we must pay due attention to providing the plants with a suitable position. Those I saw and so much admired were on the lawn and by the sides of the drive approaching an old mansion entirely surrounded with trees. These were not sufficiently close to give shade, but afforded just the amount of necessary shelter from strong winds which is so essential a point in the cultivation of standard Roses. They were grand, and the gardener said he could do little with dwarfs in

comparison. It may be that the surroundings were rather too confined for dwarfs to experience sufficient circulation of the atmosphere upon many occasions; certainly the standards looked remarkably well, and carried a grand show of blooms.

There is a great point in favour of standard Roses—*i.e.*, their freedom from storm splashes of dirt. This is a consideration with those varieties of drooping habit, such as Madame Bravy, Rubens, and others, which are often spoilt in a most grievous manner during a heavy shower. Then what finely finished blooms we often obtain from standards and half-standards. None of that tendency towards coarseness or oversucculency in growth, and which results in many half-finished and malformed blossoms. Again, we can never see the full beauties of many varieties similar to the Austrian Briars, Maréchal Niel, Celine Forestier, and many more, unless they be grown either as standards or against a wall. In the former case the long shoots with their pendulous tendency form a most delightful specimen of weeping Rose, in which the beauties of these and similar habited kinds are seen to the very best advantage. It is not so much a variety of extra vigour that is required, but one of those that possess great vitality with free growth. For example, we are not likely to succeed with Louis Van Houtte, but La France, Duke of Edinburgh, Mrs. John Laing, Dupuy Jamain, and others of like character will thrive. Among the Teas and Noisettes we also need give a little care in selection. Ma Capucine, Comtesse de Nadaillac, and Souvenir d'Elise Vardon cannot prove so satisfactory in this form as Madame Lambard, Marie Van Houtte, and others which are strong and free, yet not given to making long growths of the Gloire de Dijon and Maréchal Niel type. Whatever class of Rose we choose from, the varieties selected must have free if not vigorous growth.

I have often cut the finest blooms from maiden standards of a dwarf type than usual, especially among the Teas. A healthy hedge Briar of 2 feet or less will suit many Teas or Noisettes to perfection, and produce a greater percentage of highly finished blooms than is often the case among dwarfs.

Much as standards have been abused it will be a long time before they go out of date where one bears these essential points in mind and does not expect all varieties to do equally well and in all positions. Even dwarfs will not do this, and growers should certainly ascertain if a favourite variety is of suitable growth or not before ordering it in standard form. Nurserymen are perforce compelled to grow a few really unsuitable kinds in this form to supply the demand, as many persons refuse to have any other variety, although the colour may be very similar and growth far superior.—PRACTICE.

ROYAL HORTICULTURAL SOCIETY.

AUGUST 14TH.

THE Drill Hall, Westminster, was well filled on this occasion, hardy flowers being particularly fine. Orchids, too, made a good display, and fruit was well represented. The attendance, however, was not quite so large as usual.

FRUIT COMMITTEE.—Present: P. Crowley, Esq. (in the chair); with Messrs. H. J. Pearson, G. Bunyard, J. Cheal, G. Taber, G. W. Cummins, W. Iggulden, A. Dean, W. H. Divers, G. Norman, J. Hudson, G. Wythes, J. Bates, and J. Wright.

Some imposing collections of fruit on the side tables, notably Apples and Pears from Messrs. G. Bunyard & Co., with Gooseberries and other fruits from Messrs. Jas. Veitch & Sons; also Pears from Mr. Nicholas, as well as bearing plants of the Frogmore Selected Tomato from Mr. O. Thomas, attracted considerable attention.

Mr. J. Chinnery, Downton Castle Gardens, sent fine samples of Veitch's Main Crop Pea. A vote of thanks was awarded. The pods were very large and full, and the variety has been recently certificated (vote of thanks).

Messrs. Sutton & Sons, Reading, sent dishes of their *Golden Nugget* and *Red Dessert Tomatoes*, small and highly attractive fruits in huge clusters. These varieties having won three marks of merit in the Chiswick trials were now awarded first-class certificates.

Messrs. R. Veitch & Sons, Exeter, sent bearing plants of a Kidney Bean Wonder of the West, a runner form of the so-called French Bean Canadian Wonder, a full cropper with fine pods. The Committee desired to see it grown with other varieties of the same character, such as Sutton's Tender and True, for determining the question of distinctness before making an award. The same firm also sent fruits of Flying Dutchman Tomato, a promising variety, requested to be tried at Chiswick. Messrs. Cannell & Sons sent fruits of Cannell's King Tomato, a gigantic form of Perfection, large enough for anything or anybody. Mr. Jones, Ryecroft Nursery, Lewisham, sent fruits of his "Improved Perfection" Tomato, very large, but the name, though expressive, is anomalous, for "perfection" means complete, the highest possible attainment in excellence, beyond which there can be no improvement.

Mr. F. Nicholas, The Gardens, Upleatham, Newark, sent a dish of Hale's Early Peaches from an open wall. They were splendidly coloured, and a vote of thanks awarded. Mr. J. Crawford, Coddington Hall, Newark, sent dishes of Negro Largo Figs, La Versailles Currants, and Hale's Early Peaches, all very fine, and a cultural commendation was awarded.

Messrs. Johnson & Son, Boston, sent bearing haulm of the Boston Unrivalled Pea, a second early Pea with a good crop of fine pods. Recommended to be grown at Chiswick; as also was a selected form of Dwarf Kidney Bean sent by Mr. G. Wythes from a sowing made on June 7th—an excellent dish.

Mr. J. Fulford, Bickley Hall, sent a basket of Noble Strawberries from plants which had been forced in the spring and then planted out in the garden. The fruits were very fine, and a cultural commendation was awarded.

Mr. Joseph Fitt, gardener to Earl Cowper, Panshanger, sent twelve fruits of the Ripley Queen Pine, and a silver Banksian medal was recommended.

Mr. C. House, Chalvey, Bucks, dishes of three seedling Plums. No. 1, medium eye yellow; 2, large yellow; 3, medium size red. The two latter were thought to be so promising as to be worth sending again, with bearing branches, to show productiveness. Sir Trevor Lawrence, Bart., sent specimens of Cabbage Lettuce, The Giant; very large, but not otherwise satisfactory. Mr. Owen Thomas, Royal Gardens, Windsor, sent three Melons: 1. The Duchess, not quite ripe, in fact crisp; 2, Frogmore Orange, which had a peculiar, strong flavour; 3, Royal George, large, but not good to the rind. The Duchess, a white Melon inside and out, with scarcely any rind, was the most highly thought of, and a desire was expressed to see it again. As it has been shown over-ripe and under-ripe it is hoped it will be right next time. There was no mistake about the Frogmore Selected Tomato. A box of fruits represented a splendid sample, bright, firm, uniform, just the right size, and very tempting. The fruiting plants accompanying them combined constitutional vigour with productiveness, and though this Tomato was awarded a certificate in the spring as a superior winter variety it is evidently quite as serviceable for summer cultivation. A cultural commendation was awarded.

Silver Knightian medals were unanimously awarded to Messrs. J. Veitch & Sons and G. Bunyard & Co., the former for eighty dishes of Apples, Pears, Plums, and Gooseberries—the latter particularly fine and good; the latter for fifty dishes of Apples and Pears—a great display so early in the season. Mr. Miller, gardener to Lord Foley, Ruxley Lodge, Esher, was adjudged a silver Banksian medal for fourteen dishes of hardy fruit.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); Messrs. H. Herbst, H. B. May, C. T. Druey, R. Dean, G. Stevens, C. T. Bause, W. Bain, H. Cannell, T. Godfrey, C. E. Shea, H. J. Jones, J. Walker, E. Beckett, H. Turner, G. Paul, G. Gordon, J. Jennings, and W. Watson.

Messrs. J. Veitch & Sons contributed hardy flowers in variety, effectively arranged in bunches, with sprays of *Gypsophila paniculata* (silver Banksian medal). Messrs. J. Veitch & Sons also sent three plants of *Calla Elliottiana*, also some hybrid *Rhododendrons* and *Begonia compacta*. Messrs. F. Sander & Co had plants of *Bougainvillea glabra Sanderiana* and *Begonia Rajah*, a first-class certificate being awarded for the latter. Messrs. Webb & Brand, Saffron Walden, had two stands of Hollyhocks, and Mr. Mortimer, Farnham, Surrey, sent some very distinct Coleuses, *Pride of Farnham*, *Surprise*, and *Monarch* being the best. A group of scented-leaved *Pelargoniums* came from Mr. T. F. Dranfield, Bulwick Gardens, Wansford (bronze Banksian medal), and Messrs. R. Veitch & Son, Exeter, had some annuals and a small plant of *Platycodon Mariesi album*, for which an award of merit was adjudged. Mr. A. Spurling, Blackheath Park, sent blooms of border Carnations, securing an award of merit for *Paradox*; while Mr. J. Walker, Thame, Oxon, contributed a grand collection of Asters and Dahlias, the flowers being large, handsome, and richly coloured (silver Banksian medal).

Messrs. H. Cannell & Sons, Swanley, sent a collection of Cockscombs, of large size and distinct colours. A striped tuberous *Begonia* named *Striata* was shown by the same firm, who also arranged an extensive collection of annuals and Antirrhinums, effectively arranged in bunches with sprays of *Asparagus* (silver Banksian medal). Messrs. Paul and Sons, Cheshunt, had a very fine collection of herbaceous *Phloxes* in variety, and a hamper of the comparatively new *Rose Allister Stella Gray*. Plants of a distinct *Clematis* named *Madame Edward Andre* were also shown by the same firm, and much admired (silver Banksian medal). Messrs. J. Laing & Sons, Forest Hill, sent hardy flowers, bright and beautiful, and comprising all the well-known forms (silver Flora medal).

Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, sent a splendid collection of Dahlias of the various types, and hardy flowers in variety. The Dahlias were very tastefully arranged in sprays with their own foliage, and included many of the latest novelties. The new single Cactus forms were conspicuous, as were the Cactus and decorative types. An award of merit was adjudged for *Crawley Gem*, a Cactus variety of great merit (silver Flora medal). Mr. J. Douglas sent blooms of choice Carnations, and secured awards of merit for Miss Ellen Terry and *Waterwitch*, both of which are described elsewhere.

Mr. H. Jones, Ryecroft Nursery, Lewisham, sent blooms of tuberous *Begonias*, arranged in boxes with fronds of *Adiantum*. Plants of *Begonias* were also staged by Mr. Jones, showing the excellence of his strain (silver Banksian medal). Messrs. Kelway & Sons, Langport, contributed a very fine collection of *Gladioli*, and secured awards of merit for the following varieties:—*Dodo*, *Utopia*, *Kenneth Kelway*, *Xenia*, and *Vigilant*. These are described below. *Gaillardias* were also shown in splendid condition by the same firm, who likewise had hardy flowers and the Japanese Wineberry, for which a first-class certificate was awarded (silver Flora medal). Messrs. Dobbie & Co., Rothesay, had a charming collection of Carnations arranged in sprays (bronze Banksian medal).

Mr. W. Bain, gardener to Sir Trevor Lawrence, Bart., sent flowers of *Crinum Makoyanum* and *C. Powelli* (bronze Banksian medal), whilst Mr. Walters, The Gardens, Eastwell Park, Ashford, had *Gloxinias* and *Streptocarpus* in variety (bronze Banksian medal). *Crotons* were

splendidly shown by Mr. McLeod, gardener to J. P. Morgan, Esq., Dover House, Roehampton, who sent a collection of thirty-seven varieties. The plants were well grown and beautifully coloured (silver Flora medal). Mr. J. Fitt, Panshanger Gardens, Hertford, sent blooms of *Magnolia grandiflora* and *Zinnias*, and from Mr. H. B. May, Upper Edmonton, came a collection of Ferns. The last named exhibitor secured first-class certificates for *Adiantum Hensleyana*, *Pteris biaurata argentea* and *P. gracilis multiceps*, and an award of merit for *Adiantum plumosum* (silver Flora medal). Mr. G. Wythes, gardener to the Duke of Northumberland, Syon House, Brentford, sent a magnificent group of *Campanula pyramidalis*, including the dwarf form, *C. pyramidalis compacta*, which was certificated some time ago. The plants were admirably grown and profusely flowered (silver-gilt Banksian medal). A group of dwarf *Cannas* in pots came from the Royal Horticultural Society's gardens at Chiswick, and the plants were very effective.

ORCHID COMMITTEE.—Present: Dr. M. T. Masters (in the chair); Messrs. J. O'Brien, H. M. Pollet, H. Ballantine, T. W. Bond, H. J. Chapman, E. Hill, J. Douglas, W. H. White, W. H. Protheroe, and W. Cobb.

Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, sent a number of choice Orchids with other plants. Amongst the former were *Cattleya Atlanta*, *Lælia Stella*, and *Cypripedium Morganæ langleyensis*. Mr. R. Swain, gardener to H. Hollis, Esq., Beechcroft, Edgbaston, sent a fine variety of *Cattleya gigas* with handsome flowers; some plants of *Diza kewensis*, which it was said had been in flower for six weeks. W. R. Lee, Esq., Beechlawn, Audenshaw, near Manchester, secured an award of merit for *Cypripedium superbiens Elliotianum*, which was raised by Mr. Billington. A description of this is given elsewhere. R. J. Measures, Esq., Cambridge Lodge, Camberwell, sent some good varieties of *Cypripedium leucochilum* and others for which awards of merit were accorded. Messrs. Linden, Brussels, had plants of *Lælio-Cattleya elegans* var. *Treyerani*; *L.-C. elegans lilacina*; and *Cypripedium Denisianum*.

Messrs. Hugh Low & Co., Clapton, contributed a group of Orchids, including *Vandas*, *Saccolabium cœleste*, and a large number of *Cypripedium Charlesworthi* (silver Flora medal). Messrs. W. Lewis & Co., Southgate, sent a small group, including *Habenaria carnea*, *H. carnosa nivos*, and *Cypripedium callosum leigatum*. Mr. W. C. Walker, Percy Lodge, Winchmore Hill, sent blooms of *Stanhopea inodora* (botanical certificate), and some *Epidendrums*. A small group of *Dendrobium formosum giganteum* sent by Messrs. Condor & Raphael, King's Langley, Herts, attracted notice. A small collection of choice species from the nurseries of Messrs. B. S. Williams & Sons, Upper Holloway, was also noticeable, *Phaius Henryi*, *Dendrobium mutabile* (botanical certificate), and *Cattleya Blesensis*, being very good. Mr. Bond, gardener to C. L. N. Ingram, Esq., Esteed, Godalming, had a fine plant of *Lælia elegans Præstans*, Ingram's variety, and an award of merit was accorded for it. Messrs. F. Sander & Co., St. Albans, sent a group of *Oncidium Jonesianum* in variety, and *Bletia Watsoniana*, a new species, for which an award of merit was adjudged. Mr. T. Statter, Stand Hall, Manchester, had a collection of cut blooms of *Lælias* and *Cattleyas* (silver Banksian medal), also plants of *Cypripediums*, securing an award of merit for *C. Excelsior*. This is described below. Mathew Wells, Esq., Broomfield, Sale, gained a first-class certificate for *Lælio-Cattleya Broomfieldense*.

CERTIFICATES AND AWARDS OF MERIT.

Adiantum Hensleyana (H. B. May).—This is a distinct species with finely cut fronds of a pale green colour (first-class certificate).

Adiantum plumosum (H. B. May).—A light coloured Fern of great beauty, the fronds being large and finely cut (award of merit).

Begonia Rajah (F. Sander & Co.).—An ornamental foliage Begonia, of apparently dwarf habit. The leaves are shining reddish brown, veined bright green (first-class certificate).

Bletia Watsoniana (F. Sander & Co.).—A new species, with bright rosy-pink flowers borne on spikes about 15 inches in height (award of merit).

Cattleya Ashtoniana (W. Lewis & Co.).—This is said to be the result of a cross between *C. Harrisoniæ* and *C. Warszewiczii*. The sepals and petals are rosy mauve, as is the lip, with the exception of the rich crimson lobe, and yellow in the throat (award of merit).

Carnation Miss Ellen Terry (J. Douglas).—A grand variety with large clove-scented white blooms (award of merit).

Carnation Waterwitch (J. Douglas).—A fine blush coloured variety, the blooms being large and of good form (award of merit).

Carnation Paradox (A. Spurling).—A rich crimson bloom of moderate size and good form (award of merit).

Cypripedium leucochilum var. *aureum* (R. J. Measures).—The flowers of this are larger than those of the type, and cream coloured, spotted dark brown (award of merit).

Cypripedium tessellatum porphyrum (R. J. Measures).—This is the result of a cross between *C. concolor* and *C. barbatum*. The flower is small, distinct, and of a reddish brown colour (award of merit).

Cypripedium Godefroyæ var. *Cambridge Lodge* (R. J. Measures).—A distinct form with small white flowers, thickly spotted dark purple (award of merit).

Cypripedium superbiens Elliotianum (R. Lee).—This is a striking variety of the *superbiens* type. The dorsal sepal is large, greenish white striped brown, the petals being similarly coloured, but spotted chocolate. The lip is large and reddish brown (award of merit).

Cypripedium Excelsior (T. Statter).—This is a hybrid the result of a cross between *C. Rothschildianum* and *C. Harrisonianum*. The dorsal

sepal is greenish white veined brown, the petals being covered with chocolate coloured spots. The lip is rather pointed and reddish brown (award of merit).

Dahlia Crawley Gem (J. Cheal & Sons).—A neat but beautiful variety, rich crimson colour (award of merit).

Delphinium Sarah (Kelway & Sons).—A charming pale blue variety, the spike being long and the flower large (award of merit).

Gladiolus Kenneth Kelway (Kelway & Sons).—A richly coloured hybrid of great merit, the spike being very large, as are the individual flowers (award of merit).

Gladiolus Xenia (Kelway & Sons).—A distinct variety, with large mauve coloured flowers, richer in the throat (award of merit).

Gladiolus Vigilant (Kelway & Sons).—The flowers of this new variety are rich purplish magenta and very large (award of merit).

Gladiolus Utopia (Kelway & Sons).—A charming variety with light coloured flowers, suffused and tinted rosy pink (award of merit).

Gladiolus Dodo (Kelway & Sons).—This variety has unusually large flowers, bright rosy pink in colour, suffused with a richer shade (award of merit).

Lælia elegans Præstans, Ingram's variety (C. L. N. Ingram).—A fine form of this well-known *Lælia elegans*, the flowers being unusually rich in colour (award of merit).

Lælio-Cattleya hybrida broomfieldense (M. Wells).—A hybrid, the result of a cross between *Cattleya aurea chrysotoxa* and *Lælia præstans*. The sepals and petals are rosy mauve, the lip being rich crimson (first-class certificate).

Lælia elegans dulcatense (W. Cobb).—This is a dark coloured form of the well-known type. The lip is very richly coloured (award of merit).

Phlox Iris (Paul & Sons).—A very distinctly coloured variety, the flowers being a rich purple shade (award of merit).

Pteris biaurata argentea (H. B. May).—A charming Fern with long handsome fronds, deep green, centred white (first-class certificate).

Pteris gracilis multiceps (H. B. May).—A handsome drooping Fern with finely divided pinnæ, each frond being beautifully crested (first-class certificate).

Platycodon Mariesi album (R. Veitch & Sons).—This is a white form of *P. Mariesi*, and has a chaste appearance (award of merit).

Rubus phanicolosius (Kelway & Sons).—This is commonly known as the Japanese Wineberry, the fruit being bright red and similar in form to a Raspberry (first-class certificate).

At the afternoon meeting a paper on "Fruit Culture in France," by Mr. C. Baltet, was read by the Assistant Secretary, Mr. J. Weathers. The chair was occupied by Mr. J. Douglas, supported by Mr. J. Cheal, and there was a moderate attendance.

Mr. Baltet dealt with his subject in a most exhaustive manner, and time would only permit extracts from it being given. These referred to Pears, Apples, and Grapes amongst others. The former fruit was dealt with at length, Pears being extensively grown in France. The essayist referred to the culture of Pears in France and also in America, remarking on their market value. Enormous consignments of this fruit are sent to various parts of the world by the French growers, and good prices are realised. Great care is taken in the packing, which in a measure accounts for the success attained. Most of the trees are trained triangular fashion, and are carefully attended. Large-fruited varieties are cultivated in preference to the smaller kinds, which do not sell well. Apples, he said, however, were the most popular fruit, and in his country the trees were not particular as to soil. Dessert, culinary, and cider varieties were alluded to, and the essayist's remarks were much appreciated by the audience.

A brief discussion followed the reading of the paper, and a vote of thanks to the essayist was accorded.

THE ONION AND POTATO FUNGUSES.

WHEN in Hants the other day I was taken to see one of the worst examples of the destructive powers of the Onion fungus that was possible perhaps to produce. Out of a very large and what was once an exceedingly fine bed hardly a plant was left green, almost the whole of the tips being literally decimated or destroyed, and I fear the bulbs will be useless also. This, too, on a high, open, and sandy district.

All about the same neighbourhood also disease was more rampant in the Potato breadths than I had anywhere previously seen it. The sorts chiefly grown as giving the best tubers from the sand are Beauty of Hebron and White Elephant, the latter but a late form of the other, and both having very tender leafage. Magnum Bonum and its well-known disease-resisting compeers do not seem to be in favour in the district. I could but think as I saw all this actual and prospective fungoid devastation how much of room there was for the horticultural instructor to be abroad.

For how long now have there been made known through the Press the immense value, as anti-fungoid forces, of sulphate of copper and lime, both cheap, easy to obtain, giving a liquid mixture easy of application? And yet here does the enemy go on with its destructive work both amongst Onions and Potatoes; but growers stand by, do nothing, and seemingly know nothing. Some day, perhaps, things may improve, but there is a terrible deal of headway to make up. A very fine field for usefulness is open in this direction for Parish Councils, although if their destinies are to be guided by the too common rural fatalist they will do nothing. What wonder if with such ignorance abounding we are being out-traded by the intelligent foreigner.—A. D.



EVENTS OF THE WEEK.—The events of horticultural interest to take place during the ensuing week include the Co-operative Festival and exhibition of garden produce at the Crystal Palace on the 17th and 18th inst. The Shrewsbury Floral Fête will be held on the 22nd and 23rd inst.

— THE WEATHER IN LONDON.—Showery weather has been experienced in the metropolis during the past week. The greater part of Sunday was fine, but rain fell heavily during the evening. Monday was cloudy, raining at night, but Tuesday was bright, the temperature being above the average. Wednesday morning was overcast, but at the time of going to press it was clear.

— SCIENCE EXAMINATIONS.—At the recent examinations held by the Science and Art Department, South Kensington, Mr. W. Dyke, gardener, age twenty-four, Turnford, Herts, passed successfully the following subjects:—Advanced stage of botany, advanced stage of scientific principles of agriculture; elementary stages of geology, physiology, inorganic chemistry. He also obtained a first-class certificate in the examination held annually by the Horticultural Society.

— ROYAL BOTANIC SOCIETY OF LONDON.—The fifty-fourth annual meeting of the members of this Society took place last week, Mr. G. W. Bell occupying the chair. The report showed that there had been a larger attendance of visitors than usual during the year. The Council had made a regulation by which the entrance fee to the Society might be paid in one sum of 5 guineas, or in five annual payments of 1 guinea each. The lectures to the Fellows of the Society and their friends had been much more fully attended than in previous years, especially by the younger visitors to the Gardens, an evidence that the study of botany was more generally appreciated. Mr. J. S. Rubinstein proposed a resolution for the admission of visitors to the gardens by payment on week days, and the Council promised to consider it. The Duke of Teck was re-elected President, and Mr. H. L. Antrobus Treasurer.

— FORESTRY.—At the British Association meeting last Thursday Professor Isaac Bayley Balfour advocated systematic and scientific forestry in this country, contending that it would pay landowners, provide labour, stimulate industries, and increase the national wealth, wherefore it ought to be fostered by the State. Net revenues abroad differ: Bavaria, 2,000,000 acres, 5s. per acre per annum; Wurtemberg, nearly 500,000, 11s.; Saxony, rather less, 17s. Our State forests result in a loss. Private returns are not available. At Novar, in Ross-shire, Mr. Munro-Ferguson, M.P., had 24 acres of Pine and Larchwood clean cut in 1883, after sixty-one years' growth. For the whole period it yielded 9s. per acre per annum, compared with from 1s. to 2s. yielded by the adjacent grazing land. The outlay upon labour had been 31s. per acre per annum. Forestry involves the employment of labour, much of it at a time when there is little else doing in country districts.

— CONTRACTILITY OF PLANTS.—In the form of a lecture delivered at the Marine Biological Laboratory of Wood's Holl, Massachusetts, Professor J. M. Macfarlane described some very interesting observations on the irrita-contractility of plants. He maintained that, in the animal as in the vegetable kingdom, we have to do with a true contractile tissue. In the higher plants this tissue is made up of cells, each consisting of an irrita-contractile protoplasmic sac enclosing a quantity of sap, each cell being joined to neighbouring cells by protoplasmic processes which pass through minute pores in the common cellulose membrane. Irrita-contractility may be started by stimuli of a mechanical, chemical, thermal, luminous, or electrical nature. The seat of this contractility is unquestionably the vacuolated protoplasm, and not the cell-wall, as held by some observers. The degree of contraction of an organ is proportional to the relative molecular activity of the protoplasm, and to the strength or continuity of the stimulus. Professor Macfarlane, according to "Nature," has already shown that in the leaves of *Dionaea* contractility can only be excited by two successive stimuli separated by an interval of time; and he now illustrates his conclusions by the phenomena presented by the closure of the leaves in a number of different plants.

— DEATH OF MR. J. JEFFERSON.—It is with regret we record the death of this able gardener. Mr. Jefferson was gardener to J. Garside, Esq., Carlton House, Worksop, Notts, for forty-one years. Previous to the last twelve or fifteen years Mr. Jefferson was a frequent exhibitor of fruit at the leading shows in the country, and was a most successful prizetaker. He was a kind friend and good neighbour. —J. M.

— SIR JAMES WHITEHEAD, M.P.—We regret exceedingly to hear (says "The City Press") that it is doubtful, in view of the state of his health, whether Sir James Whitehead will again be able to take an active part in any public work. A large number of our readers will share in this regret, but still hope, as we do, that rest will lead to restoration of health. A later report says Sir James is so much better as to be able to travel to Switzerland, but he has resigned his seat in Parliament.

— LECTURE ON GARDENING.—An interesting open-air lecture on fruit growing and gardening was, says the "Rural World," delivered by Mr. E. Luckhurst, F.R.H.S., at the allotments, London Road, Osmaston, last week. The prevention of Potato and other blight was lucidly explained; the layering of Carnations and the best mode of budding Roses and fruit trees was practically illustrated; whilst many seasonable hints on the summer cultivation of flowers, vegetables, and garden crops generally were attractively suggested by the lecturer. At the conclusion of this instructive discourse a complimentary vote was accorded to Mr. Luckhurst on the proposal of Mr. Craigie, who thought that the useful address to which they had just listened would prove a valuable acquisition to the series, and in the course of his remarks expressed the opinion that the chief difficulties in the way of local extension were the inadequate number of allotments and the high rents which prevailed.

— RAINFALL RECORDERS.—Mr. G. J. Symons, in his volume just issued, treating of the "Distribution of Rain over the British Isles," refers with just pride to his observers, whose numbers now exceed 3000. Their distribution over the country is so good that Mr. Symons does not remember any part of the British Isles where one could not walk in the course of a day from one observer's house to the next. Improvement, however, is still possible, and with this object it is suggested that observers might write down the names and addresses of everyone whom they know to be keeping an accurate record, and then reporting any one of them whose name is not to be found among the General Tables officially published. Death unhappily has been busy among the little band during the past year. No fewer than sixty-five of them died, and among them Colonel Haywood, who had been engaged in the work for thirty-six years; Mr. Arthur Marshall, who had done it for thirty-eight years; and Mr. Ingram and Mr. Dyson, who had been similarly employed for even longer periods—thirty-nine and forty-two years respectively. Whether or not the habit of correct scientific observation is favourable to longevity is left for others to determine, but Mr. Symons mentions the fact that the great majority of his rainfall observers live to a good old age.

— IN a volume entitled "Above the Clouds" Mr. Charles Ellis, of Lyme Regis, under the *nom de plume* of "A Lyme Gardener," puts forth a series of prose reflections and poems. There is an Old World ring about the utterances of Mr. Ellis which will fall refreshingly upon the ears of those who live in the great centres of modern life, and who find themselves bewildered by the torrent of innovation characteristic of this age. From the feverish cosmopolitanism now radiating from the Metropolis it is soothing to turn to the spirit of rural seclusion and meditation breathed by Mr. Ellis. It puts one in mind of the times when men like George Herbert, Robert Herrick, Sir Thomas Browne, and William Cowper lived far from the madding crowd of London, and ruminated upon things earthly and things unearthly amid the sweetness of the country air and the fragrance of their country gardens. Possibly those were dull and in many respects rude ages compared with our own, but the lofty and placid tone of these writers, and their keen appreciation of the beauties of Nature, throw a glamour over the generations of which they formed a part. In the same way the perusal of Mr. Ellis' book conjures up pleasant pictures of life at Lyme Regis, and puts a town existence by comparison in a somewhat unsatisfactory light. We should have liked to have heard Mr. Ellis discourse more about plants, flowers, gardens, and gardeners than he has done, for where he touches upon these he does so with the hand of an enthusiast, and kindles a corresponding enthusiasm in the minds of his readers.

— MESSRS. CHARLES SHARPE & CO., LIMITED. — The old-established business of Charles Sharpe & Co., Sleaford, seed growers and merchants, has been registered as a limited company for its continuity, and to give the managers of the different departments an interest in the business. The public is not invited to subscribe any capital, the whole of the shares having been taken up by those engaged in conducting the business.

— DEATH OF MR. GEORGE MEDLAND. — We regret to learn of the death, on August 3rd, of this well-known veteran horticulturist. Mr. Medland was in his eighty-seventh year, and commenced work seventy-two years ago in the nurseries of the late Mr. Charles Sclater at Exeter. He remained there twenty years, and subsequently held positions in Russell's Nurseries at Sidmouth, Mount Radford Nursery, Addiscott's Nurseries at St. Thomas, and Messrs. Lucombe, Pince & Co.'s Nurseries at Exeter.

— PLAGUE OF EARWIGS. — Many parts of East Anglia are visited by a plague of earwigs. In Norfolk and Suffolk the insects are said to abound in large numbers, and in some towns the extraordinary swarms have resulted in considerable inconvenience to residents. At Ilford two roads in particular have been infested with the insects, which have invaded houses and swarmed into the beds. At Chelmsford, Halstead, Romford, and Saffron Walden the insects are unusually numerous. Moths have also been prolific in breeding this year, but wasps, which bred to an exceptional extent last year, are comparatively few.

— AMERICAN BLACKBERRIES. — My experience of them in Ireland is that they are an utter failure—that is, so far as fruit is concerned. The foliage of the lacinated variety is handsome and arrests attention, so do the huge thorny succulent growths if they get hold of one's garments; even an Irish tweed is not puncture-proof against their barbs. I am trying the Japanese Wineberry, but do not expect our climate will give any great results. Should it prove more acid than the above-mentioned Blackberry it will, I think, defy even the digestive organs of that schoolboy who preferred "red Blackberries when they were green."—E. K.

— THE PAPAWE TREE. — The change of sex described in your issue for August 9th (page 129) is quite in keeping with other well known phenomena with regard to the production of sexes in flowers, in that it largely depends upon nutrition. The rule is that male flowers appear on weaker axes, the female on stronger ones. Hence by checking the energy which was expending itself in the formation of male flowers it became concentrated, so to say, and consequently was able to produce female flowers. As another illustration, if seeds of dioecious plants—i.e., those which bear sexes on different plants (e.g., *Mercurialis annua*) be sown very thickly and others very sparingly in the same soil and conditions, a different proportion of male and female plants is pretty sure to result. Other cases will be found in my book, "The Origin of Floral Structures."—GEORGE HENSLOW.

— COLUMBINES. — Beautiful as these hardy flowers are, yet it is surprising to find them in so few gardens. We have literally thousands of gardens in this country in which Columbines of the more beautiful species or hybrids are not seen. In some gardens the common single and double garden varieties may be found, but all the same, few of these, unless very carefully selected, bear any comparison for lightness and elegance with the beautiful forms which *chrysantha*, *californica*, or *cœrulea* present, much less what comes from the intercrossing of these species. I have grown some fine selections from the garden forms, but whilst I disliked the doubles because they are devoid of elegance, have found in white, blue, or other clear hued varieties much that was pleasing. I have, so far as relates to purity of seed stocks, found no trouble whatever in keeping the various species named true from own saved seed, so long as not artificially fertilised. When, however, any of the three named have been intercrossed with one or other of the rest, then marked changes have taken place. All the same, the general colours and characters have been pretty well preserved. The great charm of the flowers these species produce is found in their great size, their long elegant spurs, and the exceeding freedom with which produced. These features are specially found when *cœrulea* and *chrysantha* are intercrossed. But there is still more, for the plants are always much more robust, blooming with exceeding profuseness. *Cœrulea* blooms earliest and *chrysantha* latest, and the hybrids come between. Where grown, in all cases some seedlings should be raised every two or three years, as old plants get somewhat exhausted in the same soil after a few years. *Aquilegias*, however, seed so freely that seedlings may be had with the greatest ease.—A. D.

— THE CORNELL UNIVERSITY EXPERIMENTAL GARDENS. — Mr. Michael Barker informs us that he leaves his present position next month (August) to take charge of the experiment gardens of Cornell University, Ithaca, New York. Mr. Barker has been Assistant Superintendent of the Harvard Botanic Garden during the past six years.

— FRUIT IN KENT. — An idea of the extent of the failure of the season's Strawberry crop may be formulated from the fact that last year Messrs. T. Wood & Co., the Kentish Farmhouse Jam Manufacturers, picked more than enough of the fruit to meet their requirements from their own fields at Swanley and Crockenhill, whilst this season they have purchased no less than 4000 pecks of Strawberries from other growers. It is reported that Plums show a fair average yield in all parts of the country, but in many districts Apples are an entire failure.

— DESTRUCTIVE STORM IN NOTTINGHAMSHIRE. — Mr. H. V. Machin, writing from Aversham Rectory, Newark, on the 12th inst., says:—"I have just come over here to spend the day, and am informed that there was a fearful thunderstorm here yesterday, accompanied by a tremendous fall of hail. I am sending some leaves perforated by the hailstones for you to look at and judge for yourself: 1.30 inch of rain (or hail) fell in twenty-two minutes. I am told that many hailstones jumped out of the wind gauge. We had a heavy thunderstorm at Gateford, accompanied by rain, but not hail." [The specimens received, both of bedding plants and forest trees, were cut into ribbons, and holes half an inch in diameter were cut through *Aucuba* leaves by the hail. The storm must indeed have been fearful.]

— A MOUNTAIN GARDEN. — The Botanical Society of Montreux has just opened an "Alpine Garden" on the summit of the Rochers de Naye, the two communes of Veytaux and Villeneuve having unanimously voted a free grant of the necessary space of land. The art of the gardener is all but superfluous, as Nature has here provided a luxurious piece of soil, with a wall of her own building, which protects the garden from the north and west winds. The planting began in the end of May and beginning of June, immediately after the melting of the snow. The new Alpine garden is named after the late Professor Favrat of Lausanne, who had long set his mind upon such a project. It differs from the other gardens in which experiments are being made in Alpine vegetation, in the fact that it lies on the top of a mountain, and will thus aid in the solution of many problems which could not be tested elsewhere.

— PINE APPLE GROWING IN FLORIDA. — Harvesting the Pine Apple crop, says a Western contemporary, is in progress on the lower east coast of Florida. The plantations extend along the Indian River from Titusville southward to Jupiter, along the shores of Lake Worth, through the fertile lands bordering on Bay Biscayne and the waters tributary to it, and out upon the Key as far as Key West. With the exception of a comparatively small acreage in Polk, De Soto, Manatee, and Lee counties, on the other side of the Peninsula, those east coast plantations constitute the Pine Apple area of Florida. As yet the Biscayne Bay growers and those on the Keys have no transportation for their "Pines," except by boats and small schooners, but the new railroad has penetrated as far south as West Palm beach, on Lake Worth, and this saves all the way from thirty-six to fifty hours in transporting the fruit to market. As a general thing the railroad runs close to the plantations, in many instances cutting them in two, and in cases where the crop is large, side tracks have been built for the convenience of the shippers. The Pine Apple crop of the Florida east coast, not including the Keys, is estimated this year from 40,000 to 55,000 crates. These crates are in size about that of the regulation Orange box, but in weight they will average when filled with "Pines" over twice as much. The freight agents figure on about 160 lbs. to the crate, or 150 crates to the car. But sometimes nearly 200 crates are stowed away in a car if cars are scarce. The average number of Pine Apples to the crate is sixty-four, but the fruit varies in size, some varieties growing very large and heavy. A conservative estimate of this year's crop is about 50,000 crates, or fully 3,200,000 Pine Apples. Last year's crop was about 35,000 crates, and the largely increased acreage coming into bearing this season led to estimates of the crop early in the season as high as 70,000 crates, or double that of 1893. But of late there has been a scarcity of rain, and in consequence the fruit is late in maturing, and in all probability the size and quality of it will be slightly inferior to last year's. As transportation facilities are better this season than last the fruit will undoubtedly reach market in better condition.

— GARDENING APPOINTMENT.—Mr. D. M. Russell, for upwards of ten years gardener to Mr. Baring, Banstead Wood, has been appointed Superintendent of West Ham Park, of which he takes charge on the 20th inst.

— TEAK WOOD.—It is estimated that 52,236 tons of teak wood were cut in lower Burma in one year. The Teak forests of the upper part of the province, however, are more extensive and important, and in the same year produced not less than 139,500 cubic tons of teak. The trade shows no signs of diminution, notwithstanding the many rival materials with which teak wood has now to contend, so varied are the purposes for which it is adapted. Teak is used in shipbuilding for decks and lower masts, railway carriages, the construction of bridges, for furniture and house-building. It is found particularly well suited to back the metal plates of ironclads, the resinous matter which it contains acting as a preventive against rust.

— SUMMARY OF METEOROLOGICAL OBSERVATIONS AT HODSOCK PRIORY, WORKSOP, NOTTS, FOR JULY.—Mean temperature of month, 60.7°. Maximum on the 6th, 82.5°; minimum on the 12th, 43.3°. Maximum in the sun on the 6th, 135.8°; minimum on grass on the 12th, 34.9°. Mean temperature of air at 9 A.M., 62.1°; mean temperature of soil 1 foot deep, 61.2°. Sunshine—Total duration in month 175 hours, or 35 per cent. of possible duration; we had two sunless days. Total rainfall, 2.70 inches; rain fell on nineteen days. Average velocity of wind, 6.6 miles per hour. Velocity did not exceed 400 miles on any day, and fell short of 100 miles on eleven days. Approximate averages for July—Mean temperature, 60.7°; rainfall, 2.42; sunshine, 160 hours. The first few days were fine and warm, then came rather more than a fortnight of cool and showery weather, and the last few days were fine.—J. MALLENDER.

— PROLIFIC QUEEN TOMATO.—Like many others, for some time I have interested myself in crossing and selecting Tomatoes, and this year I have obtained one plant that has been examined by a large number of people, including several gardeners, and they have all pronounced it to be an extraordinary specimen. The growth and foliage is robust, not susceptible to disease. The plant is grown in bush form, with five 3 feet stems, and on which, after taking off fifteen fruit, there are now hanging 122 nearly all ripe. Those gathered averaged four to the pound, and were taken from straps that have from eight to twelve each. The fruit is deep in shape, of rich ruby colour, some slightly furrowed, similar to our selected Maincrop, but in every way is a great improvement on it. I am not quite certain, but expect that it is a cross with a prolific yellow variety, and if the name is not already claimed I shall call it "Prolific Queen."—JOSEPH WITHERSPOON, *Red Rose Vineries, Chester-le-Street*.

— GENISTA VIRGATA.—A correspondent, writing to the "Garden and Forest," calls this plant "a king among Brooms; one might almost call it the grandest of all hardy early summer flowering shrubs. It is represented at Kew by many huge bushes 12 feet high and through, which have been established many years among the trees as well as in several of the shrubberies, and they were all clouds of gold for at least four weeks. Some Genistas are good for a few years and then require to be grubbed up and started afresh, and some are never good for much as garden plants. But *G. virgata* is never unsightly, is quite hardy, is easily multiplied from cuttings, transplants well, and when in flower in June it is a gorgeous picture of golden-yellow flowers. Strangely enough, it is a rare plant in English gardens, although cultivated in the last century and described fifty years ago by Dr. Lindley. It is a native of Madeira, and has been called *Spartium virgatum*."

— STROPHANTHUS PETERSIANUS.—This comparatively new plant has lately flowered for the first time in a stove at Kew, and has attracted attention on account of its yellow and red octopus-like flowers, borne on the ends of short lateral branches which spring from the main stem. According to the "Garden and Forest" the plant is a climber with ovate-lanceolate leaves, and the flowers are funnel-shaped, with a broad-mouthed tube $1\frac{1}{2}$ inch long, the apex surrounded by a fringe of erect lanceolate scales half an inch long, and the five twisted corolla lobes hanging down to a length of 6 inches, suggestive of the arms of the octopus or the snakes of Medusa. *Strophanthus* is a tropical genus of about twenty species of trees and shrubs, some of which are known to yield a most deadly poison. Several species, namely, *S. dichotomus*, *S. Bullenianus*, and *S. longicaudatus*, are known in gardens, but they are inferior in floral attractiveness to this new one. The Kew plant was raised from seeds received from Delagoa Bay in 1884.

— A PROLIFIC CAULIFLOWER.—A northern newspaper states that Mr. Thomas Bibby, North Terrace, Hexham, has a plant of Veitch's Autumn Giant Cauliflower which was sown in March last year, and which has stood outside all the winter. It has had no less than twelve flowers on this spring, four of which have been cut measuring about 4 inches across, leaving eight all good flowers all from the one stem: It made no attempt to flower at all last year.

— MEDICINAL PLANTS.—A recent number of the "British Medical Journal" says, "that a large collection of indigenous medicinal plants and drugs, fibres, and cereals has already been made in the Imperial Institute from India and the East. Many of the Indian drugs have enjoyed a reputation in tropical diseases for the last 2000 years. They are, however, employed in the crude state, generally in combination with metallic and mineral compounds, and do not therefore indicate their individual value as medicines. They have, with a few exceptions, undergone no chemical analysis or pharmacological experimentation, and such researches have not yet been taken up either by Government or by private individuals in India, neither are there facilities or expert knowledge easily procurable for such researches. To submit them to experts in London for proper investigation would be very costly under the circumstances. The establishment of a chemical and pharmacological laboratory in connection with the Imperial Institute, under a committee of experts, would be a valuable addition. There are few institutions of the kind where any original researches can be made in London; it will therefore be a very desirable and useful institution for the promotion of science. It may in addition be expected to help towards the discovery of important medicines and products of great dietetic and commercial value. The benefits which would accrue from the Institution would be greatly appreciated both by English and Indian contributors to the funds of the Imperial Institute; and it would tend to bring together scientific men from all classes and races of men in the British Empire."

EASTON LODGE.

DUNMOW, that quaint old Essex town, is a name well known throughout the British Isles, and I doubt not that the unique and ancient custom connected with it has been heard of in the distant lands of Greater Britain. If so, perhaps at some future time should the examples of conjugal felicity unhappily become more rare, some well-mated couples from our Empire beyond the seas may be found competing for that priceless treasure, the "Dunmow Flitch." It is not my intention, however, to enlarge upon the picturesque peculiarities of this ancient town, with its long curving street, which abounds in primitive examples of paving and nondescript styles of architecture, as I have abundant materials at hand wherewith to fill my allotted space if I touch in the briefest manner upon some of the salient features of the surroundings of Easton Lodge, the delightful Essex residence of the Earl and Countess of Warwick.

From Dunmow Station, a journey of two miles and a half, along pleasant winding lanes, brings the traveller bound for Easton Lodge to the nearest entrance to the park. Near this on each side are picturesque cottages and other residences, entwined with creepers of luxurious growth, and interspersed with stately trees. Here too the village church of Little Easton, with its massive rugged walls, appears conspicuous for enduring strength among them all. After entering the park gates a sharp descent in the road leads to an irregular hollow, at which point long stretches of water extend on either side. Traversing the rising ground in front a noble avenue of deciduous trees is reached, and as the eye looks upward through the leafy canopy above a sense of the insignificance of man seems to be engendered by the giants that tower on each side. When the extremity of this avenue is reached the park drive sweeps gently round by a line of choice healthy Coniferae and a shrubbery bounded by a sunken fence, which serves to keep the extensive herd of deer from straying beyond their own domain. As this shrubbery is left behind a fine view of the commodious and ornate mansion is obtained. This consists of a massive block of comparatively modern construction, and an ancient wing, part of which is apparently at right angles with the main building. The beautiful proportions of this wing with its graceful dome, slender chimneys, and pretty colonnade strike the eye at once, as presenting a marked contrast to the more elaborate architecture of the newer block, in front of which runs a terrace bounded by a handsome stone balustrade. From this point a wide expanse of grass is seen in the distance, and a fine view is obtained of the magnificently timbered park. Few places can boast of so many giant English Oaks. One in particular has a girth of 33 feet near the ground line, and several others almost as large.

The kitchen gardens are conveniently situated near the mansion, and are excellent examples of those old wall-enclosed gardens which afford shelter, and various aspects for fruit trees and vegetables alike. Peaches, Nectarines, Apricots, and Pears are all largely grown against the walls. Apple and Pear trees in great variety form lines near the sides of the walks. In the majority of instances these are trained in pyramidal form. Fruit trees of all descriptions are evidently well cared for, Peaches being a fairly good crop, Apricots a heavy one, and in many instances Pears were loaded with fruit. It would serve no useful purpose to enumerate the many varieties grown. Suffice it to say that the best kinds in cultivation are fully represented. I must, however, make a special note of several large trees of the Myrobalan Plum which were carrying prodigious crops. The fruits are almost the size of Prunes, and are highly prized for culinary purposes both in a green and ripe state. The culture of this comparatively little known

wealth of Roses. The soil at Easton is evidently well adapted for Rose growing; but something more than this is necessary to produce such healthy, vigorous plants and grand blooms—that “something” is culture of the highest order. Mr. H. Lister, Lord Warwick's head gardener, may well be proud of his Roses, for there are but few private gardens in which such numbers of fine blooms are grown. Lifting every three or four years, and giving abundance of manure, are two cultural items upon which he pins his faith. On one side of the rosery I noticed several very large specimens of that showy deciduous tree *Acer negundo* variegata, which were shown up to advantage by the deep green colour of the shrubs around.

Adjoining the rosery is the flower garden. This is laid out on a broad, level stretch of grass immediately in front of the central portion of the mansion, on the opposite side of it to that already described. The design is an excellent one, being a combination of scroll-like and geometrical



FIG. 23.—EASTON LODGE, DUNMOW.

fruit might with advantage be extended. The whole of the vegetable quarters are closely cropped with the great variety of produce required to supply an extensive establishment; indeed, there is evidence to show that the most has to be made of every inch of ground in order to keep pace with the demand.

Passing from the kitchen gardens along a walk which cuts through a belt of shrubs we come upon what is undoubtedly one of the great features of Easton—viz., the Rose garden. Some idea of its extent may be gleaned from the fact that 2500 bushes and pillar Roses are grown in it. The beds are very numerous, and as a rule only one variety is planted in each. This is an excellent plan, which is worthy of more general adoption. Most of the best varieties in cultivation may be seen here. All are splendidly grown, but some require special mention. That fine variety Ulrich Brunner was in grand condition, the flowers being of immense size and substance, and those in just the right stage of fine form as well. Mrs. J. Laing and Madame Gabriel Luizet were also in exceptionally good condition. Baroness Rothschild, Dupuy Jamain, Dr. Andry, and La France were marvels of beauty, even among such a

beds; easy flowing curves are thus obtained which take off the stiffness of the more formal part. Retinoparas and other hardy shrubs are judiciously arranged in the centre of some of the beds. This adds greatly to the general effect by relieving the flatness which would prevail without them. In the central bed a tall standard variegated Holly with drooping branches is planted, underneath this a large star is effectively worked out with *Coleus Verschaffelti* and *Pyrethrum* (Golden Feather). Space will not permit a full description of the method of planting the various beds, but in all instances colour of flowers or foliage and habit of growth were well balanced so as to produce a perfect whole, while for finish and high keeping they were everything to be desired.

From those windows of the mansion (fig. 23) which overlook this flower garden a charming view is presented, as the well defined outlines of the brightly coloured flower beds are seen to advantage when a bird's-eye view is obtained, but this is only the beginning of an enchanting scene which extends for miles beyond. On each side are masses of trees luxuriant with many tints of green. Away in front the grass land of the park stretches and widens till it reaches a series of irregular

groups of trees, the intervening space being sparsely dotted with them. Beyond, the ground begins to rise in rolling undulating sweeps, and towers upward to the horizon in the shape of a vast crescent. This rising ground presents a truly picturesque scene by reason of its great diversity. Trees of giant stature, dwarf bushes, hedgerows, and green fields are interspersed with that charming informality that gives so much beauty to English landscape scenes. To complete the picture, the shapely spire of Thaxted church stands boldly out above the tree tops, and serves as a landmark for miles around.

The glass structures, with the exception of the conservatory, are situated in the kitchen gardens. The first to claim attention is a well built Peach case, 160 feet long, shelves along the front afford excellent positions for growing Strawberries and other plants. At the time of my visit tuberous Begonias were in strong force. This house has three divisions; in the earliest the fruit had been gathered, in the second crops of highly coloured fruits were approaching maturity. Royal George, Bellegarde, and Grosse Mignonne appear to be especial favourites. The trees throughout were in a healthy vigorous condition, and will undoubtedly prove a source of great satisfaction.

In a lean-to forcing house adjoining Melons were well grown, Heaton Hall being a favourite with Mr. Lister. An early crop of Tomatoes is also grown in this structure. A mixed collection of Orchids also found a temporary home there while alterations are being made in their regular quarters. In a couple of vineries heavy crops of Grapes were apparent, nothing in the way of sensational bunches being attempted, but numbers of useful ones for table are secured. Black Hamburgh, Gros Colman, and Alicante are the principal varieties grown. The central bed in one of these vineries was closely packed with Palms of a suitable size for decorative purposes, *Areca lutescens* being particularly numerous. I also noticed several large plants of *Adiantum farleyense* and *A. cuneatum*. A good sized Cucumber house, and a numerous assortment of pits and frames, in which Cucumbers and Melons, early vegetables, and winter flowering plants are grown, are also situated near by. I must not omit to mention *Montbretia crocosmæiflora* growing in pots; at Easton it is highly prized both for its elegant spikes of flowers and handsome foliage.

Mr. Lister is well known in connection with Chrysanthemum culture, and although he does not now exhibit, he still grows large numbers of the queen of autumn flowers. Near one of the vineries are fine beds of Carnations. Raby Castle and Mrs. Reynolds Hole are great favourites, and are well grown. Another attractive variety which is well liked is Leander. A good number of choice seedlings are also grown. Among Pinks Ernest Ladhams and Her Majesty are highly prized; the latter is perhaps the best variety yet in commerce. Near by the Countess of Warwick's sitting-room a charming little garden is situated. From the top of the steps which lead down to it a well-arranged piece of bedding is seen to advantage; a chain-like bed is marked out with Box, with a small gravel walk and an encircling border around it. The chain is planted with *Lobelia* edged with Golden Feather, and the border planted with Golden Harry Hieover *Geranium* edged with *Lobelia*. This is throughout a well finished and effective piece of work. Immediately in front a new and commodious conservatory is being erected upon the site of the old one. Near by is an aviary divided into several compartments, which are well stocked with feathered songsters or birds of brilliant plumage from many lands. Among the many curiosities of this mirthful assemblage are numbered an Australian piping crow, a Pekin nightingale, love bird, Roman thrush, cockatoos, and canaries of all descriptions; and many black and fantail pigeons looked pretty and contented in a smaller aviary near.

There are yet other objects of engrossing interest connected with the gardens at Easton Lodge. These may perhaps be dealt with at some future time by far abler pens than mine. The good work which is being done in each department bears ample testimony to the energy and skill of Mr. Lister, who is evidently the right man in the right place. There are signs on every hand at Easton that the relations between employer and employed are of the happiest description, so that to carry out the wishes of the one becomes the pleasure of the other, and to the rural dwellers among the sunny lanes of Essex the Earl and Countess of Warwick will be long remembered as Lord and Lady Brooke, a name by which they have endeared themselves to all around by their countless deeds of kindness, for which the sick and suffering in thousands of needy homes have learned with deep sincerity to "bless them."—WANDERER.



CHRYSANTHEMUMS IN AUSTRALIA.

In the *Journal of Horticulture* of February 8th Mr. C. Orchard refers to the peculiar behaviour of some of the leading varieties in America, and a few remarks on this point may be interesting to some of your principal growers. For the last few years I have been a large and successful exhibitor at the principal shows in Sydney, and being a great enthusiast in the culture of the Chrysanthemum I have imported many of the best varieties from England and elsewhere. As a subscriber to

the *Journal of Horticulture* I have read with interest Mr. Mawley's analysis of 1893, as well as the result of the Japanese Chrysanthemum election instituted by Mr. Molyneux; but although some of the varieties therein mentioned have not yet reached this side of the globe, there are still many to which I can refer.

What I wish specially to deal with is the effect of our warmer climate upon many of the leading English varieties; but it must be borne in mind that the plants here are entirely grown and bloomed in the open. Sydney (latitude 34° south) is situated on the coast, and the climate during the summer months is hot with a moist atmosphere; yet about 100 miles inland on a tableland about 2000 feet above the level of the sea the air is dry and at times cold, and there most of the English fruits do well. In other directions, at the same distance from the metropolis, the mountains rise to 4000 feet. We have, therefore, exceptional opportunities of observing the effect of hot and cold climates upon different varieties, besides comparing notes with Victorian and Tasmanian growers extending to latitude 43° south. The flowering season, which here lasts only a little over six weeks—viz., from the beginning of April to the middle of May, is now past, and I have completed and published the analysis for the year 1894. The order in which the first thirty-six Japanese varieties appear is as follows:—

1, Vivian Morel; 2, Sunflower, W. Tricker; 3, Lady T. Lawrence, Madame C. Audiguier; 4, Miss Anna Hartshorn, Grandiflorum, Gloire du Rocher; 5, The President, Thunberg; 6, Florence Davis; 7, White Syringa; 8, Edwin Molyneux; 9, Colonel W. B. Smith, Mr. H. Cannell, Syringa; 10, Mrs. Irving Clarke, Kate Mursell, Puritan, Violet Rose; 11, Pride of Madford, Lucrece, Moonlight; 12, T. C. Price, Mrs. Fottler, Mr. A. H. Neve, M. E. A. Carrière, Maiden's Blush; 13, Robert Owen, Excelsior, J. Stanborough Dibben, Lord Brooke, Comte de Germiny, Mrs. J. Wright and Sugarloaf.

Comparing the English analysis of 1893 with the above, but omitting the more recent varieties, such as Charles Davis, Robert Owen, Mrs. C. Harman Payne, Miss Dorothy Shea, and few others, which, although they have been exhibited here, have not been widely distributed, your readers will notice many differences. Avalanche has been tried for several years in different localities, but I have never seen a good bloom of it exhibited. Etoile de Lyon generally does well, but the past season must have been unsuitable for this variety, as only one or two blooms were exhibited. W. H. Lincoln is good at times, but uncertain. Stanstead White never attains any size. Mons. Bernard, Val d'Andorre, Mrs. Falconer Jameson, Boule d'Or, Condor, Jeanne Délaux, Madame J. Laing, Sarah Owen, Madame Baco, W. W. Coles, Glosiosum, Mr. Ralph Brocklebank, and Mdle. Lacroix have all been tried well, but have been discarded by most growers on account of not coming up to show form.

On the other hand, Lady T. Lawrence is the finest Japanese incurred white here, of good size and fair depth, a charming flower, yet it is not mentioned in the English analysis or in the recent Chrysanthemum election; average diameter 8 inches, average depth 3 inches. Grandiflorum is an old variety truly, yet it still holds its own against many newer varieties, and is exceptionally fine here; average diameter, 8 inches; depth, 3½ inches. The President is a magnificent variety of a yellowy bronze colour. There is a doubt, however, as to the correct name, and where it came from. Next season it is probable it will appear near the top of the list. Average diameter, 7 inches; depth, 4 inches. Syringa was catalogued in England some years ago, but it appears to have now disappeared. Two years ago the white sport White Syringa was fixed, and subsequently distributed. These varieties exhibit very fine form around Sydney, but in the colder districts it is difficult to get them to bloom at all. Pride of Madford is a fine colonial seedling of the incurred Japanese type; colour, an intense bluish purple with silvery reverse, and very large; habit, dwarf and vigorous, with fine foliage; average diameter, 9 inches; depth, 4½ inches. Lucrece is another variety catalogued in England a few years ago; fine white incurred Japanese, and develops well. Maiden's Blush is still a favourite here, taking a spiral as well as of a reflexed form, forming itself into a perfect ball. Mrs. Irving Clarke gives very fine blooms with a good depth. Pelican is also a very fine white, large with good depth, of quite a different form to the character it takes in a colder climate.

Mrs. Alpheus Hardy, which is so frequently referred to in the columns of the *Journal*, does no good at all in the coastal districts, as we cannot induce it to grow. The inland dry atmosphere seems to suit it admirably, for about 100 miles from the coast at an altitude of 2500 feet I have seen strong plants 8 feet high growing in the open carrying eight fine blooms. From several other inland towns I have received similar reports, the past season especially, one exhibitor stating he showed six superb blooms for six whites of one variety; it was the finest white he had. An enthusiast lately from England remarked that they were the best he had ever seen of this variety.

One of the worst troubles we have to contend with here in the culture of the Chrysanthemum is the damping of the florets. I have often remarked the complaints about this in the old country, but it is not a matter of ventilation here, as all the blooms are in the open, with the exception of an awning over them to keep off the rain. Unfortunately we have often some wet weather at that particular season, and if it lasts any time, it requires constant care and attention to prevent the blooms being reduced to a mass of pulp.

I have read with particular interest Mr. C. E. Shea's papers on "Judging Chrysanthemum Blooms," as well as the discussion thereon, and I am sure his paper will not only be of great assistance to judges, but will open up a subject which was greatly needed. Judging by

points has not been generally adopted here, but in a few cases it has been made compulsory by the donor of a special prize; personally I am decidedly in favour of judging by points.—S. B. LEVICK, *Longueville, Sydney, N.S.W.*

CHRYSANTHEMUMS IN IRELAND.

IN spite of a dripping season Chrysanthemums with me are exceptionally short-jointed, and consequently dwarfer than usual. A general survey gives a favourable impression. With the advent of August, some dozen buds of Mrs. A. Hardy were taken on unstopped plants but 3½ feet high. The same variety stopped in the spring promise to develop buds by the middle of the month. Other buds taken to date (August 6th), are Stanstead White, Florence Davis, and W. A. Manda, whilst other important ones will shortly follow suit. Lord Brooke and Beauty of Castlehill are decidedly late, and would have been the better of a nip in the spring.

New varieties give a zest to the labours of culture. It is pleasing to note the dwarf, robust character distinguishing many of recent introduction. The invariable greeting now amongst the fraternity is "How's the mums?" backed up by "Have you Madame Therèse Rey?" Yes, and Miss Dorothy Shea also; these two varieties were singled out for distinction so markedly in the *Journal of Horticulture* last year that all would-be up to date growers have probably secured them. Should anyone have failed to do so, they are not, I fear, quite happy. Both are of clean, vigorous growth and handsome foliage.—E. K., *Dublin*.

WEST OF ENGLAND CHRYSANTHEMUM SOCIETY.

THE Committee of the West of England Chrysanthemum Society visited Teignmouth for their first annual outing on August 9th. On arriving at Teignmouth they visited Mr. W. H. Weguelin's Carnation gardens, and inspected his magnificent collection, consisting of 1500 seedlings and 500 named varieties. The party then returned to luncheon, after which they proceeded to Glendaragh, where they were met by Mr. Foster, gardener to H. Hammond Spencer, Esq., and conducted over the gardens. The houses were in especially good condition, and plants, flowers, and fruit were much admired. The Chrysanthemums, of which between 400 and 500 are grown, are looking well.

From Glendaragh the party passed on to The Grove, the residence of Miss Fripp, and under the guidance of Mr. Stiles were conducted over the gardens and grounds. Here a large collection of Chrysanthemums grown for exhibition was seen. The plants were looking well in every way, as also were the houses and grounds. After leaving The Grove, the party returned to dinner, reaching Plymouth by train, after spending a most enjoyable day. Mr. Chas. Wilson and Mr. Damerell, the Honorary Secretary, carried out the arrangements.

HORTICULTURAL SHOWS.

WELLS.—AUGUST 6TH.

THE annual show of this Society was held in The Cedars grounds by the kind permission of C. C. Tudway, Esq. The plants were arranged in the large tent, a smaller one being reserved for vegetables and fruit.

Groups of plants arranged for effect occupied one side of the large tent the entire length, and these were much admired, though the competition was not as keen as usual. Mr. Williams, gardener to J. F. Hall, Esq., Sharcombe, led rather easily with a light arrangement, in which brightly coloured Crotons were conspicuous, with a relief of tall Grasses, narrow-leaved Dracænas, and Palms. The flowers principally employed were Francoa ramosa, Eucharis, Canna Alphonse Bouvier, Anthuriums Schertzerianum and Rothschildianum, Oncidiums, Cattleyas, and Cypripediums in variety, Gloxinias and Tuberose. The whole was arranged on a cool groundwork of Maidenhair Ferns, with an edging of Isolepis, Carex variegata, and dwarf Caladiums. Mr. McKenzie, gardener to A. F. Somerville, Esq., Dindee House, secured second place with a bright group of fresh plants; Mr. Fewtrell, gardener to C. C. Tudway, Esq., being third.

Mr. Williams was again first for six specimen plants with Anthurium Ferrierense, profusely flowered, Croton nobile, C. Warreni, Kentia Canterburyana, Adiantum Farleyense, and Caladium candidum; Mr. Young, gardener to W. S. Hodgkinson, Esq., being second with much smaller plants. For four specimen Ferns, Mr. Fewtrell was easily first with magnificent plants, comprising Cibotium regale, a pair of Nephrolepis exaltata, and Adiantum concinnum latum. Mr. Williams was second. Mr. Fewtrell's Ferns and Mr. Williams' specimen plants occupied opposite ends of the tent, with a facing of tuberous Begonias, and formed a striking feature. Mr. McKenzie was first with six tuberous Begonias, Messrs. Mogford & Son second. Table plants were good, the competition being close. Mr. Williams' plants were adjudged first, being of even size and highly coloured. Mr. Young secured second place, and Mr. Fewtrell third. Mr. Young was the only exhibitor of Gloxinias, the same exhibitor securing first place for twelve cut Roses.

Fruit and vegetables were sparingly shown. Mr. Fewtrell was placed first for one Melon, Mr. McKenzie second, both having well flavoured fruits. The first prize for three dishes of Apples went to Messrs. Mogford & Son, Mr. Isgar receiving a similar award for Pears. Mr. King, gardener to the Dean of Wells, and Mr. Apps, gardener to H. S. Bailey, Esq., were respectively first and second for Peaches and Nectarines. Black Grapes were fairly well shown. Mr. Fewtrell led with fine clusters of Black Hamburgh, Mr. McKenzie following for

second place with the same variety, beautifully coloured. Mr. King secured first place for white Grapes, Mr. McKenzie second, both showing good ripe fruit. Messrs. Marshall and Young were first for Cucumbers and Tomatoes respectively; Mr. Jas. Hall being first for eight varieties of vegetables.

Messrs. Browne & Sons, Wells, exhibited a group of plants in the small tent; Messrs. Jarman & Co., Chard, making a good display of hardy herbaceous flowers, Pansies, and Carnations. A box of Roses from Messrs. Keynes, Williams & Co., Salisbury, and a large assortment of Sweet Peas from Mr. Warden, Clarendon Park Gardens, were much admired.

The beautiful grounds and coombe were much admired, and the bedding, though suffering as elsewhere from so much rain, was bright and the colours admirably arranged.—W. R. W.

TAUNTON DEAN.—AUGUST 9TH.

IN favourable weather the annual exhibition was held in the Vivary Park, Taunton. Specimen plants were the feature of the show, and some really grand exhibits were staged. Grapes were only well shown in one or two stands, but vegetables were excellent, the cottagers' classes being well filled. Groups were very effective, but much alike, and must have taken a considerable amount of judging.

In the open class for twelve stove and greenhouse plants in flower, Messrs. J. Cypher & Sons, Cheltenham, were first, showing a very fine Phœnocomia prolifera Barnesi, a splendid Erica Thompsoni, E. obbata purpurea, Statice profusa, and Ixora salicifolia amongst others. Mr. J. F. Mould was second, and Mr. W. Brock third. Messrs. Cypher and Sons were again first for six plants in flower, the best being Allamanda nobilis, Stephanotis floribunda, and Statice profusa, the positions of second and third in the former class being here reversed. Messrs. Cypher & Sons were also first for eight foliage plants with fine Kentias and Crotons. In the class for eight exotic Ferns only Mr. W. Brock secured first prize, amongst the plants being a fine Dicksonia. Miss Todd was first for a group of plants very light and prettily arranged, but the second prize group of Mr. W. Brock was certainly the better coloured of the two.

The first prize for a newly introduced plant with ornamental foliage was easily won by Messrs. Cypher with Croton Gordoni, Lady Theodora Guest (gardener, Mr. Wilkinson), being second with Strobilanthes Dyerianus. For a newly introduced plant in flower, Messrs. Cypher had to be content with second prize, showing Cypripedium Chamberlainianum, Mr. W. Marshall being first with the same variety but a much better plant. The last named was also first for four Orchids, again beating Messrs. Cypher. Mr. Marshall showed Dendrobium formosum giganteum, Cypripedium Morganiae, Cattleya Victoria Regina, and an exceedingly good plant of Peristeria elata.

In the open classes for Roses, Messrs. J. Townsend & Sons, Perkins and Sons, and Keynes, Williams & Co. were the winners in the order in which named for thirty-six blooms, Dr. Budd, Bath, being highly commended. For eighteen blooms Messrs. Keynes, Williams & Co., Dr. Budd, and Messrs. J. Townsend & Sons were the respective winners. Messrs. Keynes, Williams & Co. showed Dahlias in good form, winning all the first prizes in the various classes.

The first prize in the amateurs' class for groups was taken by Mr. W. Brock, Miss Todd being second, and Mr. H. Mockridge third. For twelve stove and greenhouse plants Mr. W. Brock won with a good Croton Disraeli, Latania borbonica, and Anthurium Warocqueanum amongst others. Miss Todd was second. Mr. W. Marshall won with six plants, showing a splendid Pancratium fragrans and good Anthuriums. Miss Todd won with four specimen plants, and also won in the class for six exotic Ferns. Mr. W. Marshall had the best six Liliiums, also six single tuberous Begonias. Amateurs' classes for cut flowers were well contested, Dr. Budd winning in each class for Roses; Mr. Thos. Hobbs being second in each instance. The first prize for table decoration was won by a very effective arrangement of Iceland Poppies (Papaver nudicaule), and was so much a centre of attraction that the award card could not be seen in consequence. The prizes for vases, bouquets, and buttonholes were about equally divided between Messrs. Cypher, Cheltenham, and Messrs. Perkins & Sons, Coventry.

The fruit classes were mainly a contest between Mr. H. W. Ward and Mr. Stuckey, the latter being the principal prizewinner. For collection of fruit, eight varieties, Mr. Stuckey was first, having good Madresfield Court Grapes, and good Pineapple Nectarine. Mr. Ward was second, with fine Sea Eagle Peaches, good Figs, and Cherries. Mr. J. Brutton was third. Mr. Stuckey won in the class for four varieties, Mr. Ward second, and Mr. J. Brutton third. For two Pine Apples Mr. Stuckey was again the winner, and Mr. Ward second. In the class for Black Hamburgh Grapes Messrs. Stuckey, G. T. Luttrell, and H. R. Carver, were the winners in the order named. For Black Grapes, Hamburghs excluded, Mr. Ward was first, Mr. V. Stuckey second, and Mr. J. Brutton third, the same order holding good for three bunches of Muscats. For three bunches white Grapes, Muscats excluded, Mr. Luttrell won with good Buckland Sweetwater. Mr. T. Jones took the first prize for Peaches with well coloured Noblesse. Mr. Ward had the best Pears, and Mr. J. Brutton had a good dish of Grand Duke Plum. Mr. Wilkins, as usual, showed fine vegetables in the class for eight varieties.

The competitive exhibits were few, but well shown. Messrs. R. Veitch & Son, Exeter, had a good miscellaneous collection. Messrs. Davies, Yeovil, sent fine Begonias; and Messrs. Kelway & Sons, Langport, had a stand of Gladioli in variety.

THE WELSHPOOL HORTICULTURAL EXHIBITION.

THIS young Society has just held its second yearly exhibition in Powis Castle Park, by permission of the Earl of Powis, and it was so successful a gathering as to bid fair to become a strong organisation and one of the great annual horticultural shows in Wales. Quite 12,000 persons visited the exhibition notwithstanding the very unsettled weather, the principality sending a very large number of visitors. The Deer Park, as well as the whole of the immense park, is admirably suited to the purpose of a flower show, and a large open space near to the Castle was selected, the pleasure grounds, terraces and gardens being also thrown open to the public. A large tent with four divisions radiating from the centre was well filled, and many cottagers' exhibits had to be crowded into a smaller tent. These were most numerous, about sixty classes being devoted to cottagers' productions with three prizes in each class, and in that for the Earl of Powis's special prizes for eight varieties of vegetables there were eleven exhibits. The vegetables in this department were in many cases of a high order of merit.

The centre of the large tent was occupied by a very extensive group of plants in a novel form of grouping, four wings radiating from the centre, from point to point being fully 40 feet. The centre was made up of a tall Tree Fern with a ring of bright-coloured *Humea elegans* peeping through the drooping fronds, and Palms, Crotons and other plants forming the base. Two of the opposite points were formed with a row of *Caladiums* of one shade of colour on each side with a central line of *Kentias*. The two others were also brought out in lines of colour. Groups of *Streptocarpus* and other flowering and bright foliaged plants were artistically worked in, and a carpet of green moss used in front of the recesses. It was altogether a charming arrangement. The first three classes in the schedule were for nurserymen only, a group of plants, a collection of Dahlias effectively arranged in a space about 10 feet long on tabling; and for a tastefully arranged display of Sweet Peas, *Gladioli* and other plants; Messrs. Jones & Sons, nurserymen, Shrewsbury, being first in each class.

In the gentlemen's gardeners' classes Mr. McFarlane, gardener to Mrs. Curley, Brooklyn, Welshpool, was first in each of the following classes. For a group of plants, chiefly large specimens of choice stove and greenhouse plants, including a fine example of *Dipladenia Boliviana*, and some well bloomed specimens of *Madame Desgranges Chrysanthemum*; for a single specimen plant in flower, a fine *Allamanda Hendersoni*; for six ornamental plants, six stove or greenhouse plants, for Peaches and Grapes in three classes, his Bowood Muscats, admirably coloured, and he was also second for a collection of fruit. Captain Hayhurst France was first for Roses with some good blooms, and Mr. Jones, gardener to the Misses Howell Berrier, was second for a group of plants, and first with a collection of eight varieties of fruit.

Honorary exhibits nowadays materially help all flower shows, and did so here, for there was an extensive display of them. Mrs. Naylor, Leighton Hall, Welshpool (gardener, Mr. Rothwell), arranged a very large group of specimen plants, a monster *Pancreatium* being conspicuous, as also were some well grown specimen double *Petunias*. Mrs. Lovell, Welshpool (gardener, Mr. Jones), had a group of Ferns, *Coleuses*, and other ornamental plants. Messrs. Cutbush & Sons, London, contributed a very large group of plants, Carnation and herbaceous and other blooms. Messrs. Chibran & Son, The Nurseries, Altrincham, had a good collection of Roses, hardy herbaceous, and other blooms. Messrs. Thomson & Co., Sparkhill Nurseries, Birmingham, had a beautiful display of Carnations and *Picotees*, quite fifty large bunches of border varieties, and about a hundred blooms of exhibition named varieties. Messrs. Pritchard & Son, nurserymen, Shrewsbury, a large group of herbaceous blooms, Carnations, *Begonias*, and plants. Mr. E. Murrell, nurseryman, Shrewsbury, a very fine collection of Roses of extra quality; and Mr. Lloyd, nurseryman, Oswestry, had a display of plants and cut flowers.

MIGNONETTE IN POTS.

THIS sweet-scented plant is a great favourite, and consequently there is a demand for it at all times of the year. Well cultivated plants are certain to find admirers, and purchasers too if grown for sale; but how frequently we see miserable specimens. It seems difficult to assign a reason for this, seeing that it is a plant easily grown if timely attention to its cultivation be given.

For ordinary purposes a cold frame is sufficient as a structure in which to grow the plants; but should a large supply be required the season round, a little artificial heat will be necessary, but that should not exceed 50° or 60°, with air. Too much heat is only too frequently the cause of long weak growths, for under such treatment this plant will never prosper. Only strong growths will produce satisfactory spikes of bloom.

If plants are required for Christmas and early spring the present is a good time to sow the seeds. It is the practice of some persons to do this in pans or boxes, afterwards pricking off the plants into pots. I consider this a mistake, preferring to sow the seeds in the pots in which the plants are intended to bloom, except in the case of specimen plants, when a few seeds should be sown in a 3½-inch pot, subsequently thinning out to the strongest plant, stopping and potting from time to time as required. For general use 48-sized pots are very suitable to grow the plants in. Be sure that the pots are well drained, otherwise your plants will never succeed. The following will be found a good compost in which to grow them—three parts fibry loam, one part well decayed manure, a good sprinkling of coarse sand, and if possible a little lime

rubble or smashed oyster shells, *Mignonette* apparently requiring a little lime in the soil to grow it to perfection.

Fill the pots to within an inch or so of the rims. This will allow for a top-dressing later on, making the soil very firm, well water, and after draining sow about a dozen seeds in each pot, lightly covering with fine soil. Remove to a cold frame, shading from bright sun until the seedlings are fairly above the soil, when more light and plenty of air should be given. When large enough thin out to about three or four plants, allowing the strongest to remain. When the seedlings are about 2 inches or so in height pinch out the point of each one, which will cause them to produce side growths. For the first plants one or two stoppings will be sufficient. As a rule a cold frame will suffice until October, when the plants should be removed to a light airy house, placing them in a position near the glass. Never place them far away, or they will soon become drawn and consequently spoilt.

If satisfactory growth has been made the pots will soon become filled with roots. A little weak liquid manure should then be occasionally given, and later on a top-dressing of rich soil, to which a small quantity of chemical manure has been added; but care must be exercised in this matter or great harm might be done. Never allow the soil to become dry, or the plants will be permanently disfigured through loss of foliage; and on the other hand never allow the soil to become too wet, especially during the winter. As the plants advance in growth some support will be needed, a few neat stakes generally sufficing to secure the strongest growths only. An occasional use of the syringe during bright weather will greatly assist in keeping the plants clean and healthy. For cultivation in pots *Machet* is a good variety to grow.

—HEDLEY WARREN.

EXAMINATIONS IN HORTICULTURE.

THE SWANLEY COLLEGE.

THE reference to the Royal Horticultural Society's examinations made by your correspondent "Kent" in your issue of the 2nd inst. (page 103) seems to indicate that he may possibly not be aware of the standard set by the examiners. Questions apparently simple may, and often do, require well thought out answers, and, as in the case of the Society's examinations, that which to an outsider appears perfectly simple and elementary is actually a test of an examinee's powers of observation and experience, not limited to one year's practice, and most certainly not confined to the lecture room or to book lore. Questions 1, 2, 3, 4, 11, and 16 are instances of this, while 5, 9, 10, and 12 would probably present some difficulties to many of your readers if they tried to answer them off-hand in such style as would satisfy the examiners.

To those persons who have been labouring to raise the status of horticulturists for many years the examinations and their results are full of promise, and seem certain to bring good results, not to be measured only by the number of papers sent in. All new movements affecting practical men of business require time to establish. Prejudice in many cases, diffidence in most, have to be overcome, and a class of busy men who have not yet had the opportunity of submitting themselves to a public test, in many cases discover individual difficulties which only those who have had a long and intimate acquaintance with gardeners can fully appreciate and make allowances for. Before long we may expect employers to recognise the benefits of the Society's work, and when they do so there will be no lack of candidates for examination, and doubtless the standard will, if necessary, be raised.

Special reference to the students of the Horticultural College having been made in your columns, I beg permission to add that the College authorities most assuredly do fully appreciate the value of a public test such as the Society has established. This test has long been wanted, and no person of experience can doubt that as time goes on the Society's work in this direction will prove as valuable to the community as its efforts in very many other directions have been. Your correspondent "A. D.," in the *Journal of Horticulture* for June 21st of this year, in his efforts to be impartial, has done a slight injustice to the students by writing that he found only three or four at work. His visit evidently was made during the time when the examinations were in full swing, and the previous twelvemonth's work was being tested. Some of your readers may like to know that our students are examined by the Department of Science and Art in theoretical and practical chemistry, botany and principles of agriculture, as well as by the College examiners in all our subjects. An old student who left last year is one of the four gardeners in the Society's first class list.

In justice to this Institution I may perhaps be allowed to state that "instruction in the art of using flowers in floral decoration" had been given to the students for some months by one of the staff before June 21st, and that on the 16th of the month a floral competition was held to test them both in the term's work and also in the knowledge imparted by a special lady expert in this subject. Table decorations, wreaths, show bouquets, arrangements of wild flowers, and vase decorations were all exhibited. This term we have begun with bouquet making and buttonhole and spray mounting.

The endeavour of the College authorities has been to combine sound practice with theoretical instruction, and at the same time to recognise that sound old maxim, *mens sana in corpore sano*, by encouraging outdoor sports on Saturday afternoons. Very few persons will be found to object to this on the principle that all work and no play makes Jack a dull boy. The examination lists encourage the authorities to persevere in this direction as tending to promote a good healthy tone in the College.

—COLVILLE BROWNE, *Principal of the Horticultural College.*

PINKS AT HANDSWORTH, BIRMINGHAM.

As the collection grown by Mr. A. R. Brown, Crompton Road, Handsworth, Birmingham, is one of the best representative collections in the Midlands, and he was again the champion winner at the Great Midland Pink exhibition recently at Wolverhampton, I send you my annual notes of his blooms after inspecting his plants, as they may be of some use to amateurs. Mr. Brown adopts layering as his mode of propagation, and plants out in beds in September, and does not grow his plants too strong, under the impression that with such treatment he obtains more refined flowers.

Amy (Brown).—Large, of good form, large well formed petal, dark maroon purple lacing; a very fine kind.

Arthur Brown.—Raised by Mr. George Chaundy, jun., of Oxford, but cannot be sent out until autumn 1895; a very fine flower, which received a certificate at Wolverhampton, and was fully described in the *Journal* of July 19th.

Bertha (Brown).—Red laced and bright, not a very large flower, but of good form and petal, bright in colour.

Bertram (Turner).—Very much like, but not so good as *Minerva*, and both should not be shown in the same stand.

Bessie (Fellowes).—Large and full, fair petal, well laced, and decidedly worth growing as a good useful back row flower.

Boiard (Turner).—Red laced and bright, a large full flower, shown fine at Wolverhampton; a useful old variety.

Captain Kennedy (Fellowes).—Bright reddish purple lacing, a full sized flower with good petal, and well laced; very distinct, and one of the best.

Device (Maclean).—Dark purple lacing, and good petal of fine form, perfect lacing, and was adjudged "the premier" at the London Pink show.

Duke of York (Thurstan).—Rough in character here, and not so fine as *Boiard* this season.

Ethel (Brown).—Reddish purple lacing, large and full, extra fine petal, and well laced.

Emmeline (Paul).—Dark purple lacing of fine form, with superb large petal, well laced; an excellent flower.

Emerald (Hooper).—A small petalled very full flower, and large, but will not be grown here again.

Empress of India (Douglas).—Has flowers larger than usual, but has laced badly here and generally about Birmingham, but will always be grown for its fine petal and good quality.

Enchantress (Fellowes).—Good form and petal, and well laced, and an improvement on that useful old variety *Zoe*.

Ernest (Maclean).—Bright in colour, large and full, very closely resembling *Ada Louise* and *Emerald*, but will be grown here now to the exclusion of the two others, having larger and better petals.

Favourite (Fellowes).—As seen here this variety gives evidence of very little quality.

George Hodgkinson (Thurstan).—This variety is of excellent quality, beautifully laced, but small, and here a weak grower.

George White (Paul).—A light purple laced variety, with a clear white ground colour; a well-built flower.

Godfrey (Turner).—A purple laced flower, still a good old variety.

Harry Hooper (Hooper).—Purple laced bloom; a really good useful flower, and of dwarf habit.

James Douglas (Hooper).—As seen here this is a small bloom, of poor form and petal.

James Thurstan (Thurstan).—This is not a promising variety as seen here; the petals are small.

Jeannette (Fellowes).—A large and very full flower; requires a great deal of dressing, and comes best on a weak plant.

John Dorrington (Thurstan).—A large and full flower, but rough as seen here.

John Ball (Maclean).—A good old Pink still, and as seen this season petals and marking excellent, and so bright. This fine variety is the parent of *Amy*.

Lustre (Fellowes).—A very useful large flower, with light lacing, and something like *William Paul*, but with a tooth-shaped petal.

Lorina (Fellowes).—Somewhat resembling *Boiard* and especially *Duke of York* in colours, but is a large confused flower.

Maggie (Fellowes).—A red laced variety, a very full flower, small petal, and requires much dressing to be presentable.

Mary Gray (Paul).—A flower as seen here greatly wanting good qualities, and will not be grown again.

Minerva (Fellowes).—A red heavy laced flower, not bright in colour, but always of fine form.

Modesty (Paul).—Grand in petal and form, but has laced badly this year, and hitherto it has been invariably so fine.

Mrs. Dark (Brown).—A good old Pink, and valuable as a border variety.

Mrs. F. Hooper (Hooper).—A rose-laced flower, bright in opening and fading to a lighter colour; very large petal, and difficult to dress.

Olympia (Fellowes).—A very confused flower and rough, and will be discarded.

Ophelia (Fellowes).—A large and full flower, good petal and form, but irregular in the lacing.

Pandora (Fellowes).—Light purple lacing and a pointed petal, and will not be grown here again.

Rival (Paul).—This flower has light red lacing, soon fading to a paler colour, and with serrated edge.

Princess Louise (Fellowes).—A superb purple-laced flower of very fine quality, but not a good grower as seen here, and no stock of it.

Rosy Morn (Fellowes).—One of his first and also finest varieties, well laced, and good petal.

The Rector (Fellowes).—A fine variety, and should be in every collection.

William Paul (Paul).—A really fine flower, large, stout petal, and very good in every respect.

Zoe (Fellowes).—Large and full, good petal and form, and early, being one of the first to bloom.

I wish it to be distinctly understood that these remarks apply to the blooms this year at Mr. Brown's, for in some other collections some varieties may have proved worthy of higher praise. In the year 1782, a Mr. James Maddock, a celebrated florist in those days, said of the Pink, "The great improvements made in the Pink are of very recent date, and hitherto chiefly, if not wholly, confined to this kingdom; in short, we may venture to assert that a Pink called Major's Lady Stoverdale, raised from seed in the southern parts of England by the person whose name it bears, was the first that deserved to be classed amongst such as are now held in esteem by florists, and was the first Pink possessed of that singular and beautiful ornament called a lacing, which is a continuation of the colour of the eye round the white or broad part of the petal." Eighteen years after this was written sorts almost free from the serrated edge were obtained, and the work of progress is still going on.—W. D.

THE STRAWBERRY CROP.

I QUITE agree with Mr. Dunkin (page 98) that many a useful hint might be gathered this season by growers giving a short account of any crops which may have been saved, more particularly perhaps as to position, as where growers have a choice of sites this is of great importance.

Were I starting in this district to cultivate for market I am not at all sure that I should plant the bulk in an early position; in fact, from the experience we have had of late frosts on two occasions during the last four years in this locality I should be safer, I think, in choosing a site facing north or north-west. This, of course, only applies locally, for have them as early as we can the south country growers are before us, and so the price is down. On the other hand, a late crop would prove quite remunerative in a thickly populated locality like this. My experience with Garibaldi and President differs from those cases met with by Mr. Dunkin. I have had an excellent crop of both; in fact, I may almost say I grow no other, for after trying between thirty and forty kinds these two are our mainstay. I wish Loxford Hall grew better, as it would prove very useful for dessert could it be induced to succeed, but I am almost tired of coaxing it on and waiting for it. The same remark nearly applies to Laxton's Latest of All, but it may be I want a fresh stock of this.

I must say, however, that the success I have met with this year is by no means general even in this district. In a garden not half a mile distant, where the crop is usually a good one, there was only quarter of a crop with the same two varieties, this being due entirely to the fact that the latter occupied an early position facing southward, and the former a northward one with a cold soil resting upon clay, consequently the flower stalks were not far advanced when the frosts came.

Raspberries have not been injured so much as I once feared, in fact we have an abundant crop; also Gooseberries and Currants, both Red and Black, are very light, but on walls are a full crop. The same remarks apply to Apples and Pears. It is the more disappointing as there was such an abundant blossom this season.—W. A. JENKINS, *Durham*.

TOMATOES SETTING VERSUS NON-SETTING.

FROM various sources I learn that Tomatoes have not set their fruit freely in some localities this summer. A rather dry atmosphere is, as a rule, recommended for growing the plants in, as it is most favourable for them. Last summer was certainly one which suited the growth and ripening of both plants and fruit. There was no lack of sunshine, and abundance of blossom which set freely. This year I have some plants in one house, the temperature of which has been kept as suitable to the growth of the plants as possible; but although the first flowers set those which opened later and during the dull July weeks failed to set, although they were fertilised. At the same time I had some plants syringing in an unheated Peach house. The Peach trees were regularly syringed with the garden engine on all fine days; the Tomato plants were in full flower at this period, and all came in for a good drenching from the engine. As a consequence there is a splendid crop of fruit swelling on every plant in that house.

"A Young Scribe," in his interesting and instructive notes on Sandbeck Park Gardens (page 112) mentions a case there of the syringing of Tomato plants, and the good results which followed. It was that reference to the subject which caused me to pen these notes, as in my case the result is also satisfactory, but the syringing was not purposely done.

Two houses under my charge have Tomato plants growing in them, one heated and the other not, and the set of fruit is now good in both, but I am referring only to the unheated house. The difference in the two houses of plants caused me to ponder the matter over a good deal during the past few weeks, especially so as the disease has appeared on a few of the plants in the warmer house and not on those in the unheated one. I can only guess at the cause of failure to set in the one house and success in the other, which is this—viz., that those plants in

the warm house had more water supplied to their roots than was good for them. As the Peach trees required water so were the Tomato plants supplied, not otherwise. Syringing is, no doubt, effectual, and may be gradually practised, of course, judiciously, on a large scale.—GEO. GARNER, *Cadland*.

RIPENED WOOD.

MR. RAILLEM (page 126) takes up the cudgels against me on behalf of the faddists, therefore I must expect a drubbing. But with all due deference I would ask whether he has not rather given himself away by saying "that ripened wood has done its share when it has produced the flower buds, and is not responsible for those blossoms opening, still less for their producing fruit." Do we grow Plums, Pears, and Apples for flowers or fruit? If the latter, then blooming is only a means to an end, and I for one regard profusion thereof as a distinct disadvantage, the production of excessive and unnecessary amounts of blossom entailing too great a strain on the vitality of the trees and seriously enfeebling their constitution for at least one season, if not longer. So experienced a cultivator as your correspondent has probably realised this fact years ago. Should he still doubt, however, I could show him proofs both in my own and other gardens. I will just mention one. A large pyramid Pear tree this spring produced only fifteen blooms, yet every one set, and fifteen fine Pears now hang on that tree in striking contrast to many of its neighbours, which were covered with snowy blossoms and have not a single fruit on them, the whole energy of those trees having been dissipated during that exhausting process, the flowering stage.

Mr. Raillem may, however, claim that the barrenness of such trees is due to late spring frosts. This I deny, and will therefore instance some Peach and Nectarine trees I have grown for years in pots. These are of course housed during the winter, and stood out again in the open after fruiting, consequently last summer their wood was splendidly ripened, and a fair but not excessive crop of blossom resulted. Yet, though they were protected from the May frosts and other vicissitudes of our English climate, they failed to fruit. Obviously well-ripened wood does not produce Peaches and Nectarines.

Further, I will not even acknowledge that ripened wood entails an exceptional output of buds. The summer of 1892 was cool, but in the spring of 1893 my Apple trees were so covered with buds as to appear perfectly red at a little distance when the blooms were just opening. This phenomenon was not observable to the same extent last spring. At the present moment, too, all trees are showing well with spurs and fruit buds, notwithstanding our house had no sun to ripen wood or anything else:

Having already shown it was not news to me "that a disastrous frost occurred late in May"—indeed, I am fully alive to all meteorological occurrences—I may in addition tell your correspondent that there was nothing very exceptional in this. We had late frosts in 1892 and 1893; in fact, we always have late frosts in this country. Quoting from memory I think the usual cold snap came as late as the beginning of June last year. No, sir, gardeners have nothing to thank the summer of 1893 for. It has left us the legacy of such a crop of insect and parasitical pests as I hope we may never see again, and which will take years to exterminate.

In conclusion, I enclose for your inspection some 1894 Pear leaves. Most of those in my garden are similarly affected; but as the disease appeared almost as soon as the leaves themselves, and long before any May frosts, the attack can only be regarded as one result of ripened wood. Therefore *pace* Mr. Raillem, I must still subscribe myself—A SCEPTIC.

[We are unable to find either insects or fungi on or in the leaves. The small yellow specks manifestly have been the seat of some parasite, which has caused the separation of the epidermal tissues; but it must have been some microscopic larvæ that left their abode some time ago. The brown patches are due to some internal malady, and are not caused by parasites—indeed, the mischief appears consonant with that of tender tissue acted upon by frost, or a long continuance of cold wet weather followed by dryness, the foliage being very thin, and indicates a supply of poor food, possibly drawn by deeply seated roots—that is, in a cold wet subsoil.]

ROOT ACTION: ITS EFFECTS ON VEGETATION.

[Read by MR. WILLIAMS at a Meeting of the Preston and Fulwood Horticultural Society.]

EVERY observer of the vegetable kingdom will, I think, at once admit that the principal external features of all plant life are—first, the root; secondly, the trunk and branches, or stems; thirdly, the leaves; and fourthly, the flowers and seeds. In the formation of these Nature has many forces in operation. The varying atmospheric conditions and changes from summer's heat to winter's extreme cold acting and re-acting on Mother Earth, keeping in motion the chemical transformations of nutriment to supply the constant demand of the multitudinous forms of vegetation. It is a notable fact that variety characterises the vegetable kingdom, and yet it is possible to maintain a supply to its needs, the study of which constitutes a source of great commercial profit, and the dispensing of the numerous compositions of soils, manures, water, and air forms the special duties of horticulturists. The functions of roots are to hold the plant in position in the soil, to absorb through the spongioles the necessary nourishment required by the plant; and scientists tell us that they also throw out of the system

waste matters which the plant is unable to assimilate. The spongioles just alluded to are the extreme points of the roots, and when the plants are in a healthy condition are full of activity, taking from the soil the elements supplied by the process of decomposition from the effects of heat, cold, air, and water, also the action of different products on each other, brought about by cultivation in the exposure by digging, trenching, draining, and otherwise manipulating the land, according to the knowledge we have of its requirements, for the encouragement of the spongioles, or what are more commonly known as fibrous roots.

In our selection of fruit trees, for instance, we would at once choose those trees which have a number of these small roots, recognising them as so many food suppliers, and the trees will more readily be given support when replanted, as each healthy rootlet, given fair conditions, will soon resume its natural work of imbibing food if not for immediate use, for storage to meet the strong demands of springtime. For this reason the Paradise stock is recommended to graft Apples on when early fruitage is desired, the nature of this tree being to root freely and keep near the surface, where it is easily influenced by the sun, and by whatever manure may be supplied to it. One precaution I would suggest in the treatment of all plants that root near the surface, viz. that in their summer management when hot and dry seasons prevail, these roots should be mulched with short litter of any kind, that the spongioles be not contracted by hard-baked soil and rendered unable to conduct their work until others are formed, encouraged by a supply of water artificial or otherwise; the opposite extreme should also be guarded against during the winter season, when hard frosts and biting east winds seem to starve and render useless the soft pulpy points or feeding portion of the roots. When this weather is anticipated, or any time after the foliage has fallen, the surface soil may be lightly forked, and, if thought necessary, an inch or two of soil may be removed for the distance of 2 or 3 feet around the stem of the tree; this soil may be replaced on top when 3 or 4 inches of good manure has been laid over the roots. This process has the three-fold advantage of protection from frost, manuring the deeper roots, and acting as a great encouragement for the development of fibrous roots, without which good stout growth with abundant fruiting wood, laden with buds, are almost an impossibility; this principle holds good whenever good plants and trees are desired.

While speaking so strongly in favour of fibrous roots I do not ignore the use and purpose of the strong far-reaching roots, pushing and tunnelling beneath the surface almost regardless of the texture of the soil, extending themselves according to the branches above ground, and are, in fact, the evident cause of such extension; cripple or damage the root action or withhold the supply of nourishment and growth stands still, many of our more tender plants taking a long season to recover from its disastrous effects. These strong roots are also the anchorage against the wildest gales that sweep with such fury, and, sad to say, play havoc amongst our much-prized forest giants, and the growth of centuries is laid low with a crash, these unfortunate disasters often robbing a beautiful landscape of one of its most picturesque features, are very frequently traceable to failing root action.

FRUIT TREES.

I will now endeavour to confine my remarks more strictly to our garden work, and notice the difference in the quality of our small outdoor fruits when grown with a view to fibrous root encouragement. True it is that some persons possess plantations of small fruit trees, and they will almost dare to contend that those neglected-looking trees of theirs are the most profitable, yet I cannot reasonably believe such to be the case. Fruit trees are somewhat like people, they generally respond more kindly and profitably to generous treatment, and on the behalf of the trees and for the digestion of those persons who are fortunate enough to be present at fruit gathering time I recommend that they occasionally fork round their fruit trees, adding at the same time either a good dressing of manure or lime. These, given alternately every two or three years, will ensure healthy strong trees, with heavy crops of fine plump fruit, without any exception to variety—putting in a saving clause for the Raspberry, which will do far better without the forking, because of its large surface rooting capacity.

The Raspberry is very impatient under that treatment, the canes, by constant mutilation of their roots, gradually weakening, consequently becoming unfruitful. An annual top-dressing of manure or other refuse will both encourage root-action and protection from extremes of temperature. In passing I would suggest to those who have any old orchard trees of Apples, Pears, Plums, or Damsons, just try the treatment recommended for the Raspberry, and mark its results, for as if endowed with sensibility, young roots will soon be found revelling amidst the new material, with the certain result of more nutriment being conveyed to the tree, enabling it to produce young and sturdy wood, with a sufficiency of healthy foliage to assimilate and mature the sap, with the necessary vigour to carry the crop of fruit to maturity, with the probability that with this increased vigour the trees will not be so liable to disease. The Strawberry is a surface-rooting plant also, and those growers whose quarters are well mulched before the advent of frosts and cutting winds will be repaid their energy and forethought with superior returns throughout the fruiting season.

Thus far the cultivation of ordinary outside fruits only have been passed under review, but it is equally necessary that the more important kinds, such as the Vine, Peach, and Nectarine, should receive every consideration to help and encourage those trees, to produce abundant rootage to empower them to yield year by year large, luscious, and finely coloured fruit. It is often recommended that these indoor grown

trees should be restricted within certain limits, with concrete foundations to keep the strong roots from striking down into the cold subsoil, the result of which would be the formation of soft, unripened wood. Without these restrictions root-pruning is often resorted to, a process in which all the strong roots are cut back, if possible, to a point, where other smaller roots diverge, and replacing the old removed soil with good turf or liberal dressing of leaf mould. It is not wise to place fresh manure around roots which have been pruned or cut back, decay often resulting, instead of healing over, and throwing out young rootlets.

THE IMPORTANCE OF GOOD DRAINAGE.

There is still another source of difficulty in connection with our subject. We may have the best soil, trees, and other surroundings eminently fitted to produce good fruit, but unless the land is well drained, naturally or artificially, and consequently sufficiently porous to permit of the surplus water passing away, we must ever remember that if the earth is full of water it is practically sealed against air, and without air roots of fruit trees cannot flourish. The sun's rays falling upon wet, undrained land, only promotes evaporation, whereas when it passes away by filtration warm air is being drawn after it, aerating the land, imparting required elements to the roots, and in turn to the trees or plants. Because of this principle cold retentive clay lands are seldom recommended, for it is calculated that if one pint of water is evaporated from 100 lbs. of soil it is left 10° colder than if it had passed away by filtration in the cultivation of any crops. At the other extreme, sand is a great encourager of roots, but unless well supplied with other matter it fails to sustain the plants growing upon it. Therefore I would recommend a good deep loamy soil, resting on a gravelly subsoil, or when clay forms the subsoil, that it be efficiently drained; for fruit trees these drains should be about 3½ feet deep, from 6 to 8 yards apart. These drains are laid with a slight fall towards the lowest part of the land, where a cross main drain receives the surplus water from each of the others, carrying it away into some recognised outfall. I have incidentally mentioned this, because without proper drainage the land is unable to yield her increase in the locality where, for various causes, it is found convenient and necessary to form and plant anything in the vegetable world which demands these conditions, and without the knowledge of the existing state of surroundings it is comparatively useless attempting to produce first-class fruits or vegetables for competition with other countries and for general consumption. The yearly loss and disappointments from these causes stamps the system as foolish, and calls for a firm, steady, and determined effort to expose it, that generations to follow may have resources to which we at present are largely strangers, and much too dependent on foreign supplies. What I have already stated bears directly on root-action.

Drainage promotes a healthy aerated condition of soil. This, in turn, allows the free development of roots without which the formation of stem, branch, flower, fruit and seeds are impossible. Ask the Orchid grower the secret of success, watch him as he keenly observes and scrutinises his fresh importation of valuable plants; a sign of new roots inspires hope, knowing without their aid all the manure, water, and attention he can give will be absolutely in vain. Note the difference in the quality and texture of the flower when borne on plants well rooted, or otherwise. The flowers on the strong healthy plants are perfect in their shape and their colours are more intense. These remarks hold good throughout the floral world. Good soil rightly applied and containing the necessary elements of nourishment, promotes a healthy rootage. This, sustained by attention and a knowledge of the various requirements of each class of plants, gives that satisfactory hue to plants which denotes the capacity of the cultivator and the grip he has of the subject grown.

My paper would be incomplete if I omitted to mention the assistance of the sun. Without its light and heat, drainage, soils, water, air, and attention, could not perfect the great majority of the world's productions. This is intensely verified in our early forcing work, there being no comparison in the quality, for instance, between early forced Potatoes, French Beans, and Rhubarb with those vegetables when grown under ordinary conditions with ample sun and air. The sun's light and heat afford the necessary elements for the successful building up of those constituents that add firmness and stability to these productions, and to flowers the brightness and solidness so much admired, though it is almost noticeable that the sun also has the power to abstract, when long exposed to it, these same colours, driving us to take refuge from its direct rays under various kinds of shadings. These shadings enable us to prolong our flowering periods with plants grown under glass without undue exhaustion to the plants. In addition to this reason, outdoor flowers are assisted to greater perfection by this aid by preserving the earlier opened petals until the whole flower is in full bloom, as, for instance, those two favourites of the exhibition table—Roses and Dahlias.

IMPROVING SOILS.

I have endeavoured to make it plain in the foregoing remarks that the whole question of successful culture lies in a comprehensive knowledge of the position, with regard to the land, its nature and formation, whether effectually drained or otherwise. Without this knowledge much labour will be wasted, disappointments abound instead of successes. Let us bear in mind that soils are open to improvement. It is for us to apply the proper elements in which to plant and grow the numberless beauties by which a beneficent Creator has surrounded us. The possibilities of success are constantly brought

home to us by those who ardently set themselves to win, by studying the requirements of their special productions. Where one man has triumphed, it is possible for others to succeed. A studious mind soon gains an insight to Nature's demands, and will quickly mark the fact that tender seedlings do not need the heavy manurial applications prescribed for full bearing fruit trees, or even the somewhat strong doses directed to those plants which have attained full size, and continue root-bound for years, yet flower freely.

Seedlings and cuttings must be encouraged to first form abundant roots in open material such as sand, peat, leaf mould, or other kindred matter, until the plants have grown considerably, and demand stronger food to bring themselves to perfection, whether as a foliage, flowering, or fruiting plant. This fact I would emphasise as strongly as possible, because there are many persons who think that given manure and enough of it, success must be assured, and delight to tell how many tins of someone's patent they have used during a season; but, sad to say, their plants are no recommendation to the means used, because of the ill-advised use of strong manures before the plants are capable of assimilating it, the soil being frequently surfeited by over-doses, to water-logged, undrained soil. The pots, too, are green and slimy, as if the owners were determined to exclude all air. Success, under such management, must not be expected; rather let us delight in treating our plants more in accordance with the fact that they are living organisms, prepared to amply repay every little thoughtful attention, filling the hearts and lives of all who attend and admire them with pride and delight.

THE HAYES CARNATIONS.

ONE is inclined to envy the treat which "Wanderer," who writes so sympathetically of the Hayes Carnations (page 124), must have had on the occasion of his visit, and to make a resolve to take the first opportunity to go on pilgrimage to Kent. Thanks to the liberality of Mr. Smith, I am able to see something of his really grand Carnations in our own garden, as I have this year several border beds filled with them. It is the simple truth that these border varieties mark quite a new departure in Carnations. Not only are the individual blooms of first quality; they are also, many of them, very large, even larger than the roughest giants of the older race with their yielding calyces; the colours also are distinct and novel.

"Wanderer," I am sure, will excuse me if I make note of two important characteristics of these Carnations which render them of priceless value to gardeners. I refer to the vigorous constitution of the plants and to their exceedingly floriferous habit, the latter itself a precious boon. Let me take the yellow sorts as an example. *Corunna* has here grown to a height of 4 feet; one of the plants has seven flower stems, and the "grass" is proportionately strong and vigorous. Then there are apricot-coloured varieties with nine and ten flowering shoots, and bearing flowers which render the growth of Mrs. Reynolds Hole a superfluity. Eight to a dozen shoots appear to be the normal average number.

In the case of older kinds I thought it well to thin to a reasonable number, as the plants were too crowded. It will emphasise what I have said as to the robust growth and profuse flowering qualities of these newer sorts when it is explained that they were received from Mr. Blick as rooted layers in the middle of November. I may add that they are well adapted for pot culture for flowering in early summer.—R. P. BROTHERSTON.

A STEAM LAWN MOWER.

To many readers a steam lawn mower will doubtless be a novelty, but a *Journal* representative had the pleasure of examining one, and seeing it work at the Lord's Cricket ground, St. John's Wood, last week. The engine and boiler are fitted over the machine, and we understand may be fitted to existing lawn mowers when desired. The inventor, Mr. J. Sumner, Leyland, claims that steam can be raised in ten minutes from cold water, and judging from the one seen the machine is very easy and inexpensive to work, costing, it is said, only 1d. per hour. The following particulars regarding this novel and useful piece of mechanism may be of interest:—

"The boiler is multitubular, containing sixty-six copper tubes and a copper fire-box, and the shell is made of mild steel and tested by hydraulic pressure to 300 lbs., the safety valve is set to 150 lbs., and the working pressure at 140. The steam pressure is regulated by a steam diaphragm, which automatically controls the supply of oil to the burner, and by this means the steam is maintained at a uniform pressure while the engine is working; and, should the attendant leave the machine for any purpose while the lamp is burning, the diaphragm will not allow the steam to attain more than the set pressure, so that all possible danger of an explosion is removed. The water is fed to the boiler by a brass force-pump, and is first passed through a heater, and delivered to the boiler at a temperature of about 180°. Steam is generated in the boiler by the use of common lamp oil (petroleum) as fuel, which is burnt in the fire-box of the boiler by a burner similar to the burner on a naphtha lamp. The oil is carried in a specially constructed reservoir at the top of the chimney, and is led to the burner by a small tube down the side of the chimney and boiler. The water is carried in a cylinder between the shafts of the machine."

The Stott Distributor Company, Barton House, Manchester, has taken the agency for this steam lawn mower.

HYPERICUM OLYMPICUM.

THIS species of St. John's Wort is a native of Greece and of Asia Minor, flowering from July to September. It is much smaller in habit and foliage than its congener *H. calycinum*, which is so much in use as an edging plant, but the larger flowers of the Olympian species are in strong rivalry with the better known species. It was grown in the Chelsea Gardens as long since as 1706, but was not figured in the "Botanical Magazine" till more than a century later. The flowers are nearly 3 inches across, and the same tint of yellow pervades the whole of the flower—corolla, filaments, anthers, ovary, and styles. The burnished inner surface of the petals reflects light strongly, making it appear paler than the evenly distributed colour would suggest. The calyx and leaves are of a pale glaucous green. The first flowers are terminal, but are quickly succeeded by axillary buds, which leave the stems at a large angle. The leaves are sometimes larger than appears



FIG. 24.—HYPERICUM OLYMPICUM.

in the engraving. It is doubtful whether the plant is hardy enough to resist our winters, and it should therefore receive the protection of a frame in the cold months. It is increased by division or seeds, which latter should be sown as soon as ripe. Germination takes place in early spring. It grows to 8 or 9 inches in height, two or three stems appearing from near the crown, and is of a very simple habit. Our engraving (fig. 24) was made from a plant at Kew.

GARDENERS' CHARITABLE AND PROVIDENT INSTITUTIONS.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—*Secretary*, Mr. G. J. Ingram, 50, Parliament Street, London, W.C.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—*Secretary*, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

ROYAL GARDENERS' ORPHAN FUND.—*Secretary*, Mr. A. F. Barron. Royal Horticultural Society's Gardens, Chiswick, London, W.



HARDY FRUIT GARDEN.

Preparing Strawberry Ground.—To ensure the most lasting and profitable results with Strawberries it is important that the soil when planting should be in a uniformly rich and fertile condition. Strawberries are gross feeders, and imbibe also a considerable quantity of moisture at all periods of growth. It is necessary, therefore, that the soil be as deeply worked as circumstances will allow, and food provided within reach of the roots. Deep cultivation ensures a better supply of moisture in light and dry soils, while in heavy retentive ground nothing conduces to its improvement better than working and breaking up the subsoil, which acts in many cases as drainage.

Trenching Ground.—The best manner of carrying out deep cultivation is by means of bastard trenching. When dealing with heavy, strong soil this is best performed the previous autumn, as it ensures a greater amount of pulverisation than is possible when dealt with later. For soil, however, that is naturally in good working condition, its preparation a few weeks prior to planting is sufficient. Many cultivators prefer to prepare all kinds of soil in autumn, leaving the winter frosts and rains to ameliorate the surface, and then take a crop of early Potatoes from the ground, which leaves it in perfect condition, needing but little preparation after their removal beyond cleaning, levelling, and firming. Having selected the plot, dig out a trench across the piece. It may be 30 inches wide and one spade deep, the soil removed being wheeled to the opposite end, or the plot can be divided into two parts, cutting a trench across half way only, throwing the soil on the unopened portion of the remaining half, where the trenching will eventually be finished. Thoroughly loosen the bottom of the open trench, working in a layer of manure, and if the soil is very heavy road scrapings or other gritty material. Then place on the surface another layer of manure, and proceed to dig out the top spit of the next trench, placing the soil on the first. Follow on with each trench in the same manner until the whole is completed.

Top-dressing and Firming Ground.—Where the soil is poor and manure was not freely applied in the top spit when trenching a dressing of half-decayed material may be forked in prior to planting. Light soils need abundance of manure, well incorporating it in, but strong holding loams should not be manured too liberally at first, as such are usually in good heart. All soils are much benefited by a liberal dressing of burnt refuse spread on the surface prior to planting. It might be lightly forked in, but it answers well to leave it on the surface. When dry, the ground should be trodden firmly, as Strawberries thrive best in well consolidated soil. When loose and rich as well a too luxuriant growth of foliage is caused.

Planting Strawberries.—Plants well rooted in pots ought first to be attended to, as owing to rapid growth they are liable to become root-bound to such an extent that they will be seriously checked in development. Previous to planting the roots must be thoroughly moistened. Insert the balls low enough so that the crowns of the plants are a little below the surface. Make the soil very firm about them, especially where plants have roots in a compact mass, as in those from pots. A shallow basin-like cavity may be left around each for the purpose of holding water. Most growers prefer planting in dull, cool weather, but not immediately after rain when the soil is wet, but after the surface has dried. Plants rooted in turves ought to have the latter quite moist when planting, and those lifted from between the rows should have as much moist soil adhering to the fibres as possible. Make good sized holes in order that the roots may be spread out at full length, but it is better if each plant can be lifted with a fork, and transferred to position without loss of soil or roots.

Planting New Stock.—New plants from a distance must be carefully dealt with. The roots are sometimes very dry, unless the plants are in pots or received recently turned out with proper packages. If the leaves and stems are limp, immerse the roots in water; enough moisture will soon be absorbed to freshen the plants. In planting spread out the fibres on little cones of soil in the centre of the holes prepared, and scatter over them some light fine soil, making it firm around the collars. In these cases a small depression for holding water is indispensable, copious supplies being needed to establish them in dry weather.

Distances for Planting.—The strongest growers need abundant room between the rows, and a corresponding amount between the plants. Rows 2 feet 6 inches apart, with the plants 2 feet asunder, are the usual distances for the more vigorous kinds. A few inches more can be given to the exceptionally strong varieties, or where planted in superior soil. The medium growers are well accommodated with the rows 2 feet apart, the plants being 18 inches asunder.

After Treatment.—Keeping down weeds and cutting off runners as they form must be assiduously attended to. Hoeing or stirring the surface promotes free growth, by adding to the sweetness and warmth, as well as retaining the moisture of the soil. It prevents the appropriation of the food elements other than by the legitimate crop. The aim should be to obtain by the close of the growing season strong plants having bold crowns. Those which are planted in a weakly condition

or very late in the season often need the following growing season to recruit. With such plants the flower buds ought to be removed early, and growth concentrated in the formation of strong crowns.

FRUIT FORCING.

Vines.—*Early Houses.*—The Vines will have the wood ripe, the buds plumped, and the foliage falling, but there must not be any attempt at removing adhering leaves, nor to cut the laterals closely in all at once, as that would probably cause the principal buds to start; therefore remove the laterals by degrees and shorten some of the long shoots, preserving, however, some growth, especially when the principal leaves are down, above the buds to which the Vines are to be pruned, the final pruning being deferred until the early part of next month. The old surface soil, top-dressing, or mulching should be removed, forking any soil unoccupied by fibres from amongst the roots, taking the opportunity of raising any that are deep and laying them in fresh material nearer the surface. Good calcareous or gritty loam (not too light) is the most suitable, with about a twentieth of wood ashes and a fortieth part of crushed half-inch bones. If the soil be light and gravelly add a sixth of clayey marl, dried and pounded small; if heavy, supply about a sixth gritty matter—calcareous or ferruginous gravel or freestone chippings; if deficient in calcareous material, add a sixth of old mortar rubbish to heavy soil and chalk to light soil. Charcoal is an excellent addition in any case to the extent of one-tenth. Give a moderate watering if dry, it sufficing that the compost be evenly moist, and the roots will push fresh rootlets, especially adventitious ones, from near the collar into the new soil, and be in capital condition for a start when the time comes round. If the Vines are in an unsatisfactory condition the border should be examined, and this being faulty either in composition or drainage shade the house, lift the Vines, wrap the roots in wet mats, promptly remove the old soil and drainage, supplying sweet and clean in their place, relaying the roots in the fresh material with dispatch. This will give the Vines a chance to form or make provision for pushing fresh roots and so effect a good start, otherwise, lifting or renovating the border being deferred until the leaves are all down, the start is not nearly so satisfactory.

Midseason Houses.—Vines generally have done well this season, especially as regards crop, but there has been an unusual prevalence of "rust," probably mainly due to the changeableness of the weather—that is, inattention to the ventilation in such manner as to counteract the prejudicial influences of its vicissitudes, and there has been more than usual amount of shanking. Grapes, too, have been slow in acquiring colour, while some Vines have lost their leaves through being crippled by "rust." Red spider also has been unusually troublesome, but not on "rust" foliage, for which there is no better remedy than sponging the leaves carefully with a weak solution of softsoap on the first appearance of the attack and thinly coating the hot-water pipes with a cream formed of skim milk and flowers of sulphur. The free use of fertilisers has also great effect on red-spider-infested Vines, together with copious supplies of water. A surface mulching of rich, but not close material, is of immense advantage to Vines in light soils and restricted borders, with supplies of liquid manure of a sustaining rather than of a stimulating nature are essential to a satisfactory result. Fire heat will be necessary where Grapes are ripening to secure a circulation of air, prevent the deposition of moisture on the berries, so preventing "spot," which is more than usually prevalent this season on Muscat of Alexandria, that fine Grape Madresfield Court being far less susceptible of attack from the spot fungus, and it is taking its place as the foremost of high quality and paying midseason Grapes. A temperature of 60° to 65° at night is ample for Grapes when ripening, with 70° to 75° by day artificially, 5° more being allowed for Muscats and other high-temperature-requiring varieties, allowing advances of 10° to 15° from sun heat. When the Vines are carrying heavy crops the temperature should be kept rather low at night, so as to give time and rest to Vines in order to perfect them.

Late Houses.—Although the Grapes are ripening full supplies of water are necessary until they are well advanced in colour, for most late varieties take a long time to perfect thoroughly; some, as Mrs. Pince, even after appearing finished, are not so up to the shank, which is often a consequence of stopping the supplies of food and moisture too early, and in some cases the result of a too short duration of the feeding is manifest in the Grapes shrinking. All late Grapes require time, they ought now to be colouring or advanced therein, and then they, with a free circulation of warm rather dry air on favourable occasions and little constant ventilation, attain a fulness of berry and a perfection of finish, other conditions being favourable. Indeed, poverty of finish is the chief cause of shrivelled Muscats and others shrinking after they have hung some time. Afford a temperature of 70° to 75° by day artificially, 80° to 90° with sun, and close sufficiently early to increase to 90° or 95°. When the sun is losing power put on enough top and bottom or side air to insure a circulation; allow the temperature to gradually cool, which rests the Vines, and increase the ventilation early with the advancing temperature. The pipes should, if necessary, have a little warmth in them, to prevent the temperature falling below 65° at night, for parsimony in this respect is often costly, as having to apply fire heat late in the season is more expensive, and the result unsatisfactory.

Melons.—In pits and frames the latest plants will have set or be setting their fruits. The fruits, however, ought now to be set and swelling away freely, or they will have a poor chance of ripening perfectly. Sprinkle such plants with tepid water, avoiding the stems, and close early in the afternoon at 80° to 85°, running up to 90° to 100°. Admit a little air in the morning at 75°, increasing with the sun heat to

85° or 90°. Those in frames should be attended to as required with linings of sweet fermenting material as the nights become cold, so as to prevent the temperature falling below 65° in the morning, and if mats are placed over the lights after the sun leaves the frames, and removed shortly after the sun has risen, very much better results will be had with late Melons than usually results from frames.

In houses maintain a night temperature of 60° to 70°, and 70° to 75° by day. As the days are shortening lessen the supply of water, yet affording sufficient at the roots to keep the soil in a moist state whilst the fruit is swelling, but after it is full sized or ceases swelling afford no more than to maintain the foliage from flagging. Keep the laterals shortened to one leaf as made, and rub off superfluous growths as they appear, allowing nothing to interfere with the principal leaves, or to retard the swelling of the fruits. Plants with fruits advanced for ripening should be kept rather dry at the roots, and have air liberally, with, if practicable, an advance of temperature, avoiding a close moist atmosphere, which invariably results in the fruit cracking or its being of inferior quality. The latest plants will have been placed in light well heated houses, and be growing freely. The leader of each plant must not be stopped until it reaches the trellis, when it may be pinched off if more than one leader is wanted, or may be allowed to grow two-thirds of the distance up the trellis if only one leader is desired, and then be stopped, removing every alternate lateral directly they can be handled. Maintain a moist and warm atmosphere, 70° to 75° by artificial means, with the bottom heat at 80° to 85°. Keep water as much as possible from the collar, and a sharp look out for canker, upon the first appearance of which rub quicklime well into the parts affected, repeating as necessary, striving to maintain a clean growth and healthy stems to the last.

Cucumbers.—Encourage the plants for autumn fruiting to make strong growths by adding fresh soil, occasionally affording abundance of but not too much water at the roots, with a moist genial condition of the atmosphere by syringing at closing time and damping available surfaces occasionally. Sufficient fire heat must be employed to prevent the temperature falling below 65° at night, and to maintain it at 70° to 75° by day. Old plants should have exhausted growths removed, and others where likely to be crowded thinned, so as to admit of light and air, securing a sturdy solidified growth and a succession of bearing wood. Where this is attended to, some of the old soil removed and fresh supplied, the plants will produce new growths and fruit for a considerable time, but clean fruit cannot be had from plants cumbered with old crowded growths and leaves instead of healthy young and vigorous.

Plants in frames should also have the old growths cut out, young taken in their place, and some layered at the joints, so as to secure fresh roots and a due supply of nutriment be forthcoming. This, and the removal of bad leaves, will keep the plants fruitful for some time longer, crowding being avoided by thinning and pinching the growths. Linings and protection, as advised for Melons, are also necessary to a late supply of clean fruit; the crooked and gummed examples so prevalent late in the season are usually the result of cold and unfavourable conditions to growth, and are certainly not wholesome. The syringe should be employed about 3 P.M. on fine days. If mildew appear dust with flowers of sulphur, maintaining a somewhat freely ventilated atmosphere. Black aphides are frequently troublesome at this time of year. These and green fly succumb to repeated fumigation with tobacco, taking care to have the foliage dry, the smoke cool, and not give an overdose.

Figs.—*Earliest Forced Trees.*—The second crop is ripening fast, and watering at the roots must be diminished, and syringing discontinued. When the fruits are all gathered the trees may have a good washing with the syringe or garden engine to free the foliage from red spider, otherwise a circulation of dry warm air should be maintained in the house until the foliage begins to fall naturally. If the trees are infested with red spider seriously and scale they may be syringed with soapsuds, adding a wineglassful of petroleum to every four gallons, kept thoroughly mixed whilst being applied with a syringe by stirring briskly with a broom-handle or alternate squirts of the syringe into the vessel.

The earliest forced trees in pots may be placed outdoors in a sunny position, allowing them sufficient water. They must not, however, be placed outside until the wood is well matured. If the wood is unripe let them remain under glass, keeping them rather warm by day with moderate ventilation, and throw the ventilators open at night. Exposure to the atmosphere after the wood is sufficiently mature will harden it, which is of great importance, especially to Figs. Young trees in pots from cuttings in the spring, and which are intended for fruiting in the second or third year of their growth, must still be attended to in pinching off the tops of strong shoots to form the foundation of a symmetrical head in their first year's training, they being kept to one stem of about a foot in height by rubbing off growths on that part as they appear.



APIARIAN NOTES.

TAKING BEES TO THE MOORS.

AT 8 o'clock P.M. on August 3rd I commenced to move my bees to the Leadhills, and by nine o'clock they were all compactly packed on a truck. We started from the station next morning at

6.30, and reached our destination by 9.15 A.M. They were then removed from truck, and carted two and a half miles, then carried about 200 yards to a sheltered spot. The whole of the bees of seventy hives were all flying by 1 P.M. without the escape or loss of a single one, nor the slightest signs of overheating. This is a feat that I challenge anyone under the modern arrangements to accomplish so successfully in the same space of time.

WEIGHING THE HIVES.

As the hives were carried to the lorry, stripped of their wrappings, everyone was carefully weighed, which proved our heaviest hive to have risen in weight 55 lbs. since the last week in July. This was a Punic stock. Fifty per cent. of my stocks rose to within 3 lbs. of that weight, while the other portion were on an average 10 lbs. lighter. I have never taken bees to the Heather in better condition, and with ten days settled weather I shall have some weighty hives, with a large surplus of honey. Since I set them down the weather has been showery, but the flowers are full of honey; and although the bees may not have gathered surplus, they have kept themselves very different from what they did in 1893 at the same period of the year. They will all be weighed at the end of the season, and your readers shall know the results. The heaviest one referred to above is 125 lbs. gross, tare of hive 42 lbs., so that everyone may understand the facts. It will be observed by those who read other bee literature on hives for the Heather that it is impossible they could even reach the third weight of my hives, which are less in compass than any others lately brought out. It will also be noticed that hives averaging a cwt. each is no mere child's play to handle so successfully in the time occupied.

My nuclei are all brought from the heights, and to appearance are all mated, so that I am prepared with good stocks for another year. I only regret I have not some of the teachers here who say that queens are not prolific until some months old, to give them ocular demonstration to the contrary. I say it unhesitatingly, and without the slightest fear of anyone being able to disprove the fact, that queens are never more fertile, as most animals are, than in their matured youth. Bee questions, amongst others, we should be careful to answer, and above all neither to mislead nor deceive ourselves or others, wilfully or in an ignorant manner.

THE SEASON.

The season has been one with bees we have never before experienced, leaving many persons in the lurch who depended on one system of management. As your readers know from long experience I have many plans suitable to our variable and changeable climate and seasons. The above notes are written solely for the benefit of bee-keepers who have not as yet had long enough experience how to make the most of bees whatever the seasons may be, but in order to be successful must watch my tactics.—A LANARKSHIRE BEE-KEEPER.



*** All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Black Hamburgh Grapes (W. S.).—The cause of the berries being so pale in colour will be published next week, as it is not possible to do so in this issue.

Onions Unsatisfactory (J. S. B.).—Your letter shall have attention in our next issue, there not being time for a thorough examination of specimens arriving on Wednesday morning.

Snails amongst Eucharis Plants (G. H.).—The small snails will do harm sooner or later if allowed to increase. Give the plants a watering through a fine-rosed can with perfectly clear lime water about nine o'clock at night, as the snails will be moving then, and it will

"settle" all it reaches. If it does the plants no harm, as we do not think it will, repeat the watering in a week, and at further intervals as may be desirable.

Destroying Plantains on Lawns (W. D.).—The best plan we have tried is to lift the Plantains during moist weather with a daisy fork. If care is taken it will draw them up by the roots, and any that break off near the top can have sulphuric acid (oil of vitriol) dropped on the part, and it will kill the root. Our plan in using it is to clean out an old blacking bottle, tie a piece of wire round the neck so as to form a handle to hold the bottle, which makes all safe in handling, then make notches at the end of a stick about as thick as the finger, then notches all round, and about 1 inch up the stick; some of the sulphuric acid being put in the bottle apply the notch end of the stick and it will retain sufficient of the acid to apply to each Plantain, putting it on the root. It will kill the Plantain by applying it to the centre of each plant; but we prefer to pick them up. Care must be used with the sulphuric acid, not trusting it to a careless person.

Peach Trees Unsatisfactory (H. W.).—The trees are afflicted with the English form of "yellows," or lack of chlorophyll. The wood is very weak and long-jointed, which may to some extent be due to defective ventilation, but the roots must be in a very unsatisfactory medium, and until that is rectified, also the ventilation, it is useless striving to improve the condition of the trees. If the trees were carefully lifted and replanted in autumn as soon as the leaves fall or the wood is firm and ripe, they would be better—that is, come into bearing sooner than young trees. It is presumed that they are not otherwise defective, but well furnished. If they are unsatisfactory in other respects it would be the better plan to remove the trees and plant healthy young ones. With careful lifting unsatisfactory Peach trees recuperate quickly, but they must have a proper border and efficient drainage. The fruit could be used for tarts.

Lettuces (H. B.).—Endive is a good substitute for Lettuce in the autumn, but all the same the latter is usually in demand as long as it can be had. Seed should therefore be sown at least three times during the month of August, and two out of the three sets may then be just suitable for protecting or storing in a fully grown state next autumn. Naturally very much depends on the weather, and no dependence should be placed upon any one sowing. Black-seeded Cos, white Cos, and All the Year Round Cabbage Lettuce are suitable for present sowing, the last named with Early Paris Market answering well for the later sowings. Lettuce forms a good succession to early Potatoes, whether these have been lifted from warm borders or in the open. Make the soil fine, level, and firm, and moisten the drills if at all dry prior to sowing the seed. Rather less room will be needed from this date, and the rows of Cos varieties may be arranged 10 inches and the Cabbage varieties 9 inches asunder.

Cabbage and Broccoli Plants Diseased-looking (A. M.).—The specimen sent has been badly infested with aphides, which, with the substance used to destroy them, for they are all dead, brown, shrivelled, or skeletonised, only skins remaining, and the recent transplanting is the cause of their present appearance. There is no internal parasitism—at least, we cannot discover the threads of any fungus in the tissues—but the cells are very small, and in the white patches entirely destitute of chlorophyll corpuscles. Nature, however, will set that right, as you may see in the purple veins, and the plants will probably recover, as that sent is perfectly healthy at the roots. There are some fungal filaments in the nests of the defunct aphides, which appear to be those of *Oidium Balsami*, but it has not pushed "fruits" (conidophores), and may not do so, as the fungus is not particularly fond of Cabbage and Broccoli, but is partial to Swede Turnips. We should give the plants a good dressing of soot—say a peck per rod—distributing it over the ground, including the plants. This will probably enable the plants to grow out of their impoverished condition, but they are badly affected in their small leaves. We have seen some as badly afflicted as yours this season, but they (Cabbages) are now forming good heads, and quite healthy in appearance.

Manufacture of Superphosphate of Lime from Bones (W. N.).—In making superphosphate the bones are often broken into quarter or half-inch portions. This is because the user wishes to see for himself that bones have been employed in the manufacture. That practice, however, is not best, for the calcium phosphate is only partially acted upon by the sulphuric acid, and the soluble phosphate diminishes in the superphosphate by keeping. Superphosphate is best made from ground bones by placing the meal in a tub along with water and sulphuric acid in the following proportions by weight:—1 lb. bone meal, $\frac{3}{4}$ lb. water, and $\frac{3}{4}$ lb. sulphuric acid. Place the meal in the tub, add the water, mix, then add the sulphuric acid, and stir. Perhaps you wish to dissolve ordinary bones. In that case let them be dry, and if broken up roughly all the better. Place them on a hard earthen floor, having taken an account of their weight, and surround them with a rim of ashes, which must be fine. Sprinkle with water, or if a large quantity, pour on the bones as much water as they will suck up, then pour on two parts of sulphuric acid to five parts of bones. It will boil violently for a while, and when this has subsided the mass will get tolerably solid. The ashes may then be mixed with the dissolved bone, shovelling all up together, and in two or three days it will be dry enough for use. The proportions are 5 lbs., or cwts., of bones, soaked with as much water as they will absorb, and 2 lbs., or cwts., of sulphuric acid. This is an excellent preparation. Another, but slower, is to take a large hog'shead, quite watertight, and cover the bottom with 6 inches of dry earth, and

on this place a layer of bones 6 inches thick, and cover them entirely with wood ashes; on these another 6 inches of bones, then ashes, and so on until full. Leave the hoghead or barrel all summer and winter exposed to the rains, and in twelve months the bones will crumble to powder under a slight pressure and form a valuable manure, especially for fruit trees. Fermented bones are easily prepared by mixing raw bones with clay, forming into a heap, using about equal proportions of clay and bones, watering the mixture with urine or stable drainings, protecting the heap from rain by a covering of damp clay, but otherwise exposed to the atmosphere, the stable drainings being poured in through holes at the top. In a few months they will be sufficiently cooked. This forms an excellent top-dressing.

Trees for Screen (W. G. Clements).—As the ground is good garden mould it will need little preparation, but the trees would grow much better if it were trenched, all perennial weeds extracted, and the roots of trees carefully removed. As you want a screen quickly you could not do better than plant Lombardy Poplar about 4 feet from the corrugated iron fence and 8 feet distance apart, having a double row—that is, another row 4 feet from the first, placing the trees so that they will be what is generally termed quincunx, or the trees in the second row opposite the vacancy between the other trees. In the vacancies between the trees in these rows you can plant Hazel and Blackthorn for underwood. In the third row you may put in an Oak or an Elm at 20 feet apart, midway of that distance a Scotch Fir, and Larch or Hazel between those. The next row may be formed of Larch 8 feet apart and a Blackthorn or Hazel between the Larches. In the fifth row place Scotch Fir in the opening between those in the first line where they occur, midway of their distance a Norway Spruce, and fill the spaces between with Larch, or Hazel, or Blackthorn. In the sixth row plant the Hornbeam and Birch 20 feet apart, with Blackthorn and Hazel between, Austrian Pine midway of the distances, or the Sallow can be used instead of the Pines, or that could be kept for the front row with Laburnum and double Thorn at 10 feet apart, planting common Laurel between them. The Apple trees would be best removed, so as to give the plantation trees a start. We have taken your trees into consideration. Another plan is to employ Lombardy Poplar, 5 feet apart and 3 feet from the iron fence. The Poplars can be beheaded or cut as required, as also could Limes, so as to form a screen of any height. In the next line, 5 feet from the Poplars or Limes, plant Scotch Fir and Larch 10 feet apart, with a Hazel or Blackthorn between each. In the next line place the Oak, Elm, and Hornbeam 20 feet apart, midway of their distance a common Holly, filling up with Hazel and Blackthorn. The next row can be planted with Larch to cut when of stake and rail size, and form the path. In the next row place the Birch opposite the openings in the line of trees of Oak, Elm, and Hornbeam, 20 feet apart, placing a Holly midway of two trees, and fill up with Hazel and Blackthorn. On the outer line have Sallow, with Laburnum and Double Scarlet Thorn, 20 feet apart, midway of the distance between the Birch in the next line, and fill in the spaces with flowering shrubs, say Snowball, Lilac, and Mock Orange at 10 feet apart, or one between two trees of Sallow, and place common Laurel between the flowering shrubs and Sallow. This will give you the shady walk, a thick belt, and plenty of stakes, especially if you use Hazel instead of Blackthorn. Use strong trees, well rooted, and recently transplanted, otherwise young examples are best. All the rows and plants in the latter arrangement are 5 feet apart, which is better in the end.

Resting Cattleyas (X. Y. Z.).—You must encourage your plants of *C. Mossiae* to complete the growth they have recently started from the base of the pseudo-bulbs. These growths must have been on the verge of issuing forth before you wrote to us; but even had this not been the case it is too early in the season to commence resting this variety of Cattleya. This season's growth could not have been thoroughly developed if made after the plants flowered in May and June, their usual time of flowering. The growth of the plant is not fully developed when the pseudo-bulb has been made and the flower sheath appears. It requires further development, which is not accomplished by subjecting the plants to rest, but by light and heat, a circulation of air, and a moderately liberal supply of moisture in the atmosphere and at the roots of the plants until the pseudo-bulb becomes firm. This treatment results in fine flowers, but the reverse those of small size, which are certain to be deficient in colour and substance. By resting your plant directly the pseudo-bulbs seem to be completed and the sheath appears, as was the case when you wrote to us, you prevent the plant making roots, which will end sooner or later in weakened growth and enfeebled health, and finally death. The production of back growths from the old pseudo-bulbs and a second from the leader displays to us that your plants are doing well, and you will be the gainer rather than the loser even if your plant failed to flower for one season. By destroying these growths or preventing them pushing by prematurely resting the plant you render it incapable of increasing its size or the number of flowering pseudo-bulbs. Orchid growers would willingly forego the flowers for a season to increase the number of leads or breaks of their plants. Your plants are growing slightly out of their season, but when plants are healthy they not unfrequently do this. We have a good number in the same condition, both of imported plants of last spring and the previous summer, but instead of trying to prevent their starting we are pleased to think they have broken so freely into growth. As they will grow longer they must be rested a little later in the spring than those plants that complete their growth earlier in the season. The principal object is to ripen these growths as thoroughly as possible, and then if the rest is short let it be complete by a slightly lower temperature than that given

to the earlier ones, the atmosphere a little drier, and the plants given less water at their roots. If you do this, then start the plants into growth, and push them on in a little warmer temperature, or place them at the warmest end of the house—the position they should occupy now—they will grow with greater regularity, and the following autumn you will not regret the second growths having started.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*J. Bounds*).—The varieties sent are certainly distinct. (*Amateur*).—1, *Asplenium bulbiferum*; 2, *Nephrolepis exaltata*; 3, *Adiantum pubescens*. Several packages of specimens reached us just at the time of going to press, and must be answered in the next issue.

COVENT GARDEN MARKET.—AUGUST 15TH.

BUSINESS still quiet, with no recovery from the holidays.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Currants, Black, half sieve	3	0	to	3	Peaches, per doz.	1	0	to	6
" Red, ..	2	0		2	Plums, half sieve	1	6		3
Grapes, per lb.	0	6		1	St. Michael Pines, each	2	0		6
Lemons, case	10	0		15	Strawberries per lb.	0	0		0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per lb.	0	6	to	0	Mushrooms, punnet	0	9	to	1
Beet, Red, dozen	1	0		0	Mustard and Oress, punnet	0	2		0
Carrots, bunch	0	3		0	Onions, bushel	3	6		4
" new, bunch	0	9		1	Parsley, dozen bunches	2	0		3
Cauliflowers, dozen	1	6		3	Parsnips, dozen	1	0		0
Celery, bundle	1	0		1	Potatoes, per cwt.	2	0		4
Coleworts, dozen bunches	2	0		4	Salsafy, bundle	1	0		1
Cucumbers, dozen	1	6		3	Scorzoner, bundle	1	6		0
Endive, dozen	1	3		1	Shallots, per lb.	0	3		0
Herbs, bunch	0	3		0	Spinach, bushel	1	6		3
Leeks, bunch	0	2		0	Tomatoes, per lb.	0	2		0
Lettuce, dozen	0	9		1	Turnips, bunch	0	3		0

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms	1	6	to	3	Pelargoniums, 12 bunches	4	0	to	6
Asparagus Fern, per bunch	1	0		2	Pelargoniums, scarlet, doz.	2	0		4
Asters (French) per bunch	0	6		1	bunches	2	0		4
Bouvardias, bunch	0	6		1	Pinks, various, doz. bnchs.	1	0		3
Carnations, 12 blooms	0	6		1	Poppies, various, dozen	0	6		1
doz. bunches	2	0		4	bunches	0	6		1
Corndowers, doz. bunches	1	0		2	Primula (double), dozen	0	6		1
Eucharis, dozen	1	6		3	sprays	0	6		1
Gaillardia, dozen bunches	1	0		2	Pyrethrum, dozen bunches	3	0		6
Gardenias, per dozen	1	0		4	Roses (indoor), dozen	0	6		1
Glaudiolus, dozen sprays	0	9		1	" (outdoor), doz. bnchs.	3	0		8
Lilium longiflorum, per	1	6		3	" Tea, white, dozen	1	0		2
dozen	1	6		3	" Yellow, dozen	2	0		4
Maidenhair Fern, dozen	4	0		6	" Safrano (English), doz.	1	0		2
bunches	4	0		6	" Maréchal Niel, doz.	1	6		4
Marguerites, 12 bunches	1	6		3	Smilax, per bunch	1	6		3
Mignonette, 12 bunches	1	0		3	Stephanotis, dozen sprays	1	0		2
Myosotis or Forget-me-	1	6		2	Stocks, dozen bunches	2	0		4
nots, dozen bunches	1	6		2	Sweet Peas, dozen bunches	1	0		2
Orchids, per dozen blooms	3	0		12	Tuberoses, 12 blooms	0	4		0
Pansies, dozen bunches	1	0		2					

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	to	12	Hydrangea, per dozen	9	0	to	18
Aspidistra, per dozen	18	0		36	Ivy Geraniums	4	0		6
Aspidistra, specimen plant	5	0		10	Lilium auratum, doz. pots	12	0		18
Balsams, per dozen	3	0		6	" Harrisii, per dozen	12	0		24
Calceolarias, dozen pots	3	0		6	" lancifolium, dozen	9	0		15
Cockscombs, per dozen	3	0		4	pots	9	0		15
Coleus, per dozen	2	0		4	Lobelia, per dozen	3	0		4
Dracæna terminalis, dozen	18	0		42	Lycopodiums, per dozen	3	0		4
Dracæna viridis, dozen	9	0		24	Marguerite Daisy, dozen	6	0		12
Euonymus, var., dozen	6	0		18	" yellow, doz. pots	6	0		10
Evergreens, in var., dozen	6	0		24	Mignonette, per doz.	3	0		6
Ferns, in variety, dozen	4	0		18	Myrtles, dozen	6	0		9
" (small) per hundred	4	0		8	Nasturtium, per dozen	1	6		4
Ficus elastica, each	1	0		7	Palms, in var., each	1	0		15
Foliage plants, var., each	2	0		10	" (specimens)	21	0		63
Fuchsia, per dozen	3	0		6	Pelargoniums, per dozen	6	0		12
Heliotrope, per dozen	4	0		6	" scarlet, per doz.	2	0		4



HOME FARM

THE FLOCK.

UNDER the remarkable advance in the price of home-bred sheep and lambs the enlargement for breeding of small flocks generally is probable, and there ought also to be a clearance of

all inferior sheep; as for example, every ewe having the slightest blemish should have been drafted out of the flock when the lambs were weaned. All sheep having a tendency to foot-rot should also go, but not one of them should be sold at a sacrifice if they are sound enough to fatten. Place them in folds on whatever green crop is available, give them some corn in addition to the green food, and draft them for the butcher as they become ready. Pay no heed to the voice of the charmer, who comes to you at every market in the guise of the salesman of linseed cake. Grow abundance of Oats, and avoid bills for oilcake. It has been laid down by high authorities that farms should be self-supporting in stock—should raise their own animals, so also should they provide all food required for the maintenance and fattening of stock without the expenditure of a penny upon the purchase of food of any sort under the present trying condition of agriculture.

We have, too, to look forward in flock management, and to base our arrangements for breeding upon the perspective supply of food at lambing time. With enough sound upland or dry pasture before and during the lambing, and suitable crops for folding afterwards, have the tups with the flock by the third or fourth week in August, so as to have the lambing well advanced by the last week in January. There must be no folding of pregnant ewes upon sodden arable land, and the use of either Mangolds or Swedes before lambing is objectionable. We have always kept up condition in ewes by giving them chaffed Barley or Oat straw in troughs, and some Pea straw uncut in racks. In very cold or snowy weather they also have about a pint of crushed oats per head. To fold ewes before lambing upon roots, as is done so frequently, causes abortion and foot-rot to be rampant among them, ewes being often lost as well as lambs. To wade about in a sea of mud, out of which it is often difficult to lift the feet, with much of the wool clotted heavily with mud, is bad enough, the strain upon the sorely tried animals being severe in the extreme; but when to this is added a dietary of frozen roots, there is so great a loss of vital heat that it is marvellous how any of them survive such an ordeal. Much more wonderful is it that any sane person should ever so tax the powers of endurance of his flock. It is because we have heard the excuse offered for such folly that there was no choice—nothing else to turn to, that we mention the matter now. Far better be without early lambs than to so mismanage the flock, and in common prudence all such risk of harm and loss can and must be avoided.

Much may be done to avoid the winter folding of ewes on arable land, by withdrawing them from pasture as much as possible now, folding during the tugging on early Turnips, Tare or Mustard, so as to hold pasture in reserve for winter. We would now, also, like to call the attention of every flock owner having poor upland pasture to the advantage of winter sheep folds upon it. By means of such folds while cattle are in yards—say, from the middle of October till the end of February, the pasture may be sufficiently manured to ensure in the following season early spring growth, and luxuriant herbage in summer and autumn. We tried to do without folds or manure dressings in the second year, but though there was enough vigour of growth to prove the presence of a residue in the soil of the fertility derived from the sheep folds, it was so decidedly inferior to that of the first year as to convince us once for all of the necessity of timely *annual* dressings of manure. That was many years ago, but the lesson has been applied to practice ever since; sustained fertility has been, and is, a rule in practice that is never broken, and sheep folds have preference both for economy and efficiency.

For early lambing, then, we must now have regard to flock requirements in winter and spring, of sound land, food, and shelter. With this early lambs answer much better than late ones. A few may be fattened and sold at fancy prices for

Easter, all others that are not wanted go off at good prices early in June, ewe lambs selected for the flock are so forward that they come for breeding the first season, and hoggets may be in condition for market as early as we may wish to dispose of them, that being a mere matter of detail, which is governed by folding requirements and the state of the markets. Inferior flocks cannot be said to answer under the stress of foreign competition, and the gigantic proportions of the foreign mutton trade show that only home-bred mutton of the highest quality can answer now. We must not look only to the mutton and wool, but try and estimate the flock at its true value as our prime fertiliser, by means of which we avoid the costly manure cart and are able to curtail our expenditure upon chemical manures.

WORK ON THE HOME FARM.

Swedes, Mangolds, and Drumhead Cabbage in about equal proportions, were seen in prime condition on a small Midland dairy farm recently inspected. The land was clean and fertile, and the growth of roots and Cabbage so vigorous that it had met between the rows, so that weed growth, and the rapid loss of moisture from the soil by evaporation were both checked. It was a fine example of first-rate practice, and we heartily congratulated the tenant upon his prospects for winter. He was atop of a load of his equally fine crop of hay—on a market day, too—and was evidently a believer in the axiom that the master's hand should guide the plough. We want to see a similar field of green and root crops at every dairy farm, with thorough systematic pasture cultivation—with this a return of prosperity may safely be predicted. Farmers! look to yourselves, and help yourselves to set matters right; the conditions of agriculture have changed, are still changing, and we must change too if we would prosper.

The showery weather, though it hinders harvest work, softens the stubbles so much that the cleaning is light work, and can be advanced much faster than usual. Weed seeds germinate quickly, too, after the soil is stirred, which also helps to clean the land for another season, as the weeds are easily ploughed in. Mark any wet land for drainage, especially where Coltsfoot is rampant. Drainage and thoroughly deep cultivation will get rid of this pest, which practically takes possession of the land if left to grow unchecked. We always make a point of a complete clearance of Coltsfoot, Docks, Thistles, Nettles, and Couch Grass. He would be a bold man who would say he could eradicate Charlock; and for a very bad case we know nothing better than laying down the land either to temporary or permanent pasture. We dwell upon this matter of weeds and foul land now because of the importance of autumn tillage—of clearing and ploughing every field as summer crops are harvested or cleared off the land.

The sowing of Trifolium early was mentioned last week. See also that what land is required for winter corn is ready for sowing early in September. Get in such crops as Rye, Wheat, Winter Oats, and Tares in good time before heavy autumn rains come. The sowing will be done quickly and well, the work be out of hand in good time, a full strong plant will be a certainty, and the Rye and Oats will be available for grazing if required.

METEOROLOGICAL OBSERVATIONS.

OAMDEN SQUARE, LONDON.

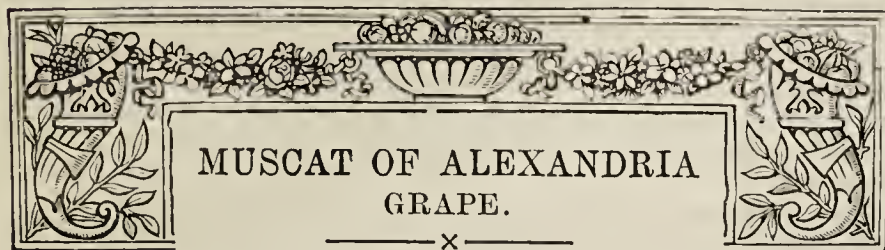
Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet

DATE.		9 A.M.					IN THE DAY.				Rain.
1894. August.	Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature			
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.		
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday ..	5	29.934	65.6	55.5	N.	61.9	72.0	57.3	114.9	53.8	0.126
Monday ..	6	29.789	58.7	57.6	N.	62.2	69.6	57.4	94.3	51.8	—
Tuesday ..	7	29.888	64.6	58.0	N.	61.5	73.7	55.9	124.9	50.9	—
Wednesday ..	8	29.806	64.2	59.1	W.	62.1	69.2	57.6	100.1	55.9	0.048
Thursday ..	9	29.788	62.0	57.1	W.	61.9	70.0	54.1	122.9	52.0	0.047
Friday ..	10	29.917	58.0	56.2	N.W.	61.4	70.4	51.2	116.4	52.9	0.200
Saturday ..	11	30.123	58.4	54.2	N.	60.9	67.4	51.1	116.5	49.1	0.010
		29.892	61.6	56.8		61.7	70.3	54.9	112.9	52.8	0.431

REMARKS.

- 5th.—Shower at 1.30 A.M.; brilliant from sunrise to 11 A.M.; cloudy at times after, and rain from 10 P.M.
6th.—Almost continuous rain or drizzle from early morn till 9 A.M.; overcast, with occasional drizzle till 1 P.M.; frequent sunshine in afternoon.
7th.—Brilliant early; alternate sunshine and cloud till midday; overcast afternoon; spots of rain in evening.
8th.—Occasional gleams of sun and frequent spots of rain.
9th.—Rain at 0.30 A.M.; fine day with frequent sunshine, especially in afternoon.
10th.—Rain from 8 A.M. to 9 A.M.; fair, with occasional sunshine till 3.15 P.M., then thunder storm rather distant; rain again in evening, with distant thunder.
11th.—Generally sunny in morning; cloudy afternoon; very slight showers at 2 P.M., 6 P.M. and 8.30 P.M.

On the whole cloudy and no day absolutely without rain, but only one day with the sun max. below 100°. Temperature very near the average.—G. J. SIMONS.



MISTAKES are made in setting, colouring, and in overcropping this grand Grape, and for all of which the penalty has to be paid. In my opinion growers are unduly anxious during the flowering period, whereas the extra care should be taken before the bunches are in flower, and not just at the time they are bursting open. The best sets I ever effected, and I could not wish for more well-stoned berries or more bunches to select from, were always when abundance of light and sunshine reached the bunches some time before they commenced flowering, and the worst when either the rods or the laterals on the rods were crowded. It is not so much a case either of temperatures, camel-hair brushes, rabbit's tail, a soft hand, or Pampas Grass plumes, as of strong, well-formed flowers. Let the sunshine reach the embryo bunches early, and during the flowering period be content with a moderate amount of fire heat, or enough to maintain a gentle circulation of warm, dry air, especially towards midday, at which time, or occasionally an hour earlier, a smart tap of the laterals carrying the bunches in flower will do the rest. It is, I know from experience, trying work cutting out strong, healthy Vine rods, with a view of giving others more room; but, as I shall presently show, it is an error to retain too many. Who has not found what promised to be very fine bunches, if only they set well, turn out failures or mere skeletons, whereas a few, too few, it sometimes happens, neglected bunches situated on the upper side of the laterals or between the foliage and glass have set surprisingly well? If anyone discovers where he has erred this season he may profit by the experience gained next year. This may not be the most suitable time to be cutting out superfluous rods in some vineries, but it ought to be done directly the crops are cut, or while yet in full leafage, and there will then be no risks of injury from bleeding.

Too much shade is undoubtedly prejudicial to the proper colouring of berries, and the other extreme is frequently carried out accordingly. Why will gardeners persist in baring their bunches to direct sunshine when they must know that they colour very imperfectly under this treatment, and more often than not become badly disfigured by this undue exposure? That beautiful clear amber so dear to exhibitors, judges, and all who admire perfection in Grapes never was yet "laid on" or brought about by exposing the bunches to direct sunshine. This practice of artificially colouring is simply an attempt to hasten ripening unduly, and usually ends in discoloration rather than perfect colouring. This may seem a bold assertion, but it cannot be gainsaid. I have assisted to bare, by tying or turning back the leaves from hundreds of bunches of Muscats, and in tying up some to the full sunshine, for gardeners it was my fortune to serve under, and have treated far too many bunches similarly that were solely under my charge not to know what I am writing about.

Where the bunches are a long way from the glass, and there are a few large vineries where there is from 18 inches to 2 feet clear space between the Vines and the glass, fewer risks are run by tying back the leaves or otherwise exposing the bunches to the full sunshine, but the gain is doubtful. Hanging on the Vines the exposed bunches look to be considerably a-head of those more under the leaves; but cut those bunches, place them on show boards, and note the difference between the colour of the "face" and the sides. If the same bunches had been allowed more time in

which to ripen naturally, they would most probably colour far more perfectly because more uniformly or all round alike, and free of spot or discolouration. I have taken particular notice of Muscats thus artificially coloured, and others in the same house which were allowed to ripen more naturally. The latter were beautiful—as clear as amber—while the former were anything but satisfactory when cut. According to my experience considerable time must be allowed for the perfect ripening of extra fine bunches with berries also of the full size than is required for smaller bunches and berries of a medium size, and this fact is brought out in a marked manner on the exhibition tables during August.

After having denounced what I believe to be a faulty practice, it behoves me to give what I consider a right one. I hold that white Grapes ought never to be subjected to either extreme—that is to say, to neither much shade or excessive sunshine. It is the happy medium that is required, and this can be best brought about by disposing the rods well apart rather than have them closer together and the laterals thin. Muscat rods should be not less than 4 feet asunder, another foot being none too much where the Vines are extra strong and well grown. Then if the laterals are stopped the first time at the second leaf beyond the reserved bunch, and the sub-laterals at the first leaf each time, taking some of the latter clean out, light and sunshine will reach the bunches to insure their perfect colouring without striking full on them. A fairly brisk heat (fixed temperatures I have no faith in) and a good circulation of dry air should accompany this treatment, and in particular ought fire heat to be employed during dull, cold weather. It is possible to colour Muscats in a house alongside Black Hamburgs, always providing the former have the warmer end to themselves.

Overcropping is quite as fatal to the colouring of Muscats or any other white Grape, as it proves to black Grapes generally and Black Hamburg in particular. Muscat of Alexandria fortunately is a fairly long-suffering Grape, but it is always a mistake to override the willing horse. For a while, or perhaps till such times as the soil in the borders is becoming stale, the Vines continue to gain in size and produce a profusion of bunches from which to select a crop, but overwork eventually leaves its mark. Repeatedly overcropping greatly checks root and top growth alike, while faulty colouring and probably shanking are the consequent evils to be reckoned with. In extreme cases the wood will also fail to ripen properly, and nothing but drastic remedial measures will restore these badly used Vines to a healthy, profitable condition. In particular ought young Vines and any that have recently been lifted, to be favoured as regards light cropping. I know that all gardeners are not in a position to do just as they would like to do, and not a few are very badly situated as regards supplies of good soil, manure, and water. Too much is also frequently expected of those persons whose means for producing are not adequate to the demand.

Cutting off well-set Muscat bunches is very hard work indeed. Most of us put off the final selection as long as possible, in order to be certain of having the requisite number of the best set bunches to leave hanging, and after much time has been spent, and discussions have taken place, too many are yet retained. Now well-grown Muscats contain much pulp and solid matter, and are not mere bags of seed, sugar, and water. Those great solid bunches that are very commonly met with nowadays undoubtedly take much substance out of the Vines, and, as before stated, they ought not to be very close together, while the Vines supporting them should be freely fed at the roots. Muscats really appear to need more water and soluble food than any other varieties of Grapes, and in confined borders they must have it in abundance too, or shanking and shrivelling of berries will most likely take place.

The question now arises, How many bunches should a Vine carry, or what constitutes a full crop? The answer to this can

only be given in general terms; so much depends upon circumstances. Those persons who have to deal with hard-worked and none too well-fed Vines, rooting, it may be, in a worn-out border, will do well to either cut off the larger bunches, no matter how well they may be set, or to reduce their size considerably. There is nothing to be urged against and much to be said in favour of the practice of completely removing some of the longest shoulders and freely shortening back the others, the length of the bunch also being reduced. As I have previously hinted, it is the smaller bunches, or those 2 lbs. more or less in weight, that are the easiest to colour, and two of these will usually give greater satisfaction to the owners than one large bunch 4 lbs. or more in weight. If there is 1 lb. of Grapes to the foot run of rod that is a good crop, and should not be exceeded.—W. I.

ASPIDISTRAS.

It is by no means surprising that Aspidistras should form the subject of so many inquiries, as they are extremely useful and effective for room and window decorations, endure rough treatment better than most plants, and may be well grown in positions where few others will thrive. The one weak point about them is that they make their growth but slowly. This several correspondents seem to have found out, and do well to make inquiries concerning their treatment. As long as Aspidistras are kept in an active condition at the roots the foliage produced is strong and vigorous; but when the roots receive a check and become unhealthy, no matter from what cause, the growth made gradually decreases in size, and unless something is done to remedy the evil the plant in time becomes unsightly rather than ornamental. I will, therefore, first give a few remarks on the treatment of unhealthy specimens.

Although plants may be more quickly restored to health in the spring than at any other time, still it is advisable to deal with them immediately they are found to be in an unsatisfactory condition. Commence by turning them out of the pots, when it will be frequently noticed that the soil has become sour and many of the roots decayed. If so shake the soil from them, wash the roots in tepid water, cut away any dead or unhealthy parts, and repot in sweet fresh soil. The compost I find most suitable for the purpose is one somewhat lighter than that employed for plants in an unsatisfactory condition. These are the ingredients:—Good loam with a fair amount of fibre one part, peat one part, leaf soil one part, with a plentiful addition of broken charcoal and sand. These materials should be passed through the half-inch sieve, as young roots are more quickly formed in a soil that has been finely divided. Aspidistras are shallow-rooting plants; ample drainage should, therefore, be given. In some cases the pots may be half filled with crocks. In all instances place a little moss over them. Use pots of as small a size as the plants can be conveniently placed in, allowing just enough space between the inside of the pot and the outer roots to work in a little soil, finishing off by just covering the root-like stems (rhizomes) with soil. A few sticks should also be employed to fasten the principal leaves to, so that the plant may be kept firmly in position. A good watering through a rose should then be given; afterwards care must be exercised in giving water till young roots have been formed.

After potting the plants ought, if possible, receive a little bottom heat. During the summer a frame placed on a bed of stable manure and leaves, in which the heat is gradually declining, is a most suitable position for them, a little sawdust or cocoa-nut fibre being placed upon the bed, into which the pots may be plunged about half their depth. Shade on the first appearance of sunshine, damp the foliage lightly with the syringe each fine morning, and on the afternoons of bright days close early with abundance of moisture, and allow the shade to remain on till about 4 P.M. Lessen the amount of shade given, increase the air as the plants become established, and by the end of September transfer them to a greenhouse or vinery, where with careful attention in the way of watering they will be in the right condition for making good growth during the following spring. When the plants are repotted at that period a little room can usually be found for them on the bed of a Cucumber or Melon house, or propagating pit. Failing these positions a vinery where the foliage of the Vines has advanced sufficiently to afford shade, is a suitable place, and an ordinary greenhouse does very well. Aspidistras, however, appreciate a little extra heat and moisture during their season of growth.

Thus far the remarks on potting and subsequent treatment apply especially to plants that have lapsed into an unhealthy condition.

Now for a few words about the treatment of healthy plants. The best time for potting these is just before growth commences in the spring. Use a compost of two parts loam or good garden soil, one part peat, and one part leaf mould, sharp sand and broken charcoal being freely added, for it is necessary to have soil porous, so that stagnation at the roots may be especially avoided. This compost should be used in a rather rough state, simply pulling the turfy loam and peat to pieces with the hands, and passing the leaf soil through the half-inch sieve. Plants that have produced leaves over the whole surface of the soil should be repotted without being disturbed, beyond removing the loose compost and any injured roots. Give small shifts, as a rule using pots only two sizes larger, and press the soil moderately firm about the roots. After potting, plants of this description will do well in almost any structure where there is a moderate amount of heat and atmospheric moisture, and it is by no means necessary to have them near the glass—indeed, I have plants which produce much finer leaves in an old conservatory with high side walls, than others kept nearer the glass. Aspidistras frequently produce their leaves all round the sides of the pot, and the centre of the plant is left quite hollow. The best way to deal with these is to divide them into several pieces, and place them in pots according to their size. By so treating all the plants which show this tendency the stock is gradually increased. Of course, plants that have been divided should, if possible be kept in close frames or houses, where they receive the benefit of bottom heat.

When roots have become numerous the green-leaved varieties may be much improved in health and vigour by frequent applications of soot water, the chemical manures so freely advertised, and an occasional one of nitrate of soda. This may be given at the rate of half a teaspoonful to a 7-inch pot, and be thoroughly watered in. In the case of the variegated forms I find stimulating manures have a tendency to cause the foliage to lose its variegation, and frequently to send up quite green leaves. I, therefore, depend on frequent top-dressing and abundance of water to keep them in a vigorous condition.

The green-leaved varieties may also with advantage be given more shade than the variegated forms. Once in three or four years is quite often enough to repot the plants when they have reached a suitable size. Red spider is the only insect that gives much trouble, and this may be easily kept at bay if the syringe is used freely. When plants are infested with this pest a thorough sponging with warm water in which carbolic soap has been dissolved soon clear it off; indeed, periodical spongings is one of the greatest cultural aids towards securing and maintaining clean, vigorous, and healthy leaves, without which the plants are comparatively useless for decorative purposes.—H. D.

THE NUTRITION OF ROOTS.

It is a great pleasure to me to think Mr. Raillem (page 120) was satisfied with the facts set forth in my article, and can now retire without any loss of the power of his pen. As the matter turns out he was not responsible for a part, and that part caused the controversy which has been, and I trust will be, very interesting.

Mr. Gilmour (page 120) still struggles with the waves in the sea of science, and is catching at straws to save himself from some errors in his argument set forth in his previous articles. It is very commendable how Mr. Gilmour apologises to the readers of the *Journal of Horticulture*. I am sorry he attacked the second paragraph, as he tries to prove that because vapour present in the atmosphere contains a few elements and compounds only, then the whole theory is exploded.

Mr. Gilmour, in paragraph 3, quotes my argument that soluble elements and compounds on certain conditions "may be" found in the water contained or condensed on the glass, and also in distilled water. There is no mistake about this, and I beg leave to confirm that argument as a fact beyond dispute by authorities.

Now take the fourth paragraph. Mr. Gilmour mentions that I said water which is brought to the surface by evaporation will contain a great deal of organic and inorganic elements that are soluble. That is so. They will be held in solution until the rarefied water reaches the surface, when the water is completely converted into vapour, the solid organic and inorganic impurities are deposited on or close to the surface. I confirm that it is so. I did not say that no inorganic or organic elements or compounds would pass off with the vapour. Some solid compounds will pass off into vapour at normal temperatures; but there is a vast difference between the solid compounds left on the surface, and those elements and compounds that volatilise and pass off as vapour.

I credited Mr. Gilmour with a knowledge of the subject, and with the power of perception sufficiently clear or keen to see the

difference between what was implied in each case. As it is not so, I must tell Mr. Gilmour that free hydrogen, oxygen, and nitrogen may, and will be found; also that ammonia, carbon dioxide, and other elements may be found passing off as a vapour, and would be found in most rain which would be returning it again to the soil. Is this clear?

Those solids deposited upon the surface may be sodium, chloride, nitrate of lime, carbonate and sulphates of lime, and magnesia, nitrate of soda, nitrate of potash, oxides of iron, and other compounds. There can be no mistake about this; how then can I be at sea? If I am, then it must be safe in the lifeboat to rescue Mr. Gilmour.

In paragraph 5 I did not intend to insult anyone, and much less Mr. Gilmour. Yet it is quite evident that I should have mentioned a great deal more that I did not mean on purpose that what I meant should not have been perverted.

As regards paragraph 6, what I meant by rarefied water was a certain quantity which could be held in a bucket in its normal condition which at a very high temperature, would fill a much greater capacity; and still further, when completely converted into vapour, in an invisible form, the space occupied would be vast. This vapour would still retain its compound nature—i.e., that of two parts of hydrogen and one of oxygen, and be capable of dissolving other gaseous compounds and elements and holding them in that condition.

I will tell Mr. Gilmour further that the expansion of water is very much like the expansion of that of soap bubbles under different circumstances. In a high temperature this expansion will go on until the water is completely converted into steam or vapour; up to this condition it will be liquid. The rarefied water present in the soil will exist in every condition between its normal state and that of vapour, and will be capable of dissolving mineral, animal, and vegetable matter and holding it in solution for the benefit of plants, which can imbibe this saturated solution and appropriate matter required to support and build up its structure.

Where Mr. Gilmour speaks of capillary attraction carrying up rarefied water, that is correct. As the liquid becomes rarefied capillary attraction would facilitate its progress to the surface; but water completely converted into vapour in the soil would ascend by its lightness or rarefaction—it would follow the laws applied to diffusion of gases. So there is no occasion to find any other method, and I might tell Mr. Gilmour what I ought to have said was “rarefied water and water brought to the surface by capillary attraction would deposit its solid impurities upon or close to the surface.”

Relative to paragraph 7, the straightforward facts of the case, as set forth by Mr. Gilmour, are practically correct; yet will he confirm that water existing 2 feet or 1 foot down in the soil will be brought to the surface by capillary attraction, retaining its temperature and capacity that it existed at previous to its movement? If so he must tell someone that tale who is ignorant of the matter. Unless he can prove that it is so I must confirm what I said is true. I did not wish to set any conundrum for Mr. Gilmour to unfold. What I should have said in my manuscript was, “My impression has always been that the roots being cooler than the soil, and cooler than the air, the roots condense the moisture or watery vapour into water, and assimilate it with any food that may be in solution.”

In the concluding remarks Mr. Gilmour asks me if I believe that rarefied water contains all the elements of plant food. Yes, I say that rarefied water as existing in the soil is capable of holding in solution all the elements of plant food, whether in a gaseous or liquid condition, and is capable of dissolving solid organic and inorganic compounds much more readily than water at its normal temperature. I do not think, as I know better than that, that vapour contains all the elements of plant food. I have stated in the fore part of this article, and have repeated it in various forms, the vast difference between the two conditions. I consider that Mr. Gilmour has perverted a great deal of my two articles on purpose to start an argument to knock down. With the exception of the two omissions the two articles were correct, and nothing was said but what was meant, neither did I wish it to convey what was not said.

About the analysis of condensed water or moisture it is too ridiculous. Being able to analyse either vapour, moisture, water, air, plant food, soils, in fact all compounds and elements, and well knowing the subject, I presumed to show Mr. Gilmour where he was wrong, and the facts of the case. I think there is no advantage by trying to prove anything that is not capable of being confirmed and believed. I shall be very pleased to continue this controversy if something is to be learnt or taught. I am writing under disadvantages, being in Great Yarmouth for two or three weeks, and if Mr. Gilmour replies he must not expect me to answer him till I return from my holiday.—GEO. A. BISHOP, *Wightwick Manor Gardens*.

MR. BISHOP (page 100) in his endeavour to show that water—or as he puts it, oxide of hydrogen—exists in an intermediate state between water and vapour, submits several statements, none of which help him in the slightest. He says, “If a piece of sugar is saturated with water the latter would still be in a liquid form.” Yes it would, and the former too, the whole would form syrup. Then he says, “If a few drops of water are dropped upon a large piece of sugar and get diffused the drops of water will be water no longer.” Will they not indeed? I rather think if Mr. Bishop will place the sugar under the microscope he will be able to see the drops of water quite distinctly.

In his last paragraph Mr. Bishop is good enough to make a statement for my information. Well, I am not above receiving information from anybody, not even from Mr. Bishop. An old proverb tells us not to look a gift horse in the mouth; but really when Mr. Bishop commences by saying that water—I beg his pardon, oxide of hydrogen—exists in a state between water and vapour one naturally expects to have some proof advanced. After carefully reading and re-reading the whole paragraph I can see no proof and no argument in it. The water in the kettle simply changes from water to vapour, but it appears there are bubbles. I am afraid Mr. Bishop's theory will turn out to be a bubble. This bubble theory (this is for the information of the readers of the *Journal of Horticulture*) is put forward by Ganot in his book on natural philosophy. He supposes that visible steam is composed of hollow globules of water. Deschanel, an opposition authority, says that it is not so; but that the globules are homogenous, that is of the same consistency throughout, in other words water.

But suppose we admit that steam from a kettle consists of bubbles, how does this assist Mr. Bishop? What is a bubble? I do not suppose Mr. Bishop can make any more of it than that it is air surrounded with a film of water. If the vapour from the kettle could be kept at the same high temperature at which it issues from the spout the moisture in it would remain invisible; directly it cools the moisture is condensed and becomes steam, which is simply watery vapour. Clouds and Scotch mist are produced on similar lines; that is to say, warm air takes up and holds in an invisible form more moisture than it can retain in that form when the temperature lowers. If this natural operation takes place high up in the air a cloud is the result, when close to the ground it is termed a Scotch mist. But they are both the same, nothing but watery vapour.—D. GILMOUR.

DRAWING FOR GARDENERS.

THE articles by “A Worker” (page 121) and Mr. W. Bell (page 146) referring to “Drawing for Gardeners” are so full of interest that I am prompted to send you a few lines upon the subject. That drawing as a part of a gardener's education is a necessity I can demonstrate from experience. During last winter some alterations were being done in the gardens under my charge, and among other things the removal of an old brick flue from a range of houses by which they had been heated, and putting in hot-water pipes, formed one of the improvements. My employer was negotiating with a firm of hot-water engineers for the supply of pipes and boiler, but not fixing them. He came to me and said he had received a letter from them stating that they wished to see a plan of the houses and all particulars; they would then be able to see what piping was required, and could send an estimate. He added, “I want you to draw a plan showing the position of the pipes, giving exact measurements and all particulars.” This was rather hard on one who never had a lesson in drawing, but I was determined to do my best. The houses varied in size, and the pipes were to be arranged so that each structure could be heated by itself, or all of them together, so I commenced to work and did the plan, and though not an elaborate one, it answered the purpose.

During the alterations my employer was confined to his room by illness, and I received a message from him to the effect that he wished to see a sketch showing the position of the boiler when fixed. Here again my self-taught drawing had to be put into practice. I could give other instances where I have been asked to do similar things as a part of my duty, but I think this is sufficient to show that drawing is a necessity as part of a gardener's training. The rising generation will not feel so much handicapped as some of us are at present. Thanks to legislation the school rules have been revised, and the children of to-day are receiving a more varied education than they did a few years ago. My boys, though quite young, can tell me more about drawing than ever I heard of the whole of the time I went to school.

I do not wish for one moment to reflect any discredit on architects, but Mr. Bell goes to the point when he says there are few who understand the requirements of plant houses. An architect was instructed to prepare a plan for a new conservatory here in

connection with an addition to the mansion, and it certainly looked very well on paper. When the builders came to erect it I asked the foreman what ventilation was provided. He said, "two lights on each of the lanterns and every other one under the eaves." As the house was rather lofty there were 10 feet of space from these to the floor without any ventilation all round except the doors. I remarked "There must be more than that." Employer and architect were consulted, and the necessary alteration made without which the plants would have done badly.—R. M., *Somerset*.

THE LOSS OF CHLOROPHYLL IN VINE LEAVES.

In some localities, owing to the presence of too much of one chemical constituent and too little of others, the loss of chlorophyll, which is the green, resinous, granular colouring matter of all plants, in the leaves of Vines is very much in evidence, and seriously felt by the Vines in the perfecting of their crop of fruit. This is a subject that is deserving of some attention in the *Journal of Horticulture* from scientific minds, like Mr. Abbey's, for instance. I do not profess to know why the foliage of Vines, Peaches, Chrysanthemums, and even hardy forest trees are at times affected by the absence of chlorophyll; but I have experienced some very striking instances of the loss of this necessary constituent in plant life, more especially perhaps in the case of Vines. In one particular case where the soil is retentive of moisture and heavily charged with chalk, owing to its having been used in the place of lime as a top-dressing for so many years, the loss of colouring matter in the foliage is very noticeable. Even under artificial treatment as to soil Chrysanthemums suffer very much in some seasons. Especially do the leaves of the plants assume a paleness in colour when pure bones are employed as a manure, and notably when they are ground fine. When dissolved bones are used instead of those that are ground the opposite effect is somewhat remarkable. Two plants of Queen of England growing side by side and potted in the manures mentioned exhibit, I may say, an extraordinary difference in the colour of the leaves, showing the finely ground bones are not so suitable for the soil as those that are dissolved by the aid of vitriol.

To return more especially to the loss of chlorophyll in Vine foliage, a remarkable instance came under my notice this year. A small three-quarter span vinery in this neighbourhood was planted twelve years since with a mixed collection of Vines, including Madresfield Court, Alicante, Lady Downe's, Muscat of Alexandria, and Foster's Seedling. The orthodox-made border, either inside or out, was omitted. Instead of going to the trouble and expense of making a new one the soil both inside and outside was levelled down after the builders had completed their work. A good dressing of farmyard manure was added to the already rich soil, which had been used as a part of a kitchen garden for at least fifty years. The under strata, 2 feet deep, is entirely composed of chalk, as is all the neighbourhood within a mile of this particular spot. The Vines grew well, and bore satisfactory crops for several years. They were not remarkable for huge size of either bunch or berry, but they were so for the manner in which the berries coloured, and the bloom was indeed remarkable but three years since. The following year, when the shoots were about 1 foot in length, they commenced to assume a peculiar pale tint, which remained during the whole of the year, increasing in density the next season. The berries failed to swell to their former size although the bunches were not much smaller.

During the month of June in the present year the leaves had become quite yellow. The gardener in charge was very anxious one day when I called on him to know how to act. The leaves, too, were decidedly smaller than they had previously been. I brought some away, and sent them to a friend whom I regarded as a likely person to know the best remedy to apply, at the same time suggesting nitrate of soda or sulphate of ammonia. The result was the whole of the inside border was thoroughly soaked with tepid water, to which was added nitrate of soda in the proportion of half an ounce to a gallon of water. In three weeks after the application faint green lines were perceptible, running throughout the leaves like network, which was really the return of chlorophyll to the foliage, running first through the midribs. Gradually the leaves changed to such an extent that in two months there was not a pale leaf in the whole house, except a few that had succumbed entirely and were dead. I have never seen such a remarkable change take place in such a short space of time, and with but one application of the nitrate of soda. The cause was as I suspected, the roots had run down into the chalk subsoil, hence the loss of chlorophyll. It is the same in all cases in the neighbourhood where the roots of Peach trees are in or near chalk. The leaves change to a sickly pale hue, and decay of the branches quickly follows.—E. MOLYNEUX, *Swanmore Park*.

TOMATOES—PAST AND PRESENT.

As an article of food the Tomato has advanced by leaps and bounds until at the present time it is looked on as being almost indispensable to an Englishman's diet. The production of the Tomato to supply the demands of the British public has become an industry in itself, and forms a lucrative employment for many market growers. When we see the statistics of the many tons of Tomatoes which enter the metropolitan and provincial markets every season, we are able to form some idea of the thousands of feet of glass and the great amount of labour it must necessarily take to keep up the supply. True, there is an abundance of foreign Tomatoes daily entering the markets which no doubt, to some extent, keep down the prices; but good English grown produce is so much superior to foreign that there is a constant demand for it, and it always commands a ready sale at a fair price.

The fact that medical men recommend the Tomato as being a good, easily digested article of food, has doubtless assisted the growth of its popularity. It is cultivated in nearly every private garden. Another interesting fact about the Tomato is that it is doubtless an acquired taste. It is rarely we meet a person who enjoyed the first one he ate. Recollections arise to me of a friend who used to look at the Tomatoes with longing eyes, and when one was offered to him his face was a perfect glow of expectation; the rapid change that came over the countenance on tasting was perfectly ludicrous, and the air of disgust with which the poor Tomato was hurled away excited great merriment. Strange to say such persons become the most fond of Tomatoes, and this curious fact with regard to them is still unexplained. Let us hope the taste for Tomatoes will still increase, and the public will continue to appreciate them, and so form a means of further remuneration for the growers.—G. H., *Alton Towers*.

SETTING TOMATOES.

THE interesting remarks on this subject by Mr. Geo. Garner (page 159) will, no doubt, concur with the experience of many other growers this season. Seven or eight years ago I saw a splendid crop of Tomatoes being grown by a gardener who daily syringed the plants from the time they were planted, and to the end of the season there was no sign of disease. This I knew to be contrary to the experience of most gardeners. However, the following season I adopted the same treatment on a house of Tomatoes set apart for the express purpose, daily syringing the plants until the fruit commenced to ripen. The result was a splendid crop of fruit and no disease.

In an adjoining house where the usual treatment was adopted and no syringing practised, the crop was a very light one indeed; and, moreover, the plants were attacked with the disease, resulting in a partial loss of the fruit that had already formed. The varieties grown in both houses were Earliest of All, Main Crop, and Hackwood Park Prolific. Once since I tried the daily syringing method, but failed disastrously, so have discarded it, and now resort to a drier atmosphere. I have never yet been able to understand why on those two occasions only the daily syringing method was so successful in every way. I should be glad if any correspondent could enlighten me.

I have successfully adopted a plan for assisting the setting of the bloom during dull weather, viz., going over the plants daily and gently withdrawing the petals of all matured blooms. I have always fertilised my single Primulas in this way, and it at once suggested itself to me that Tomatoes could likewise be successfully treated. Of course where Tomatoes are grown extensively such a method would be out of the question, but it may perhaps commend itself to or be in accord with the practice of other readers.—HEDLEY WARREN.



LELIO-CATTLEYA BROOMFIELDENSIS.

THIS distinct hybrid, the result of a cross between *Cattleya aurea chrysotoxa* and *Laelia præstans*, was exhibited by Mr. M. Wells, Broomfield, Sale, at the Drill Hall, Westminster, on the 14th inst. It is a very handsome hybrid, and merited the first-class certificate awarded for it by the Orchid Committee of the Royal Horticultural Society. The sepals and petals are rosy purple, while the lip is dark velvety crimson with yellow veins in the throat. Fig. 25 represents a bloom of this beautiful Orchid.

CATTLEYA ELDORADO.

ALTHOUGH introduced upwards of a quarter of a century ago this fine *Cattleya* has never become really popular. It is difficult to account for this, as it is certainly not inferior to others that find more favour in collections. When well managed it produces its flowers freely in summer upon the current year's growth, as *C. Gaskelliana* and *C. aurea*. Like the latter kind it requires more heat than the majority of *Cattleyas*, and must be kept rather drier during the resting period with a corresponding lowering of the temperature. Every effort should be made to secure well ripened pseudo-bulbs, and to keep these dormant until the increased heat and light in the spring causes them to break strongly. Plants that are growing slowly all through the dark winter months never flower satisfactorily, and usually fall victims to the unsightly spot so common in badly managed *Cattleyas*. We should hear much less of this disease if growers would take more care to ripen the growth as it is being made, and to avoid exciting the plants during their natural time of rest. It is not well either to go to the other extreme and treat the plants to too little heat, for, as I have before mentioned in these pages, no *Cattleya* can endure a temperature much below 50° with impunity.

The typical *C. Eldorado* is dwarf and sturdy in habit, and bears flowers as large as the ordinary kinds of *C. labiata*. The sepals and petals are of differing shades of pink or rose, slightly serrated at the edges; the fine broad lip has a dense yellow blotch in the throat, the side lobes folding over the column white, the front lobes lightly fringed at the edges, and in colour bright crimson. The variety *rosea* is deeper in colour than the type; *crocata* lighter, with deep orange throat; *virginalis* is a beautiful variety, pure white with the exception of the yellow blotch on the lips; *splendens* or *majus* is larger in all its parts than the type but similar in colour.

CYPRIPEDIUM CHAMBERLAINIANUM.

As this species becomes better known its merits as a free flowering and useful Orchid are more apparent. It is certainly one of the most important additions to the genus that has been introduced for years, and all who have grown and flowered it are warm in its praise. In habit it is somewhat similar to the old *C. villosum*, and it appears to be quite as free in growth and even more floriferous than this well known and handsome kind. It thrives in an intermediate or *Cattleya* temperature in a compost similar to that generally used for this class, *i.e.*, equal parts of peat, loam, fibre, and chopped sphagnum, with abundance of nodules of charcoal, potsherds, or similar incompressible material added. It is too early to say whether or not this Orchid will thrive in a lower temperature, as all who have grown it have naturally been anxious to increase the size of their plants as rapidly as possible, and for this reason most growers have kept their plants in a warm house. All who have visited the principal exhibitions are by this time familiar with the flowers of this superb plant, but a short description may not be unwelcome to those readers who have not had an opportunity of seeing them.

The spikes are vigorous, and produce successively from six to ten flowers, each from 4 to 5 inches across. The lower part of the dorsal sepal is heavily streaked with dark brown; the upper portion is light green, paling towards the margin and apex to nearly white. The petals are 2 inches in length, in colour light green, plentifully spotted with brown. They are undulating, and bear numerous very fine hairs upon the edges. The pouch is very prominent, large, rosy pink, with numerous small deep crimson spots. Should the plant prove to be as easily managed as it at present appears *C. Chamberlainianum* will eventually take its place as one of the most popular of this favourite genus.

CYPRIPEDIUM (SELENIPEDIUM) PEARCEI.

If this Orchid could be more easily flowered there is no doubt it would become a very popular kind, owing to its distinct

appearance and the length of time it remains in blossom. I saw it recently in good condition with Mr. A. Robey at Horsham Cliff. It begins to produce its flowers when the spikes are less than a foot high, and continues to do so until they have attained a length of over 2 feet; each flower lasts a considerable time in full beauty. The dorsal and lower sepals are three-quarters of an inch in width, light green; the petals are drooping, 4 inches in length, wavy, light green, margined and tipped with rosy pink; the pouch is similar in ground colour, with flexuous darker lines, spotted inside with brown and dark green. The growths occur about 2½ inches apart on the rhizome; the leaves are deep green, arching, 15 inches in length, and about half an inch wide. This species thrives in the



FIG. 25.—LÆLIO-CATTLEYA BROOMFIELDENSIS.

Cattleya house, but in order to induce it to flower it is necessary to give it a couple of months' rest in a cool house, and, unlike the majority of *Cypripediums*, a slight drying appears to be an advantage. When introduced again to heat flower spikes will probably be produced. It is a species not commonly met with, but one that is worthy of every care.—H. R. R.

STRAWBERRIES IN 1894.

THE season here has been a disappointing one. After a winter that tried the plants much and left them very few green strong leaves, they started in excellent condition, and the promise of fruit was good. The early sorts were forward, Laxton's No. 1 being ten to fourteen days before any other kind in flower. Then came the principal blossoms on the later varieties, when the great frost sadly marred the prospect. Happily our plantations did not suffer severely, owing, we think, to a thick cloud covering when the sun arose, and only could an occasional blackened centre be found on the plants. The low temperature of many May and June days and nights, together with the heavy rainfall, however, crippled the fruits, and they swelled unevenly, most of the early berries being unshapely. A finer time set in for the second early varieties, when the wet came on again, and the last crop which promised so well was spoiled. As your correspondent, Mr. Jenkins (page 159), says, the season has not been without its lessons, and the notes appended may prove interesting. Flavour, as a natural consequence, was not remarkable in any sort, but La France, Edouard

Lefort, Lord Suffield, Sensation, and Royal Sovereign among new ones were good.

The first to ripen was Laxton's No. 1. This is evidently the earliest, and we found it of good quality, and just the kind to grow under a south wall for a few early berries. Laxton's Royal Sovereign must be classed A1 for cropping. For flavour and size it is destined to become one of the leading sorts, and the market growers will, we expect, take it up for an early crop. Laxton's Sensation is a dark red Strawberry, early, very large, fine in flavour, and of strong constitution; brisk, yet rich and good. Edouard Lefort is very refreshing, of pronounced Hautbois flavour. Probably this will force well, being of La Grosse Sucrée style and early. Empress of India is of remarkable flavour, but it is a poor cropper and not robust, though the third generation from the original plants shows a marked improvement. Auguste Boisselot has vigorous habit with grand foliage, thus it escaped the frost, and gave a large crop of fine berries. Scarlet Queen does not crop heavily, but the fruit is large and of fine flavour; in a better season would be excellent. White Knight is very tender, and we fear must go out of culture, though its well flavoured fruits are very taking in the dish. Cardinal is a good hardy early sort, may be called an early Paxton with better flavour. Lord Suffield has very fine rich flavour, perhaps the best this year (outside the Queen race); it has good foliage, and did not suffer from frost. Gunton Park is very fine in flavour, cockscombed, often large, rich colour, a good late sort with upright foliage. Georges Lésuir also is fine variety but little known. This kind improves with us, and it ranks high for flavour and size. La France was really finer than Empress of India, but our plants were not in a favourable place, most promising. Souvenir de Kieff is very rich flavour; late variety. So much for the newer or little known kinds.

Among the older varieties which have hitherto done so well here, Noble and Competitor were flavourless, but in a dry season they are sheet anchors and of good quality. President, Sir J. Paxton, Vicomtesse Hericart de Thury, and Goliath, our main crop sorts, were not so good as usual. Among the Queen race we had fine fruit of British Queen and Dr. Hogg, but Latest of All, which should be called Continuity, as it is not one of the last, was grand, and this kind must rank as one of the most select. The old Carolina Superba was finer than ever before. Laxton's King of Earlies, and John Ruskin, so fine in 1893, were very poor. Frogmore and Filbert Pine were, as usual, of the highest quality, but the former is very delicate. Teutonia proved worthless, but perhaps our senders did not furnish the true sort.

The impression left on our minds is this: with the changing seasons we must not rely on a few kinds for a supply, as there are wet season and dry season varieties, and we prefer those with ample foliage. Those like Countess and Loxford Hall are nowhere in a dry time; while Noble, Competitor, John Ruskin, Victoria, Eleanor, and others, are grand in the hottest seasons but useless in wet times. In any case, after the scorching year 1893 we could not have expected a full yield, and we estimated our fruit at three-quarter crop. The weather has, however, been favourable for good sound runners for pots and beds, and we think the plants have more than recovered the vigour they lost in 1893. Auguste Nicaise has been fine outside this year. Waterloo was very fine in flavour and size.

During the past five years we have tried and discarded about 100 kinds, and we hope still further to reduce the varieties in cultivation here; but with such grand berries as Messrs. Laxton and Allan are giving us it is difficult to manage with less than the fifty sorts, as at present in stock here, to cover sorts for preserving, forcing, and recognised fine kinds.—GEORGE BUNYARD & Co., Maidstone.



CHRYSANTHEMUM NOTES.

JUDGING from present appearances there is every reason to look forward with confidence to the flowering season of the "autumn queen." The plants in the majority of districts seem to have made strong, healthy growth, which, where intelligent methods of feeding have been practised, is not characterised by the grossness one might expect during so wet and sunless a season. Where, however, feeding has been practised as freely as it was necessary during the sunny season of 1893, it is doubtful if the growth made is not too vigorous to become well ripened. In my opinion this is an important point to bear in mind. What we want to do is, aim at producing exactly the amount of growth that the sunshine of each season will thoroughly ripen. Of course, this is a matter which cannot be calculated exactly, as however bright or sunless one part of a season may be we cannot forecast what may follow. But this we can do—viz., during prolonged periods wet and sunless weather withhold stimulating manures, and on the advent of sunshine continue their use. During wet seasons plants without any feeding beyond that which they derive from the soil will make stronger growth than they usually do in bright ones with the assistance of abundance of chemical and natural manures given in a liquid form, simply because rain possesses great fertilising powers in addition to the

necessary element of the water it supplies. For these reasons it seems to me that Chrysanthemums will from the present time onward require less feeding than usual, so that the growth already made may become thoroughly ripened; a few weeks dry, sunny weather with occasional periods of steady winds, will do much towards securing this result.

It is some years since I remember the buds forming at so opportune a time. Many buds of the Queen family have been taken during the past week, and the remainder will be secured during the next ten days. Madame Thérèse Rey and Miss Dorothy Shea showed crown buds the second week in August, and were secured. The latter variety has made hard, firm, strong growth, but everywhere seems to exhibit a paleness in the colour of its foliage. Mr. G. Newitt and Mrs. Falconer Jameson showed crown buds a trifle too soon—viz., July 25th. Colonel Smith was also somewhat early, but as the flowers from terminal buds of this variety are good, the early date at which some of the buds were taken may prove an advantage rather than otherwise. Mrs. Hubbuck, a last year's variety of great promise, showed crown buds about the middle of August; all of these were taken. Mons. A. E. Carrière, from plants stopped at the end of March, showed crown buds July 30th; on unstopped plants the buds to-day (August 18th) are just visible. Those taken at the former date will, I think, bring the best flowers, as this variety is a late one. Lord Brooke seems to be even later, as I have as yet only secured one bud—that the first crown, taken July 24th, merely to see how it behaves. Lord Rosebery and Brookley Gem each showed crown buds rather early; the terminals are now just visible. Mrs. T. Denne, which to my mind was one of the best new varieties to be seen last year, is only just showing the first crown bud; but as I did not receive the plants till somewhat late, this may be owing to late propagation. The bulk of other popular varieties not mentioned are with me showing their buds at the times generally acknowledged to be the most suitable.

There are thousands of fine Chrysanthemum plants to be met with this year, and those who manage them the best during the next two months will doubtless secure the finest flowers.—H. D., Warwick.

CUCUMBERS AT FARNHAM.

No grower of Cucumbers has during the past few years exhibited handsomer samples, or in greater bulk, or perhaps produced so many high-class varieties as has Mr. Mortimer of Farnham. Starting some years since with Purley Park Hero, he has followed up that early success with many varieties, utilising in his work of improvement the best of material, until we have now in his more recent sorts such as it seems almost impossible can in colour, length, or general beauty be excelled. Being recently at Farnham I gave Mr. Mortimer a call, as it is always a special pleasure to see things not only well done, but those things of the very best. Mr. Mortimer grows Cucumbers solely for seed production; still it by no means follows that his practice is not as suited for market work as for seed production. The result is in any case an enormous crop of fruits, which can from the present plants be estimated by thousands, and yet this is the second crop of the year, for one of as great abundance was harvested from several houses in June last. No sooner, however, were the first crop fruits cut than plants and soil were removed, the houses well cleaned, new soil put in the beds or troughs, and fresh plants put out. The present or second crop is in most cases so forward that the greater portion will have finished by the end of the month, and the later ones by the middle of September. As the fruits average 100 seeds each the numbers obtained may well be estimated.

First in order is a span house, 50 feet long, and like all the others some 12 feet wide. This is carrying a huge crop of Sutton's Improved Telegraph, an excellent stock, perfectly true, and certainly a wonderful cropper. The fruits are smooth, have short handles, and are of good colour. They average 16 inches in length, but would be rather longer were length not checked by fertilisation. Some greater depth of colour would improve all Telegraph stocks, but this is a reliable strain all the same. In this house the plants are 2 feet apart, and are growing on a shallow body of soil placed on a concrete, trough-like bed, through which runs a single hot-water pipe. The next house is 100 feet in two divisions, and is full of the same sort. Here, however, the bed is in wooden troughs, elevated above the soil beds, so as to prevent roots from getting into old soil and thus check club and gummy. These troughs are about 24 inches wide, and comparatively shallow. The crop is again an immense one. Prior to this a crop of the same variety was taken from the house.

There is yet another 80 feet house, the plants growing on 20-inch beds of soil in troughs that are but 6 inches deep. This crop is a little later than the others, but it is also an immense one. There are 550 seeding fruits in this house, and still of the Improved Telegraph. The variety seems to be in great demand both for private growing and market sale. Then comes a 50 feet house, on one side of which only is growing that large, good, and fine Cucumber, Daniels' Duke of Edinburgh, but it has too long a handle. These were planted in the middle of July, and have soon produced a fine crop of fruits. From this house had previously been taken a heavy crop of the New Progress Cucumber, and before that had been used for the propagation of Dahlias. Then comes a 60 feet span house of Express, also known as Sutton's A1. Here the beds on each side are simply ridges of soil laid on to the ground level, the plants at 2 feet apart in the rows having some 2 feet stems before breaking into shoots. They were put out at the end of July. The fruits of this variety are from 20 to 24 inches in length, very deep green, smooth, and having a dense bloom. Though very prolific it is a

shy seeder. It seems difficult to improve this form, but raisers are never satisfied. From this house a crop of Tomatoes had been taken previously.

Now comes an 80 feet house, planted on each side with the very fine variety certificated both at the Drill Hall and Regent's Park in June. It is named Progress, which may be assumed to indicate that, in spite of its wonderful excellence, the raiser thinks yet more of advance is possible. Here on each side run three 4-inch pipes, and upon them direct the soil to a depth of 6 inches is laid, the rougher portions being lowest. It is kept in place along the front by a 6-inch board. This Progress Cucumber has fruits ranging from 20 to 24 inches long, which are of a dark green hue, have on them a little of the well-known Telegraph ridge, and are of the colour of Lockie's Perfection. It sets freely, and here is producing a really grand crop of the most perfect of fruits. One more sort, Success or Sutton's Peerless, certificated last year, is growing on one side only of a 50-feet span. The plants were put out at the end of July, and are later in cropping, yet now carrying many splendid fruits. These are long, rich in colour, very handsome, and in the green or edible condition slightly spined, giving to it a feature so many growers prefer. This completes the mention of the remarkable series of Cucumbers at Mr. Mortimer's nursery, and they afford not only special evidence of excellence, but also of the very best cultivation.—A. D.

BORDER PINKS.

"WANDERER" in his notes of Easton Lodge (page 155) speaks of Her Majesty Pink as "perhaps the best variety yet in commerce." I think he cannot have seen a still finer white variety raised by Mr. Joseph Lakin of Oxford, and named Mrs. Lakin, a large number of plants of which I have repeatedly seen growing in Mr. Robert Sydenham's garden in Birmingham this year, as well as in the Sparkhill Nurseries, by the side of Her Majesty and other white varieties. All who saw them decided that Mrs. Lakin was the best in possessing a pod which does not burst, and is a better formed pure white flower, with a close growing free blooming erect habit.

Until Mrs. Lakin came under notice in the Midlands, Her Majesty was hailed as a great advance on Mrs. Sinkins and others. Mrs. Welsh is another very fine white, of erect habit, excellent pod, and a pure white smooth edged flower. Of other border Pinks which do well in the Midlands, Lord Lyons must have a foremost place, of good erect habit, medium height, with bright deep rose coloured flowers, a charming variety. Ascot is a pale pink; Ernest Ladhams is very showy indeed, of erect habit and a very free bloomer, but has a bursting pod. Some of the laced Pinks, that is those with a white ground colour with a lacing or bordering of a shade of rosy purple, varying a little in tint, are good exhibition varieties. Of these, John Lowe is very fine and an early bloomer. Mrs. Barlow, Ada Louise, John Ball and others are excellent free blooming kinds.—W. D.

BORDER PINKS AT SHIRLEY.

A RECENT hurried visit to the hardy plant nursery of Mr. B. Ladhams at Shirley, near Southampton, enabled me to note the behaviour of many varieties of Pinks as compared to what is seen of them when staged in a cut state for exhibition. Although Pinks make a good display when tastefully arranged in bunches in an exhibition their proper place appears to be in the garden, where by the profuse manner in which their blooms are produced they are general favourites. A varied collection of varieties affords much interest, not only in the difference that exists in colour but in form also, and in the manner in which they bloom.

Mr. Ladhams has for several years paid considerable attention to the raising of seedling varieties, many of those he has obtained being a decided advance on some older kinds. The bulk of the newer kinds are perpetual flowering, which is a decided gain, the plants continuing to make "grass" all the summer, and with it a succession of flowers. Many of them are hybridised with laced varieties, the free flowering sorts being the basis of the crossing with an obvious view of improvement. In addition to those named Mr. Ladhams has scores of others that will be sent out when properly tested side by side with those already approved.

Commencing with the new seedling, Queen of the South, which was recently granted a first-class certificate, I may say that this is a decided improvement even upon Mrs. Sinkins, which is acknowledged to be one of the leading kinds. In the former the flowers are full, pure in colour, and not liable to burst, which is a great gain. Lizzie Duval is intense rose, fading to a rich lilac, a perpetual flowering variety. Percy Ladhams is dark rose centre, rosy lilac edge, which is smooth, free and dwarf. Charles has a dark centre with rose edge, strong growth, and very free. A sport from the above is quite distinct, having a pure white edge. Harlequin is somewhat peculiar in colouring, as well as in the formation of the blooms, some being smooth, others fringed at the edges. In colour some have dark centres, others pale rose. As a novelty this Pink is peculiar. Little Kate is pure white, free and dwarf, fimbriated edges. Her Majesty has larger blooms than the well-known Mrs. Sinkins, pure white, but unfortunately the pods split, which deteriorates from its quality considerably. Caroline is fringed, dull white, free, and dwarf in habit. John Ball is dark plum purple, free, and of good form. Jane Duval is a seedling of much merit, fimbriated lightly at the edge, dark centre, very sweet; while Mrs. Welsh is pure white, dwarf, and free. Fimbriata major is white with cream coloured centre, heavily fringed or deeply lacinated. Lowlander is a deep red

bloom, and Derby Day pink, heavily laced bright red. Boadicea has a very dark edging, smooth, and sweetly perfumed. Ernest Ladhams is blush white, with darker centre, large blooms, which are fragrant, very free, and a continuous bloomer.—E. MOLYNEUX.

SELECT PEAS.

THE wet sunless season has in some districts been very unfavourable for the growth and proper development of Peas in order to secure a good succession. I thought, therefore, a few notes of mine might prove useful, and perhaps bring into notice some good varieties which have done as well this year as during 1893.

Last year we commenced to gather Chelsea Gem on May 13th, but it was the 8th of June this season before we were able to pick pods of the same variety, the seeds being sown on south borders in February. I have relied for several years on Chelsea Gem as my first crop, and it is a well-known fact it is a most productive Pea. It is of dwarf growth, producing pods in pairs, which yield under good cultivation from nine to eleven peas each. When cooked the flavour is excellent, and the colour is all that one can desire. Veitch's Selected Early, William the First, Exonian, and Duke of Albany were all sown on the same day; but Chelsea Gem was ready for picking ten days before these. Selected was next ready for picking, followed closely by Exonian, which is of a good colour and flavour, although I think it useless to grow it and William the First.

Duke of Albany is a strong growing Pea, so should be sown thinly, and is useful, the pods being large. I also find this variety turns in very quickly, and can soon be cleared off the ground. Champion of England always does well, and although tall in growth I consider it one of the most useful and productive Peas in cultivation for a second early supply. Another Pea I should like to call attention to is Duchess of Edinburgh, which I have grown this year instead of Criterion, as I could not procure seeds of the latter variety. I have no cause to regret making the change. Duchess of Edinburgh has grown to the height of 6 feet, it withstood mildew, the plants being strong and yielding an enormous crop of well-filled pods of peas of delicious flavour and beautiful green colour. Gladiator is a Pea of great value, particularly where sticks are scarce, as it only grows 3 feet in height. It is a splendid cropper, with large pods, and the peas are of good colour and flavour. It is also a valuable Pea for amateurs, and is suitable for field culture.

Telephone has done well with me this year, and is a well-tried sort, needing no comment. Prodigy I consider to be the most profitable midseason Pea with which I am acquainted. It is a prodigious cropper, producing with me last year, as well as this season, 20 pecks of Peas from 1½ pint of seeds, sown in a row 70 feet long. The flavour and colour are excellent when cooked. British Queen and Ne Plus Ultra have done equally well this last two seasons. They are of rather tall growth, but the quality of the peas is excellent, and they cannot be dispensed with where a regular supply has to be maintained. To my mind the Pea of the season is Veitch's Maincrop, recently certificated. The growth with me is from 3 to 4 feet, and the pods are produced in pairs, and filled with from nine to eleven large peas in each one. The peas are of a beautiful colour and flavour when cooked.

Perfection is literally hung with pods. This is an old standard variety, and scarcely any gardener can afford to exclude it from his order. Autocrat will follow Perfection, and is growing and looking well. I have grown this variety every year since it was introduced to commerce, and if I were tied to grow only four sorts of Peas, Autocrat would certainly be one of them. It has always proved satisfactory with me, and resists mildew well. Sturdy is another Pea of great value, and one I can always depend on for a late supply, yielding a good crop of well-flavoured green peas; it also does well for field culture. Two other Peas which had done well with me are Talisman and McLean's Best of All; they are strong, clean, and healthy at the present time.

For a late supply I rely on Chelsea Gem and Exonian. The former can be easily protected late in the season, and yields, like Exonian, valuable dishes of well-flavoured peas. I always have trenches prepared for my midseason and late Peas, the same as for Celery, digging the manure in the bottom, after which I tread the ground firmly, sow the seeds, and cover with soil taken out of the trench. Mulching is applied according to the season. The rows should never be less than 9 feet asunder, which admits light and air to the Peas, and does not cause a weakly growth. The ground between the rows can be cropped with any vegetable of quick growth, which can soon be cleared off the ground.—JOHN CHINNERY.

THE COMING OF AGE OF THE FIRST FRUIT GROWERS' JAM FACTORY IN ENGLAND.

THIS happened on the Wednesday of the Royal Show week at Cambridge, and might have received official, if not Royal, recognition and honours. In the near future the coming of age of the first English fruit-growers' jam factory may prove to have done more for the future prosperity of our national agriculture than one or several of the National Society's great shows. The whole encouragement given to jam and preserves by the Royal Agricultural Society of England hardly exceeds that given to a single horse or bullock, and yet fruit growing and preserving are about the only industries that are thriving on the land at the present moment, affording a practical solution of two of the most difficult problems confronting our statesmen and philanthropists.

The first is how to make agriculture a paying concern; the second is how to retain a prosperous peasantry, their country's strength and pride, on the land. Fruit-growing, and the conversion of the perishable fruit into what, for commercial purposes, may be designated an imperishable commodity on the spot, have solved both problems. When, where, and how have these crucial problems been solved? Through a prize essay of a hundred or five hundred guineas offered for their solution by the Royal Agricultural Society of England on the occasion of its second visit to the great University town of Cambridge? Or was a prize of a hundred guineas offered for the best factory or facts that proved these problems in process of solution, or already solved? An object lesson of this kind, brought immediately under the notice of the Council of the Royal Agricultural Society of England, would have proved a most powerful means of technical education, and would most probably lead to many new departures and startling revivals in our national methods and products of agriculture. Or were liberal prizes offered for improved methods of growing, sorting, packing, and preserving fruit, of sufficient liberality to excite a strong and general local, if not national, competition? To all these and many other questions the facts of the case compel an emphatic No! None of these things was done, and yet these problems are already solved.

For many years, probably forty or more, Messrs. Stephen Chivers and Sons have been known as fruit-growers in Histon, near Cambridge. As they took in more land year by year, the question of profitable, sure, and safe markets confronted them, as it has, and still does, all other fruit-growers and dealers in perishable commodities. The senior partner and his sons visited Bradford and other towns in Yorkshire for this purpose, and the factory may be said to have grown out of their business as fruit-growers.

This first jam factory abuts on the Histon Station on the united lines of the Great Eastern and Midland Railways, between Cambridge and St. Ives, and is a familiar object to most travellers.

The first boil of jam was made by the firm twenty-one years ago, on the Wednesday of the Royal Show week, and the firm embraced the opportunity of their coming of age by inviting a few of their friends, all their workpeople, their managers, travellers, and the member for West Cambs to a homely tea and happy evening. The senior partner of the firm, Mr. Stephen Chivers, presided, supported by his three sons, travellers, foremen, and others. The man who made the first boil of jam twenty-one years ago was also there, and spoke. The following facts will prove beyond controversy that this firm has solved two of the most knotty problems of the age in their own quiet way, without fuss or controversy—Does agriculture pay? Some may grumble about the name, and say fruit-growing and jam-making are gardening—horticulture. But, listen! Dr. Lindley, a great authority in his day, affirmed that arboriculture and agriculture were branches of horticulture.

But the question is not what's in a name, but how is profit to be made out of the land or its products. Here is what Mr. Chivers said at the coming-of-age meeting, the meeting itself being a yet more potent object lesson of the profits that land will yield to wise investments of capital and skill. He began with 3 acres of land. Through the help of friends he was enabled to purchase 150 acres during the next ten years; "and now," added the Chairman and senior partner, "we have 500 acres. Within ten miles of our factory there are 3000 acres under fruit, 2000 acres of which have been planted since the factory was built. Those familiar with the district can confirm these statements as to the extending area of fruit culture in this district, and the youthfulness of the trees and bushes. Neither has this widening area under fruit as yet exhausted itself, considerable additions in this and other directions having been made within the last two years. I began with two workpeople; now we employ 400."

They had scarcely ever had any trouble with their workpeople. Several of those present had been twenty, some thirty, and some forty years, and some of those in the factory had been there from its commencement. With many of them he had himself worked many years, and the happiest years of his life were when he worked among them. So much as to how the success of the factory was attained. Mr. William Chivers attributed the success of the firm to hard work properly directed. Mr. John Chivers claimed that jam-making had done more than any other movement to stimulate the production of fruit on a large scale. A thousand acres of land had been brought into profitable cultivation by it, a matter of special concern at the present time, giving employment to thousands of persons in their native villages, thus tending to check their migration into the large towns. Another result was the stimulus it had given to the production of high-class jams. The jams of to-day were a vast improvement on those of twenty-one years ago.

Mr. H. E. Hoare, M.P., congratulated the firm on the peace, contentment, and prosperity of their employes, the cleanliness of the factory, and the excellence and home-made-like character of their large output of jams. It was also cheap, but not impossibly cheap—cheap so far as cheapness is compatible with a first-rate product. Such rural industries as jam-making and kindred processes as those carried on at Histon found employment for carpenters, printers, tin-workers, box and basket makers, and other industries. The effect of such industries on Histon and the surrounding villages could hardly be exaggerated. One proof of this was the striking fact that Histon is one of the few villages in West Cambs where the population has not gone down, but has, on the contrary, increased. "I do not say," added the member for the division, "that it is the only village, but there are not many, and I am sorry to say it is the rule in Cambs that the population of our villages is decreasing, with the result that the towns are flooded with surplus

labour that cannot find employment. Not only this district, but the country at large, owes a debt of gratitude to the factory owners and managers of Histon for the example it has set," and which the speaker said he was glad to see had been followed elsewhere with equally beneficial results.

The land and the climate of Essex do not vary very widely from those of West Cambs, the former being the heavier of the two. Fruit growing, and, I rather think, jam is being tried on the semi-classical farm of Tiptree, the results being reported as highly gratifying. I recently spent a few days in Essex looking at crops and products, judging cottagers' gardens, and visiting the Essex Agricultural and Horticultural show, and the results in all cases seemed satisfactory wherever a sufficient amount of skill, capital, and labour were put into the land. Changes of crops and products may also be needful in many districts. It would in many cases be wise and prudent, before rushing away from the country into crowded towns, or changing farms, to try fruit growing and its conversion into jam in centres within easy distance. There are two vital needs which probably parish councils or some system of mutual co-operative enterprise may be able to provide for our rural populations. The first is a copious supply of pure water for every home within easy distance of it, and the second is a fair price for perishable fruits or other commodities, or simple means of making them imperishable where grown. With this latter provision railway rates would speedily adjust themselves on the lines of the greatest possible service for the lowest paying rate. This popular principle applied to third class fares enables directors to pay shareholders dividends. It would prove still more profitable in regard to goods traffic, whilst the lowest paying rates for farm and garden produce would go far to solve the present problem of agricultural distress.—D. T. FISH (in the "Agricultural Gazette.")



NATIONAL ROSE SOCIETY.

THE AMATEURS' TROPHY QUESTION.

MOST of us who are interested in the discussion in your columns must feel indebted to "J. H. P." and "E. M., Berkhamsted," (page 149) for their contributions as helping to a clearer knowledge of this subject. If their letters be read carefully, and with due consideration to what has gone before, and to the context supplied in your issue of last week, they will also afford some amusement. "E. M.," as a Secretary of our Society, practically states that absolutely no reason was given for the alteration in the exhibits of the trophy class from thirty-six to forty-eight, although that trophy, according to "J. H. P.'s" letter in your issue of the 9th inst., was subscribed for and given to a class for thirty-six. As a matter of fact, which your correspondent's useful table shows, the competition in 1882 and 1883 testified to a keen appreciation of the class being for thirty-six varieties, the competitors in those two years averaging 10½, although in the previous year, 1881, there were only three exhibitors for forty-eight varieties. It then appears that Mr. T. B. Hall proposed (and his suggestion was accepted) that the competition for thirty-six varieties, although evidently successful, should revert to one for forty-eight varieties! As "E. M." says there was no exceptional reason for this alteration, I hope Mr. Hall will now give us the reasons, if he can after so long a time recollect the matter.

I have added to the very useful and interesting table sent by "J. H. P." (page 149), and have carried it down to the present year. I note that in the table which has been sent to you the year 1885 is given with an asterisk, and that the footnote gives as an explanation that the date was "July 7th," but your readers will now also notice that in the years 1888 and 1894, when the shows were held at a similar date, the exhibits staged were respectively six and four. So that the date, apparently, cannot alone account for the large entry in 1885. I would also like to call attention to the fact that in eight years out of the last ten your correspondent has had the date he is so anxious for, viz., that nearest to the 6th July! One would think from "J. H. P.'s" plea that the opposite was the true state of the case.

From the figures now given primarily by "J. H. P.'s" help, we arrive at the following facts, that with a trophy class for thirty-six varieties there were in 1882 and 1883 respectively, ten and eleven competitors, an average of 10.5; that from 1884 to 1887 there was an average of nine competitors, and that from 1888 to 1894, the average has been of five competitors. In this last period there are two dates when the show was held on the 7th July, and their average comes out equal to the same figure, viz., 5, as that for the whole Septennate 1888-1894. How is, then, the great falling off accounted for?

Principally by the disappearance from this competition of the following amateurs—Messrs. Baker, Girdlestone, Grant, Hall, Haywood and Mrs. Waterlow. In their places the only two amateurs who have come forward are Messrs. Lindsell and Machin, certainly hosts in themselves as far as concerns their individual powers; but they only count as two accessions as against six defections! Evidently, therefore, something must be done by our Committee, or there will shortly be more prizes than competitors, which is a most undesirable position for our Society to be in with regard to its principal amateur prize.

CHALLENGE TROPHY COMPETITION FROM 1881 TO 1894.

Year.	Date of Show.	First.	Second.	Third.	Fourth.	No. of Competitors.
1881	—	R. N. G. Baker.	Tomlinson	T. B. Hall	—	3
1882	—	Whitwell.....	Waterlow.	O. Davis	Mitchell ..	10
1883	—	Slaughter ...	Haywood..	Girdlestone ..	Mitchell ..	11
1884	—	Haywood.....	Berners ..	Girdlestone ..	Waterlow..	8
1885	July 7th	Pemberton	Grant	Girdlestone ..	Hales	11*
1886	" 6th	Pemberton	Grant	Haywood	Budd	8
1887	" 5th	Grant	Pemberton.	T. B. Hall	Slaughter..	9
1888	" 7th	R. N. G. Baker.	Grant	Slaughter	T. B. Hales.	6
1889	" 6th	Grant	Pemberton.	Budd	Pitt	Unknown
1890	" 5th	Lindsell	Pemberton.	Foster Melliar.	Slaughter..	6
1891	" 4th	Lindsell	Budd	Pemberton ..	Slaughter..	5
1892	" 2nd	Lindsell	Budd	Pemberton ..	Slaughter..	4
1893	" 1st	Lindsell	Pemberton.	Machin	—	5
1894	" 7th	Budd	Drew	Pemberton ..	Slaughter..	4

* July 7th.

N.B.—In 1882 and 1883 the competition was for thirty-six varieties; in all other years for forty-eight varieties.

—CHARLES J. GRAHAME.

TEA ROSE NIPHETOS.

I HAVE cultivated this great Rose in three ways—planted out in an open bed, where it has proved a failure; trained to a wall, where it succeeds fairly well; and planted out in a glass structure, where for many years it has been annually the finest and most floriferous Rose among a select number of varieties cultivated along with it. I have two plants. They are trained close to the glass in a cool fruit house, and they afford an almost uninterrupted supply of buds and flowers from April until November, when they stop flowering, not so much for the want of will as on account of a too low temperature, which causes buds and foliage to cease growth and fall off.

In treating these two Rose plants I have been careful to be led by their natural peculiarities of growth. Pruning appears to me to be the most important point in their treatment, and it indeed determines the amount and quality of the crop of flowers. In early spring, or before growth commences, the plants are denuded of any weakly growths, and at the same time any old shoots that it is possible to replace by younger and more vigorous growths are also removed. Strong growths are consequently the only ones left, and these are shortened hardly anything. Fresh soil and manure is now added to the surface of the border, at the same time care being taken to moisten the ground occupied by the roots. If very large flowers are wanted the buds require to be thinned, but this is an operation I seldom perform, small, medium, and large buds being all alike valuable.

Niphetos has the invaluable property, after the earlier flowers have been cut, of producing more flowers on these flowering shoots. The plants continue to do this throughout the growing season, the chief point to be attended to in order to keep them healthy being the excision of every weakly growth and of those portions of the stems on which flowers have formed. Strong growths also break at various points on the main stems, and these, later in the season, keep up a supply of large flowers. An occasional thinning of worn-out shoots is undertaken, so that these strong growths may have room for a full development. My plants have already been pruned twice in this manner, and I fully expect they will require two more such thinnings before growth terminates for the year. The excision of these weakly and worn-out growths is a most important feature, as remarked before; but very necessary also is the periodical application of dressings of manure, to be washed-in by the repeated waterings required to keep the trees in vigorous health.

Occasional fumigation with tobacco paper keeps all insects away. A slight shade is given during the more sunny months. While this is no ways hurtful to the plants, it is, on the other hand, of much benefit in allowing the buds to expand slowly, and they are less liable to prematurely drop in pieces. I also have a feeling that the blooms are of greater purity when expanded under shade. Considered commercially, Niphetos pays better than any other Rose. Any flowers we have to spare, and at any season, invariably bring a good price.—R. P. BROTHERSTON.

TEA, CHINA, AND NOISETTE ROSES IN SCOTLAND.

In the *Journal of Horticulture* (page 125) Mr. R. P. Brotherston has some admirable observations on Tea and China Roses and their Scottish cultivation, with which for the most part I entirely coincide. It is, however, somewhat surprising to learn that such varieties of the former as Niphetos, Princess of Wales, Perle des Jardins, Madame de Watteville, and Anna Olivier, which have been for some months among the most attractive Roses in my garden, do not succeed well with him. While

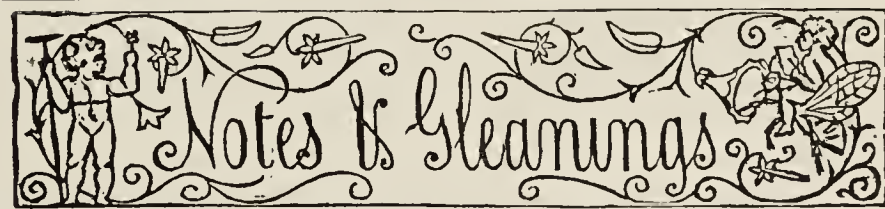
such is my experience of these it can hardly be asserted (at least by myself) that they are "not worth growing in Scotland." It is, however, quite possible that I may be specially favoured by my parish being as far south as Durham in England, by having a garden sheltered from every wind that blows by lofty hedges and high-towering trees, likewise by possessing the greatly mitigating influence of the genial Gulf Stream. If your correspondent's Rose garden is more inland in situation, or even somewhat farther north, he will have more frequent and more trying visitations of the frost than we have here.

On the other hand, I am gratified to learn that such splendid varieties of the Tea Rose as Marie Van Houtte, Hon. Edith Gifford, Madame Cusin, Souvenir d'un Ami, and Comtesse de Nadaillac, which have proved successful here, are also in other Scottish regions cultivated with success. Among these has not been mentioned Ernest Metz, which here at least has not been very satisfactory this summer, owing doubtless to the lamentable weather it has experienced, though I fear that this Rose by reason of its size, not less than its constitution, is of somewhat difficult development, it does not open well. More satisfactory are Corinna and Miss May Rivers, which are much superior both in beauty and productiveness to many over-estimated natives of France, which, by reason perhaps of their imposing dimensions, are much more eulogised by contemporary writers on Rose cultivation.

If I were asked to indicate my favourite Tea Roses I would at the present moment name Innocente Pirola and Madame Hoste, Medea, Princess of Wales, Comtesse de Nadaillac, and Marie Van Houtte. But this preference does not prevent me recognising the great merits of such invariably exquisite varieties as Catherine Mermet and The Bride, Madame de Watteville and Anna Olivier, the snow-white Niphetos and the always charming Souvenir de S. A. Prince, the invaluable production of the Oxford rosarian who bears its honoured name.

I am in perfect accordance with your contributor when he writes of the peculiar sweetness of the China Roses, and their special value for decorative purposes. They, and their hybrids, were special favourites of Vibert and Laffay, and the earlier French rosarians. There can be no question as to their beauty and capability of impressive artistic effect. Among modern China Roses perhaps the most unique in its aspect is Laurette de Thessiny, which is almost unknown to Scottish cultivation. I obtained this Rose last November, and it has proved a most distinct and valuable acquisition. Its colour is very striking, deep rose, delicately suffused with yellow, which gives it as distinguished a position among Chinas as the superbly coloured L'Idéal occupies among other Noisettes. It has, however, already found a very formidable rival in the Duke of York, which I saw last May at the Temple Show.

Your correspondent, writing of the Noisette, Wm. Allen Richardson, affirms that it requires a very warm position. Therein, I think, he is perfectly correct. One of my plants of this richly hued variety, which flowered admirably during the abnormally hot and almost tropical season of 1893, has this year made no effort to bloom; but has been on the contrary spending all its precious opportunities in generating very elaborate shoots of extraordinary length, for whose preservation during the crucial months of winter it will I fear be somewhat difficult to provide; unless indeed I can remove it from the north to the south wall of my garden, the latter of which is already well provided with other Noisette Roses which bloom more abundantly.—DAVID R. WILLIAMSON.



EVENTS OF THE WEEK.—A few events of special interest to horticulturists will take place during the ensuing week. As mentioned in another paragraph, the Committees of the Royal Horticultural Society will meet at the Drill Hall, James Street, Westminster, on the 28th inst. The summer show of the Brighton and Sussex (New) Horticultural Society is announced to take place at Brighton on the 28th and 29th, the annual exhibition of the Reading Horticultural Society being also held on the 29th inst. On Thursday, the 30th inst., the show of the Sandy Floral and Horticultural Society will be held.

— THE WEATHER IN LONDON.—During the past week the weather in the metropolis has been of a showery character. A heavy shower occurred on Saturday, and rain fell at intervals on Sunday. Monday was fine, but chilly in the evening, whilst it rained on Tuesday. Wednesday opened favourably, and at the time of going to press the weather appeared more settled.

— ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Society will be held in the Drill Hall, James Street, Victoria Street Westminster, on Tuesday, August 28th. Special prizes will be offered by Messrs. Kelway & Son, for Gladioli, and at 3 P.M. Mr. Malcolm Dunn will deliver a lecture on "Gardeners and their Employers."

— **MR. G. WOODGATE.**—A wide circle of Chrysanthemum growers will be interested to learn that Mr. G. Woodgate, for some eight years the energetic Secretary of the Kingston Chrysanthemum Society, and for fifteen years gardener to the late Lord and Lady Wolverton at Coombe Warren, has been appointed head gardener to Sir Oswald Mosley, Bart., Rolleston Hall, Burton-on-Trent. He takes up his new duties about the middle of September. During his term of office Mr. Woodgate not only greatly increased the number of subscribers to the Kingston Chrysanthemum Society, now 500; but the subscriptions have increased from £112 to £205, besides nearly £30 worth of schedule advertisements being obtained. The show is also an excellent one. Such works merit all possible recognition.

— **CROP PROSPECTS IN WORCESTER, HEREFORD, AND GLOUCESTER.**—Journeying through portions of the above named counties recently, I have been pleased to note, especially on the well-farmed lands, the general excellence of all kinds of crops, both cereals, roots, and grass. The later sown Turnips were some time since suffering somewhat from lack of moisture, but the recent showery weather has wonderfully improved their appearance. Pastures generally are now in first-class condition. The Hops have also greatly benefited by the rain. With regard to the fruit, as far as I could see Pears and Plums seem to be a good average crop. Apples are exceedingly variable, some orchards having a fair sprinkling, but in others the trees were scarcely showing any fruit.—X.

— **THE MANRESA HOUSE VINES.**—I have seen these splendid Vines, for there are others of great interest besides the one giant Vine referred to on page 148; and heartily agree with the opinion that Mr. Davis merits fully some honour or other distinction for the remarkable skill he has shown in Vine culture at Roehampton. As the trustees of the Veitch Memorial like, when occasion offers, to acknowledge merit for high excellence in horticulture, perhaps it may be but needful to draw attention to the Manresa House Vines, and secure for Mr. Davis an award to which he is so well entitled. His work, as you say, cannot be placed on a show table, it can only be seen at Roehampton. Perhaps when some future Memorial medals are given, one may be bestowed on this able and most amiable Grape grower.—A. D.

— **A BISHOP ON FLOWERS.**—In the course of some remarks at a Cornish flower show, Dr. Gott, the Bishop of Truro, said he was glad to see the great improvement which had taken place in the cultivation of flowers during recent years. When he was a boy in Leeds only the rich could afford them, and the poor never thought of anything beyond growing them for the rich. Recently, in Coventry, he inquired the reason why there were so many greenhouses, and was told that they were used to grown "buttonholes for Birmingham." In that city they found houses adorned outside with flowers, not for the pleasure of their wealthy owners, but for that of the people who passed along the streets. That showed the kindness which the cultivation of flowers imparted into human nature, and that it brought the rich and the poor in common sympathy. The cultivation of flowers in the parks was also a beautiful feature.

— **ROYAL HORTICULTURAL SOCIETY'S LECTURES.**—The lectures which it is announced to be delivered on the three days of the National Fruit show at the Crystal Palace are properly restricted to fruit culture in small gardens, in large areas, and on packing and grading for market. These should be valuable contributions to the great fruit question, but much will depend on who may be selected to deal with these subjects. They are all large themes, which it will be difficult to deal with fully in an ordinary paper. With respect to the Drill Hall lectures, some given this year have not been too interesting, but no doubt some difficulty is experienced in obtaining lecturers who can command an audience, and furnish subjects and papers that possess real interest. There are, however, one or two yet to come that should secure good attendances and considerable discussion. On the 28th inst. Mr. Malcolm Dunn is to deal with "Gardeners and their Employers," a subject that should help to keep the members of the Committees in attendance rather longer than usual, if even but to pay so distinguished a Scotch gardener the compliment of their presence. "Lord Bute's Vineyards," by Mr. Pettigrew at the following meeting, should also prove very interesting, and the subject of "Principles of Judging at Flower Shows," dealt with by Mr. Jas. Douglas so late as November 27th, presents matter that should evoke great interest and much discussion. It is a large subject to handle. It is hoped in the three cases named the lecturers will be present, as the merit of a lecture is thereby much enhanced.—D.

— **IN the awards at Antwerp International Exhibition** we notice that a Diplôme d'Honneur has been awarded to Spratts' Patent, Limited.

— **EARWIGS.**—I notice in the *Journal of Horticulture* recently the remarks as to the unusual prevalence of earwigs in East Anglia. I have heard the same complaint from other parts of the country, but, curiously enough, we are unusually free from this troublesome pest; so free, indeed, that we are able to dispense with the usual flower pots upon the Dahlia stakes. We cannot account for our exemption, as we have taken no special means to eradicate them.—JOSEPH CHEAL.

— **GRATIFYING RECOGNITION OF SERVICES.**—Dr. and Mrs. Izod have presented to Mr. George Holden, who has been in charge of the gardens at their residence, The Lammas, Esher, Surrey, over ten years, a handsome silver drinking cup, on which his initials and the date of the presentation are engraved, together with the monograms of the donors. When handing the gift over, Dr. Izod expressed the hope that Mr. Holden might continue in his service as long as he was spared to require a gardener. Not only is Mr. Holden appreciated for his devotion to the interests of those whom he serves, but the way in which he discharges the duties of Secretary to the Esher Cottage Garden Society is watched with interest by Dr. and Mrs. Izod. He has been in that office six years, and the Society bids fair to become a firmly rooted local institution.

— **LARGE TOMATOES.**—It would save growers of large Tomato fruits much disappointment if they learned to know that the members of the Fruit Committee of the Royal Horticultural Society regard these with aversion. Any so-called new variety must have exceptional merit now to secure an award, but certainly that merit must not include large fruits. They are objectionable for market sale and for all ordinary uses. That they still receive far too much of favour at shows is true; but when, as will be the case at the Crystal Palace Fruit show, in one class clusters are required instead of single fruits, then mere size of fruits will not be considered. Even now if judges would regard beauty, colour, form, and moderate dimensions more we should see fewer large fruits getting awards. Huge fruits are generally thinly produced, whilst a medium sized sample usually represents a heavy crop of the most useful fruit.—A. D.

— **A TURKESTAN GARDEN.**—A recently published work describes a Turkestan garden "as a portion of land surrounded with a high clay loam wall, along which are planted Poplar and Willow trees. The land is devoted to Lucerne, Melons, Water Melons, or more rarely vegetables, or it may be planted with Grapes, Apricots, Peaches, Mulberries, and more rarely Quince, Pear, Plum, Apple, and Fig trees, all these being set without any fixed plan. A large plantation of Poplar or Willow is very often to be found in gardens, where these trees are grown for the sake of their timber as well as for the fuel they furnish. Under the thick foliage of the older trees—the Elm, the Plane, the Apricot, and the Mulberry tree—the natives are wont to fence off a small space where carpets are spread on hot days, and where they take their rest or siesta. The selection of flowers which are occasionally grown in these gardens is very limited. Sweet Basil (*Ocimum basilicum*), the favourite plant throughout Central Asia; Garden Balsam, from which is prepared a red dye for the nails; the Mallow, the Marigold, the Lady's Comb (*Celosia*), and more seldom Dog Grass and the Aster are plants almost always found in the garden."

— **GATESHEAD FLOWER SHOW.**—The thirty-ninth annual exhibition of the Gateshead Floral and Horticultural Society was held on the 13th and 14th inst. in the Drill Hall and the adjoining field, Alexandra Road, Gateshead. Flowers, plants, and vegetables were located in the Drill Hall, whilst the plants and a portion of the vegetables were displayed in a spacious marquee. Greenhouse plants formed a striking show, the exotic Ferns, Fuchsias of all sorts, Petunias, and Lilliums being excellent. Dahlias were much admired both for their colour and development. In the Pansy classes there were several fine varieties, reflecting much credit upon their growers for their skilful culture. Gladioli were well selected specimens, and the table decorations were, as usual, an interesting feature. Though in many districts the fruit was affected by the late frosts, that in the neighbourhood of Gateshead seems to have escaped from their dire effects, for the collection arrayed before the judges was of the finest quality, particularly the Apples, Pears, and Currants. In the amateur classes the various exhibits were especially remarkable for their excellence, and, taken all in all, the show was satisfactory in every department.

— **LARGE MUSHROOMS.**—A Western contemporary says:—"A giant Mushroom was found by a correspondent at Southerndown last week. It measured 34 inches in circumference, and weighed 1 lb. 2½ ozs. Another large Mushroom, weighing 2 lbs. and measuring 40 inches in circumference and 14 inches in diameter, the stem being 6½ inches round the butt, is stated to have been picked last week by Mr. Mark Price in a field at Little Stoke, near Patchway."

— **CHELSEA FAVOURITE BROCCOLI.**—Some time ago I promised to send you a few lines as to the merits of Chelsea Favourite Broccoli. With me this Broccoli did well, not one failing, the plants producing large heavy heads of snowy whiteness. The growth of the plant is strong and the heads are well protected. I do not consider the season much too advanced to plant late Broccoli, as I always find that if the plants have been pricked out on well prepared ground, afterwards duly planted on firm ground from which Strawberries have been cleared, less failures will occur than from very early plantations.—JOHN CHINNER.

— **FORESTRY IN GERMANY.**—It has been reported in a daily contemporary that the Queen has despatched Mr. Michie, her head forester at Balmoral, to Germany, in order that he may investigate the methods of tree growing which are adopted on the estates of the Duke of Coburg, the Prince of Furstenburg, and other great forest owners. There are, it is stated, about 25,000 acres of woodlands on the Queen's Scotch estates of Balmoral and Birkhall, principally Pines, Firs, Larches, and Spruces. The Queen's finest forest is Ballochbuie which extends to 10,000 acres, and was purchased by Her Majesty in 1878 from the late Colonel Farquharson of Invercauld.

— **A FINE FERNERY.**—Roebuck Park, Dundrum, the seat of George Kinahan, Esq., possesses a special feature in a tastefully arranged fernery. Some fine specimens of *Dicksonia squarrosa* and *antarctica*, carrying huge heads of fronds, are very handsome, and visitors by ascending a miniature alpine pass constructed in the rock-work are enabled to view them from a vantage point not obtainable from below. Very noticeable are some gigantic fronds of *Woodwardia orientalis* drooping from the rock-lined walls. Subdued light from a heavily shaded roof, moisture-holding rocks with damp-retaining gravelled walks afford those atmospheric conditions conducive to free, luxuriant growth and vigorous health. An inner sanctuary, where sunshine enters not, is devoted to those charming members of the family—the Filmy Ferns. Here, at one end is *Trichomanes radicans en masse* draping the walls and rocks with beautiful dark green translucent foliage. Many fine specimens of *Todea superba* are perched on rocky spurs, giving an unique character to this part of the fernery. Other things in and about this charming suburban residence call for notice, but the Ferns alone are sufficient testimony to the masterly hand of Mr. Morrison, the head gardener.—E. K., *Dublin*.

— **WAKEFIELD PAXTON SOCIETY.**—At the recent usual weekly meeting of the members of the above Society Mr. George Wassell, gardener to Mr. W. Vibart Dixon, read an essay on "Lawns and Town Gardens." Mr. Wassell explained how to form or lay a lawn with turf and also how to produce one by means of seed. His advice on levelling, draining, rolling, cutting or mowing, and manuring, was all based on practical and successful experience, and went to show that a well kept lawn was one of the chief features in connection with a good garden. The paper provoked a lengthy and excellent discussion, which was opened by Mr. Allan Willis, of Normanton, the son of a well-known gardener. According to "The Wakefield Express" he raised the question as to whether it is best when cutting a lawn to leave the grass on or to remove it, more particularly on bowling greens and lawns used for tennis.—Mr. Vere, gardener to Mr. W. H. Stewart, J.P., Milnthorpe, recommended that the cut grass should be left on the lawns.—Mr. Thomas, gardener to the Bishop of Wakefield, said he was old enough to remember the time when there were no lawn-mowing, rolling, and grass-gathering machines; when all lawns were cut with the scythe, and many gardeners continued to use it. He did not advise that cut grass should be left on new lawns; and he recommended the use of fine charcoal.—Mr. Spencer, Stanley, said he had used salt moderately on a lawn and found that it proved a radical cure for "the Daisy plague."—Mr. J. Burton, Dintcar, said Daisies were the result of poor land, they would not grow on a well manured lawn.—Mr. Wardman complimented the essayist on his excellent and practical paper, and on the motion of Alderman Milnes, seconded by Mr. W. Crutchley, and supported by Mr. A. Willis, a very hearty vote of thanks was accorded to Mr. Wassell for his paper.

— **CROP PROSPECTS IN THE UNITED STATES.**—The official estimates place the probable Wheat crop at 388,000,000 bushels, and the crop of Indian corn at 1,512,000,000 bushels. In Iowa and Nebraska the conditions, it is said, are extremely bad, and although some rain is reported from the "corn belt" it is now too late to do much good. A good Wheat crop may be taken at 500,000,000 bushels, and a huge crop of Maize or corn at 2,000,000,000 bushels. The former furnishes the largest quantity of long distance traffic, yielding the better rates; but Maize yields much local traffic, as well as some "through" business, and it also indirectly increases the traffic of the railways.

— **CHELONE BARBATA.**—This is a useful plant for the herbaceous border, and is perhaps more rightly named *Pentstemon barbata*. For flowering during July and August it is especially valuable. The pink-red or carmine coloured blossoms are very showy, and freely borne on stems which sometimes grow 4 feet high. Like many herbaceous plants this is much improved by replanting, so as to obtain additional vigour. My plan is to pull the old plants in pieces early in October, retaining those parts at the outside of the old roots, these being more vigorous than the central growths. Every piece with a root grows freely; the divisions dibbled in sandy soil in a cold frame, remaining there until the middle of April.—S.

— **GARDENING APPOINTMENTS.**—We are informed that Mr. F. Bright, late foreman at Southwark Park, has been appointed as foreman in charge of Meath Gardens, better known as Victoria Park Cemetery. As a mark of respect his fellow workmen collected together and bought a splendid silver watch, which the Superintendent, Mr. Curle, presented to him on Tuesday in last week. Mr. Joseph Barclay, gardener to the late H. Rowland, Esq., Manchester, appointed as head gardener to Thos. Walker, Esq., Southfield, Bolton-le-Moors. Mr. Henry Wilson, for the last seven years gardener at Easthorpe House, Ruddington, has removed with F. Abel Smith, Esq., to Papplewick Hall, Notts. Charles H. Sorsby, foreman in Mrs. Garside's garden, Carlton House, Worksop, succeeds the late Mr. J. Jefferson as head gardener at that place.

— **GARDENING IN WORCESTERSHIRE.**—According to the "Evesham Standard" "prolific Plums have been an average crop this year, and the prices realised have been good. The picking of Pershore Plums was commenced by some gardeners before they were really ready. Gardeners have been tempted to gather the fruit by the high prices, but during the past few days the prices have fallen off considerably. Other kinds of Plums, such as Damsons and Victorias, are fast turning colour. It is expected that the prices of fruit will be low in consequence of the bad trade in the manufacturing districts. Kidney Beans are being picked in large quantities, and the prices are fairly good. Dwarf and French Beans are nearly over; the prices have been well maintained. Cucumbers, in consequence of the wet season, are not a good crop, and the quality of Tomatoes will not be very good if there is not a spell of hot weather soon. The weather of late has suited all the root crops, which are looking remarkably well. The season for Gooseberries, Currants, and Strawberries is now practically over. Strawberries, considering the light crop, have realised but poor prices. The early Potatoes which were affected by the frosts are a poor yield. The late sorts would benefit now by some dry weather, which will be very acceptable to gardeners in the district."

— **EASTERN LILIES.**—The Revd. David R. Williamson, Kirk- maiden, writes to us as follows:—"Dr. Wallace, of Colchester, remarks in a letter to myself that the present season is favourable to the growth and development of Oriental Lilies; and observation tells me that his theory is correct. From three bulbs of *Lilium longiflorum giganteum* I have this year fifty-two flowers. I measured recently two blooms on a plant of the beautiful "Lily of Bermuda" (originally of Japan), *L. longiflorum Harrisii*, and found they were nearly 9 inches in length. The normal size, I understand, is from 4 to 6 inches. *L. auratum* and *L. speciosum* have grown much stronger, and are much more prolific than usual this year. At Logan House in this parish, where almost every variety of the Oriental Lily that is of any value is cultivated by Mrs. McDowall, *L. auratum*, which is always magnificent there is already (August 13th) in full bloom. The plants are on circular borders, formerly tenanted by Azaleas, midway between the mansion house and the gardens, and have a very imposing appearance, many of them growing to an unusual height and bearing a large number of superbly coloured blooms; virginale and platyphyllum being especially impressive. Mrs. McDowall has been very successful this year with *Lilium Henryi* and *L. krameri*, the latter of which, as I know from experience, is very difficult of cultivation.

— THE PAPAW TREE.—Having noticed the article on the Papaw tree, on page 129, I should like to know if it can be fruited under glass. I have a fine plant (raised from seed this spring) about 3 feet high, growing in a Cattleya house. I should like very much to fruit it. Any note on the culture and temperature it requires will be appreciated, also information if it has been fruited in this country. Will some of your correspondents kindly oblige?—J. L.

— BIRMINGHAM AMATEUR GARDENERS' ASSOCIATION.—There was a good exhibition of cut blooms and pot plants at the meeting of the Birmingham Amateur Gardeners' Association on the 15th inst. Carnations, Dahlias, Hollyhocks, and herbaceous flowers were well shown. Special certificates were awarded to Mr. Bliss, Balsall Heath, for Onions and Shalotts, and to Mr. W. H. Peake, Handsworth, for three greenhouse plants, which included a very well grown Stephanotis. Mr. A. Stanford was first and Mr. Groves second in the competition for the prizes offered by Mr. W. B. Child for twelve varieties of herbaceous blooms. An excellent collection of hardy Phloxes was shown by Mr. W. B. Child, Acock's Green, but not for competition.

— VERBENA AUBLETIA.—This Rose Vervain, from Missouri, is a hardy species, very vigorous in growth, forming broad mats of many branching stems furnished with numerous flattened terminal clusters of deep reddish purple flowers. Verbenas of recent years, says an American contemporary, probably from over-forcing and propagation, have been so much diseased that the florists have largely discarded them, and the florists' varieties are seldom seen in gardens. When well grown they are so useful and effective that their loss is much felt. It would seem that an infusion of the blood of such a vigorous species as *V. Aubletia* might be helpful in restoring the more showy varieties to health. Here is a suggestion for experimenters in hybridising.

— THE "BOTANICAL MAGAZINE."—The following is an abstract from the interesting notes of Sir Joseph Hooker upon the subjects of illustration in the "Botanical Magazine" for August. *Leptactina Manni*.—This is a genus originated by Sir Joseph Hooker, and standing midway between those of *Randia* and *Gardenia* of the Rubiaceæ. It was discovered by Mr. G. Mason, in 1862, when exploring Western Africa. *Neuwiedia Lindleyi*.—This Orchidaceous plant forms one of five known species of a genus flourishing in the Malayan Peninsula, and founded in 1834 by Blume. The present specimen was received from Singapore at Kew in 1887, and flowered there during last winter. *Dermatobotrys Saundersi*.—This is a unique genus, which Professor Oliver assigns to the tribe Cheloneæ of the Scrophularinæ, while Mr. Bolus holds that it is a Solanaceous plant closely allied to Cestrinæ. It is a native of Natal, and first flowered from seed at Kew in last December. *Veronica amplexicaulis*.—This is a hardy New Zealand Speedwell, found on the Southern Alps in the Canterbury province, and which has for some years flowered during June in the Botanical Gardens at Edinburgh. *Dendrobium atro-violaceum*.—A peculiarly beautiful and uncommon species of this well-known genus of the Orchidaceæ, with a purple coloured, auricle-shaped labellum, coming from New Guinea, and closely related to *D. macrophyllum*.

— PREPARING FRUIT FOR PRESERVING.—A seasonable question was recently asked by Sir H. Maxwell in the House of Commons, when he inquired whether the Home Secretary had power to make an order exempting certain industries from some of the provisions of the Factory Acts; whether such an exemption had been made affecting the necessary Sunday labour of women and boys dealing with fruit at factories during the months of June, July, August, and September; whether he would consider if a similar exemption might be extended to creameries during the summer months, seeing that in them a commodity more perishable than fruit had to be handled; and, if this proposal commended itself to his judgment, if he would direct the suspension of the prosecutions now pending against the managers of certain creameries in Scotland. The reply he obtained was that the Secretary of State has no power to grant such an exemption as suggested in the question. The process of cleaning and preparing fruit so far as was necessary to prevent the spoiling of the fruit on its arrival at a factory or workshop during the months of June, July, August, and September was exempted by the Factory Act, 1891, and not by an order of the Secretary of State. He could not, therefore, discontinue the prosecutions to which the hon. baronet referred. However, he was making inquiries as to the arrangements in respect of Sunday labour in all the creameries in the kingdom, and we would see whether legislation on the question was required.

— CULTIVATION OF COTTON IN COREA.—Most persons will agree with "Nature" that anything respecting Corea is of special interest at the present time, and the short article on the "Cultivation of Cotton" in that little-known country, which a recent number of the "Journal of the Society of Arts" contains, is certain to have many readers. According to this article, which is based upon a report of the Commissioner of Corean Customs at Fusan, the total area under the cultivation of cotton in Corea is roughly computed to be 872,000 acres, the yield of seed cotton from which per annum is put at 1,200,000,000 lbs. The yearly consumption of "cleaned" or raw cotton is estimated at 300,000,000 lbs.

— MR. GLADSTONE ON HORTICULTURE.—Speaking at the annual show of the Buckley and Hawarden Horticultural Society on the 14th inst., Mr. Gladstone said:—"Although we call this a flower show, and although flowers are a great ornament to this world of ours, and a great comfort and blessing to us all, yet it is an inadequate description. We look not only to flowers but fruit, and not only to fruits but roots. Nay, we go beyond products of the earth in vegetable form. The whole of the care of poultry, the production of eggs, the care of bees, the manufacture of butter—of itself a most important branch of commerce—are really included within the purposes of this little institution. The French have long been given in a much greater degree than we are to what they call *la petite culture*—the small culture—that is the culture of minor and secondary objects connected with agricultural pursuits. It may appear as if these were in themselves unimportant. The transactions in a little garden cannot be upon a very large scale, but when the aggregate of these branches of the small culture comes to be made up it is a vast aggregate, and you may depend upon it that even the commerce of this country may derive serious and important extension from the extension of those branches of the smaller cultivations, and that nothing is more likely to bring about the extension than the multiplication of institutions such as that of the Society which is responsible for the present flower show. It certainly is my belief that much may be done in many branches of cultivation outside what have hitherto been considered the principal pursuits of the farmer; much may be done for bettering the position of the agricultural classes."

BEGONIA RAJAH.

At the meeting of the Royal Horticultural Society, held at the Drill Hall, Westminster, on the 14th inst., Messrs. F. Sander & Co., St. Albans, exhibited a plant of a new ornamental foliaged Begonia, named Rajah, and for which a first-class certificate was awarded. As depicted in the illustration (fig. 26) the plant is apparently of a dwarf habit, and very distinct. The leaves are about 4 inches across, and correspondingly long. The front surface of each is shining and reddish brown, veined with bright green; at the back the foliage is red. It is a charming Begonia, and will doubtless be extensively grown when better known.

INSECT PESTS AND DISEASES.

So far as I can see by the article contributed by "A. D.," page 74, he would have us trouble ourselves about nothing, but when an insect or fungus becomes numerous leave it to Nature, and trust that it will go away again in a few years. He goes on to say that last year everyone thought the maggot was going to reign triumphant over our Onion crops, but that this year Nature has provided the true remedy against it, by drowning it with cold water; also that the Potato fungus has no terror for us now. I venture to say that in spite of all that Nature has brought about in her own good time and ways to help us against our enemies in the garden, and in the face of all that scientific and practical men have done by unremitting energy and perseverance, there are still many insect pests and diseases that puzzle the best of men how to eradicate them. It would seem to me from the various reports that I hear, that if the Onion maggot has not been so troublesome this year, the Onion mildew has been; and further that the Potato fungus in rural districts is also very bad indeed.

We know that a great deal has been done for us, and that remedies have been found which if applied in time will check the progress of these diseases if not entirely eradicate them; but how has all this come about? Has someone sat himself down quietly and accidentally thought of a remedy? Certainly not. I think it would not be prudent to follow the advice of "A. D.," and wait patiently for Nature to furnish us with an antidote against all her banes, but to thoroughly ventilate the subject and see if there is not a remedy at hand that will do the thing for us at once. There are always numbers of willing hands ready and waiting whenever the necessity occurs, to do their utmost to find a remedy, and I generally notice that if they succeed they are ever willing to disclose, for the benefit of everyone interested, their valuable information.

I see, too, from various articles that have been published of late,

that Nature has not yet quite annihilated all our mealy bugs. Your correspondent, "E. K., *Dublin*," writing a short time ago, reminded me of the days when I was serving as journeyman in some well known gardens in Warwickshire when he speaks of the "field days" he has had waging war against the enemy with petroleum, water and syringe. I think that there is no doubt that petroleum, is the best thing to use when the stove plants are very badly infested. The way we used to do was to carry them out and lay them on the asphalt on their sides, turn them about in all directions, and syringe them with a wineglassful of petroleum to 4 gallons of water, one using an old syringe to keep it constantly stirred. By this means it is possible to put them back into the house fairly clean; but if they are left alone for about a fortnight, so fast does this detestable insect increase its numbers that they seem to

advise anyone to try it on a small leaf and await results before going over the whole plant. For such as *Stephanotis floribunda*, and other plants of a similar nature, there need be no fear so long as a little care is taken in its application.

The chief thing to guard against is scrubbing the leaves, for if a rather stiff brush is used and pressed on the leaf the spirit seems to penetrate it as badly as petroleum when used too strong. That is why it is so necessary to impress it on your readers that a very soft camel's-hair brush should be used. The way I proceed is to take the leaf in my left hand, lay it so that I can see its entire surface, then dip the brush into the spirit, draw it rapidly but very lightly over the surface wherever any mealy bugs present themselves, and it is surprising how quickly a handy and careful man will go over the plants in this



FIG. 26.—*BEGONIA RAJAH*.

be literally swarming again. Then there are the climbers tied to the roof. These cannot be taken out and syringed, and last, but not least, there are the Vines, and of all places to be troubled with mealy bug I think the vine is the worst.

Now it seems to me that what is wanted is a remedy that can be used without the risk of doing injury. Various things have been advised lately by correspondents, such as petroleum and fir tree oil applied with a brush, but I have not yet seen anyone advocate the use of methylated spirit. This leads me to believe that it is not so generally known as it ought to be that methylated spirit may be applied with a soft camel's-hair brush to almost any plant, and it will instantly kill every mealy bug it touches. If anyone doubts what I say, let him just arm himself with a small bottle of methylated spirit and a fair sized camel's-hair brush, and try the experiment on some not very valuable plant. I have put it on the young and tender leaves of Vines without any apparent injury, and also on the new fronds of some of the Maiden-hair Ferns, but, of course, in the case of very tender plants I should

way. Another point in favour of methylated spirit is that it evaporates so quickly that any little smell is dispersed in a very short time if the ventilators are opened, and, last but not least, it is inexpensive. If "E. K." and others would try it I think they would find that with perseverance the mealy bugs would rapidly disappear. My advice is to try it, and let us know the result.—W. S. E.

RIPENED WOOD.

I HAVE been called a faddist before, and do not the least mind it; should expect it, in fact, if I signed myself "A Sceptic." But that he who attacks one of the most cherished articles of faith among horticulturists should call its upholders faddists is—well, is human nature, I suppose, according to the old definition, "orthodoxy is my doxy, heterodoxy is the other fellow's doxy."

Yes, we certainly grow Plums, Pears, and Apples for the sake of the fruit, not the blossom; and if "A Sceptic" (page 160) can produce

the fruit without the blossom, he may call me anything he likes. Blooming is certainly only a means to an end, but it is generally considered a rather indispensable means. To be sceptical as to the exceptional frost of May 21st last is comparatively a small matter compared with doubting the value of ripened wood. "A Sceptic" may have been in a favoured spot; but if he will believe that others are also "fully alive to meteorological occurrences," let me tell him that in many places it was exceptional in severity and effect. There may be a score of reasons why his Peaches and Nectarines, which had ripened wood and a fair show of blossom, failed to fruit; but does he think the ripened wood was to blame, and that he would have had fruit if it had not ripened?

He regards profusion of blossom as a "distinct disadvantage." Oh! I really think he ought to know better. It is quite true that neglected Apple and other fruit trees will have but few blossoms the year after an exhausting yield, but that is the wretched old system of a fallow between two crops. He has surely learnt something better than that. My fruit servants are expected to work hard, and are paid accordingly. When a good crop is set they are fed abundantly, and so they can stand the strain and do it again next year. Our motto is, "No work, no pay." If a healthy fruit tree does not work, neither shall it eat, except what it can find for itself, and I will stop its foraging too far. If it fattens itself in gross wood instead of making me fat, it will be put on short commons till it learns to work. But if it has a good show of blossom, with healthy leaves and shoots, then it shall have abundance of sustaining food, and I will also do my best to protect it from the scoundrel sparrow and all other enemies.

Afraid of a big crop! Well, we have not learnt much in horticulture if we have not gone farther than that old idea. Ripened wood, no tap roots, but many near the surface, abundant summer feeding when a crop is set, and none when there is no fruit. Has "A Sceptic" really tried all these articles of our creed and yet is happy to get "fifteen Pears on a large pyramid?"—W. R. RAILLEM.

MR. RAILLEM'S "first shot" at "A Sceptic" (page 126) has, I think, sufficiently hit the mark to render further skirmishing unnecessary, although it would not be a matter of difficulty to strengthen his position with a strong artillery charge of practical evidence. It may now appear incumbent on me, as the writer of the article on ripened wood (page 81) to say a word, lest silence may be interpreted that I have not the courage to stand up for my faith. In explanation, I can only say that reluctance to engage in controversy on a subject so perspicuous in theory and patent in practice, was partly the reason. Further, I could not quite understand whether "A Sceptic's" note was a direct attack on this article of our faith, or the question of a mind in the search for truth, perhaps the latter, as he said, "is it not?" not that it is "one of the fads and fallacies of the age."—E. K.

HARDY FLOWERS AT EDINBURGH.

THE collection of hardy flowers in the Royal Botanic Gardens in Edinburgh is well known to be a most extensive one, and a few notes of some of those observed on the occasion of a visit in the end of June last may be of interest. The most of the taller-growing herbaceous plants are grown in beds on the grass in front of the Palm house, and are so arranged as to be suitable for the purposes of study by the students of the University. This detracts much from their effect, as, in addition to the stiffness of the beds, no effort can be properly made to suit the soil or situation to the cultural requirements of the respective plants. Besides this, there are many plants grown which are only of interest from a botanical point of view, and are valueless for garden purposes. There were, however, many of much beauty, and some of these are now named as being worthy of growth.

A good Globe Flower is *Trollius laxus*, with the usual yellow flowers of the genus. A few single *Pæonias* were in flower, and among these were *P. officinalis lobata* and *P. o. anemonæflora*. *Vancouveria hexandra*, a rather uncommon plant, which has not yet flowered in my garden, was also in flower. The foliage is graceful, but the flowers are rather small and dull in colour. A distinct-looking plant is *Diphylleia cymosa*, which has two very large kidney-shaped leaves and heads of small white flowers, and growing 1½ foot high.

Several perennial Poppies were in flower at the time of my visit, among these being the following, all with orange flowers:—*Papaver armeniacum*, *P. rupifragum*, and *P. pinnatifidum*. A showy *Veronica* was named *V. nicisa*, and a Thistle (*Cnicus rigidus*), with reddish flowers, also attracted my attention. *Hedysarum obscurum*, a fairly well-known plant, was worthy of notice, although not new. A charming little *Potentilla* was *P. mica*, with yellow flowers, and leaves white beneath. *Senecio campestris*, 1 foot high, and *Helianthella uniflora*, 1 foot, were both noted as yellow composites, of some value in the garden. *Wyethia robusta*, another yellow composite from North America, was new to me, and appeared as if it would be a useful garden plant. The old *Polygonum bistorta* was doing remarkably well, its reddish-pink spikes of flowers showing to advantage. An interesting Sea Holly, named *Eryngium agavæfolium*, which I had seen here before, was not in flower; but it can be recommended as a plant of conspicuous effect, its style being sufficiently described by the specific name. Some of the Irises in flower were *I. longipetala*, *I. lutescens*, *I. pallida*, *I. flavescens*, and a number of forms of *I. sibirica*. A tall *Allium*, with large round heads of pinkish flowers, was named

A. MacLeani. It is a new plant from the Himalayas, and I thought it better than *A. giganteum*, which was also in flower.

The rock garden is one of the most interesting features of the place. While going round this I had the privilege of the guidance of Mr. Lindsay, the Curator, to whom I was indebted for much information, given with his wonted kindness. A neat little plant not often seen is *Moehringia muscosa*, with small white flowers. *Hieracium alpinum* is a somewhat superior plant of a genus which comprises a large number of species extremely difficult to identify. It has good sized yellow flowers. *Erigeron multiradiatus*, which has purple flowers about 2 inches across with a yellow disc, was very fine, and about 2 feet in height. *Libertia grandiflora*, a grassy-leaved plant with white flowers, is quite hardy in the rock garden at Edinburgh, and is distinct enough to deserve a place. *Spiraea procumbens*, of procumbent habit, rising to a height of about 9 inches and having white flowers, is one of the best of the genus for the rockery. *Vella spinosa* I noted as a small plant hardly worth growing from a garden point of view. *Iberis gibraltarica* is not very frequently seen, its want of hardiness in many places keeping it scarce. Here it was growing well, and its pinkish heads of flowers were very pleasing. *Potentilla lanuginosa*, with silvery leaves and small white flowers, was extremely pretty also. A new plant, *Anthemis macedonica*, growing about 1 foot in height, was very effective with its white Marguerite-like flowers. *Arenaria laricifolia*, about 6 inches high and with small white flowers, was also worthy of attention.

The neat little *Linum alpinum* seems to do very well here, the plant in bloom being among the finest I have seen. *Cacalia alpina*, from the Pyrenees, was also very pleasing, and *Geranium Traversi*, from New Zealand, was very attractive with its white flowers. *Helonias asphodeloides*, a plant I had seen here previously, was very fine with its spike of whitish flowers. *Celmisia spectabilis* I was pleased to see is quite hardy here. It is, as many know, a New Zealand plant with silky leaves and white flowers, about 2 inches in diameter. A useful *Anemone*, near *A. narcissiflora*, and of somewhat similar appearance, was *A. polyanthes* from the Himalayas. *Dianthus Michael Foster*, a hybrid between *D. alpinus* and *D. superbus*, was attractive, but not so good as one raised here between *D. alpinus* and a Sweet William, and now being sold as *D. Grievei*—a name not recognised in the garden of its origin. *D. "Grievei"* is imposing, with its heads of flowers, some red and some white, and having the habit and flowers between its parents.

One of the best of the double Sun Roses is largely grown here. This is *Helianthemum amabile* fl.-pl., with double red flowers not so fleeting as the single flowers. Worth noting as being hardy here was the curious *Arum palestinae*, the "Black Calla," now well known as a pot plant. It was in flower in the rock garden. *Pentstemon Menziesi* with pink flowers was also in bloom, and was very well worth growing. A shrub several feet high was *Enkianthus himalaicus*, from Sikkim, with yellowish red flowers, which are drooping, as is singularly enough the case with the flowers of nearly all the Sikkim plants.

Many other interesting and beautiful plants, including some of the fine collection of New Zealand *Veronicas*, were in flower, but enough has been said to give some idea of the rich stores of hardy flowers in this Botanic Garden. It is to be hoped that the collection may long be as extensive as it now is under the care of Professor I. Bayley Balfour, the Keeper, and Mr. Robert Lindsay, the Curator, who seem to spare no care to make it worthy of inspection by all interested in hardy flowers.—S. ARNOTT.

A GLIMPSE AT THE CHILWELL NURSERIES.

YES! it was only a glimpse, for the skies were not very propitious, and the rain of the previous few days had made it unpleasant and unprofitable to examine plants in the open, but I was unwilling to relinquish revisiting these nurseries after a lapse of some thirty years or more. My former visit had been paid in the days of Mr. J. R. Pearson, the father of the present young men who now so well carry on the business which he ably conducted for so many years. I was greatly impressed at that time with the intelligence and energy with which he was pushing ahead, and retain a most pleasant recollection of the afternoon I spent in his company. How pleasant a thing it is to see a business like this descending from father to sons for three or four generations. We have seen where, through the carelessness of the younger members, a flourishing business has come to grief or passed completely into other hands; and therefore one is glad to see that the honoured name of Pearson is still associated with Chilwell.

As I have already said, it was not a time for visiting the outdoor business of the nursery; nor could much be expected in the houses at the time of my visit. It was the worst month in the year for Orchids. Greenhouse plants were well over, still I knew that there would be something worth seeing, nor was I disappointed. I was sure, for instance, that in the matter of Zonal Pelargoniums I should see much to gratify me. The elder Mr. Pearson had commenced their improvement, and had so succeeded that in any group of prize Zonals you would invariably find the Chilwell varieties outnumber all those of other raisers. I recollect in one case ten out of the twelve were Pearson's varieties. Since then the improvement has gone on unceasingly, and now one wonders, as Mr. Charles Pearson, who especially carries on this part of the business, says, "What more is to be done?" We have them now with pips as large as a small watch, perfectly round, with no gaps between the petals, and of all shades of colour. One long house is devoted to their culture, and here all the best varieties of late years are to be seen; while the smaller collections, those

which have been selected out of the large number of seedlings for distribution next year, were in flower. The shades of colour vary greatly, and combined together have a very pleasing effect. Amongst the novelties for next year was one of the purest white that I have yet seen, large pips, and an immense truss; another was of a rich shaded salmon colour. In the larger house were also varieties of foreign raisers, mostly forms which had originated in some way or other from *Souvenir de Mirande*. The back wall of this house was completely draped with enormous plants of an ornamental *Asparagus*. These had been planted out about eight years ago in the border; had been allowed to cover the wall and to hang down in long festoons of rich green. It is largely used for bouquets, and as it remains fresh for some time after being cut, may perhaps prove a formidable rival for this purpose to *Adiantum cuneatum*. Of this latter there were two long houses filled with plants of the utmost luxuriance of growth and freshness of colour.

I also had the pleasure of seeing the old orchard house, which I well remember in the time of my former visit, when these structures were not so plentiful as they are now. In another of the houses there was a remarkable bed of *Eucharis amazonica* (*grandiflora*); it was some 90 feet long and 5 feet wide, and was filled with hundreds of healthy and vigorous plants. There was no trace of *Eucharis* mite, or indeed of any disease; many hundreds of blooms had been cut, and the plants promised well for a future supply. Mr. Pearson thinks that the secret of his success in growing them is that they are kept continually on the move; he does not believe in their requiring a rest, and it may be with them, as with *Disa grandiflora*, that they do not really require it; at any rate, no more successfully grown group of plants could be very well seen. The Chilwell Nurseries are not Orchid nurseries, but there was one very fine group of the Chatsworth variety of *Cœlogyne cristata*, which might be the envy of any orchidist. The firm has long been famous for its pot Vines, and a house full of magnificent plants of all the leading varieties bore witness to the fact that the reputation in this respect has been well maintained. There was also a house full of grand plants of that Rose for which the demand seems even greater than the supply, *Maréchal Niel*. These plants were strong and healthy, placed on each side of a span-roofed house, forming a complete arch of green and luxuriant foliage. One oftentimes wonders what becomes of all the plants of this grand Rose which are everywhere distributed; it cannot be that they perish, for nearly the same demand exists for *Gloire de Dijon*, yet we hardly ever hear of that Rose dying, so I suppose in many of an out of the way nook, where its beauties are "born to bloom unseen," it is to be found.

In one thing I was disappointed, the firm has taken a considerable interest in the dwarf varieties of flowering Cannas, and I had hoped to have seen many of the newer forms in flower, but they had been nearly all planted out, and the cold and wet weather had so checked them that they were not in bloom. There were a few in one of the houses which showed how effective they are both in flower and foliage. Conspicuous amongst them was that grand variety *Königin Charlotte* raised by M. Pfister. It is somewhat in the style of *Madame Crozy*, but superior both in size and colour to that well known variety. There were some which would be attractive for their foliage only, one most especially, with large dark velvety leaves which would at any time command attention, and when in flower the contrast between the dark foliage and the bright flowers must be very pleasing. Mr. Pearson speaks as highly of these for winter use as did Mr. George Paul in the admirable paper which he read before the Horticultural Club three months ago. It is a class of flowers which is evidently coming into vogue, and in which, as in all such cases, we may expect grander results from the hybridiser's efforts.

As I have said, it was not much of a time for the inspection of the outdoor part of the nursery, I was therefore obliged to leave unvisited the fruit tree department which Mr. Alfred Pearson has under his especial care; but there was one quarter which I think was perfectly unique, and that was a bed of about 2000 plants of the variegated form of the *Yucca filamentosa*. It still holds its own for the distinctness of its variegation, notwithstanding the many rivals which have been introduced of late years. These plants were of various sizes and all in conditions of perfect health.

Crossing the road which divides the nursery I came upon a walled garden, which brought before me vividly the zeal with which florists' flowers were cultivated in times past. This garden was enclosed by a wall 10 feet high, and in the time of Mr. Pearson's grandfather or great-grandfather was devoted to the cultivation of the Tulip. This is a time not like, of course, the Tulip mania in Holland 200 years ago, which was simply a gambling speculation, but it was a time when Tulips were found catalogued at 10, 20, and even 50 guineas apiece, and when Groom's collections at Walworth formed one of the attractions of South London. Of the varieties of which these almost fabulous prices were paid there hardly remains one in cultivation, having been superseded by the beautiful rectified Tulips of modern raisers. This high wall was intended as a protection not only from winds but from intruders. The glory of the Tulip garden has departed, and it is now devoted to other purposes.

There is one other speciality of the Chilwell Nurseries which cannot be passed over without notice: I mean the culture of the *Chrysanthemum*, to which Mr. C. Pearson has so zealously devoted himself. There is no collection I know of that can be compared with that at Chilwell. It comprises between 4000 and 5000 plants, all grown in pots, and at the time of my visit were in the most luxuriant foliage, clothed right down to the pot, and showing no trace of mildew or of

any other infirmity. Mr. Pearson is not an exhibitor, but he has a grand exhibition in his own place. These plants will be by-and-by removed into three houses, the largest of which is about 100 feet long and 30 wide. In these the *Chrysanthemums* are staged in the best possible way for effect, and I have no doubt forms, as many of your correspondents have stated, a grand treat to the lover of this beautiful autumnal flower. Of course all the best of the foreign varieties are introduced for trial, but those only of superior merit are retained, it not being considered that a new name is the same thing as a new flower.

I have thus endeavoured to give a slight idea of the existing state of this fine nursery. In so doing I have had as my main object that of showing that the well-established repute of an honoured name is being worthily maintained in the present generation, and all who knew the late Mr. Pearson, and who now know his enterprising and energetic successors, will not only hope that they may continue to maintain the high position which their establishment holds in the horticultural world, but also that they may be able to transmit this to successors who will uphold its character unimpaired.—D., Deal.

LADY GARDENERS.

Now and again the problem of overcrowding in the gardening vocation claims the attention of the press. To all thinking men whom this question of supply and demand directly concerns, and it may be said that is the whole body of gardeners, it is one that is ever present and ever increasing. To what acute stage the disorder may attain before a remedy is found it is difficult to foresee, or indeed to say if it is within the bounds of possibility of being successfully grappled with. The very magnitude of the evil is such that men in active life can give it but little more than passive attention, and those who are peculiarly qualified to do so by an unenviable experience are the last to seek sympathy in publicity, but are fain content to suffer in silence. Any means whereby the evil might be mitigated are worthy of consideration, and not less should any augmentation of it be ignored. One phase—a new one—bearing on the latter is the threatened invasion by lady gardeners of our field work. Gallantry presupposes that when they arrive there will be *place aux dames*, and by natural sequence the displacement or non-placement of a corresponding proportion of the sterner sex.

Hitherto with few exceptions those hereditary acquirements derived from primeval times have through the lapse of ages run on parallel lines. Now the digging department is threatened by invasion from the spinning department, doubtless some thought is given by many who from chivalrous motives are diffident in expressing it. Present discussion of the subject may be somewhat premature, but we know not the day nor the hour when the portcullis of some horticultural college may be raised and the fair enemy be among us. It may not be a matter of surprise to those most interested in the advertising pages of the *Journal of Horticulture* to find at any time its columns monopolised by a bevy of fair lady gardeners' names, setting forth in the orthodox manner their qualifications in the matter of Pines, Peaches, and Cucumbers. Neither will it be grateful or comforting to the candidate for one of those precious situations to find himself in competition with Mrs. —, who is anxious for a situation as head gardeness; Miss — as forewoman, or the steady and industrious girl willing to go as journeywoman or improver. Again, preparing for all possibilities, one may presuppose themselves acting as judge at some flower show, and wonders what will happen if in the stern official capacity he is beset by some fair competitor with the supplication, "Ah! do give me the prize, Mr. So-and-so." Shall we be sufficiently stonyhearted or callously indifferent to maintain our *mens conscia recta*? Imaginary fears probably. But what of everyday work? Will these lady gardeners dig, hoe, rake, sow—Bachelor's Buttons? stoke, and syringe?

We live in an age of enterprise not limited to sex. Practically there is no precedent from which to foreshadow coming events. We can, perhaps, by reconnoitring the strongholds of these lady gardeners, obtain some ideas on a subject as yet obscure. A visitor to the Horticultural College at Swanley, in a bright racy article, records his experience in the "Lady's Pictorial" of October 21st, 1893, from which I venture to make a small extract. In response to his query as to the success of lady gardeners on leaving College, he is informed that "So far only four have passed through the course, the women's side of the College only having been opened two years ago. And these have found employment? Well, one has abandoned all idea of following the trade; two, who are sisters, are managing—I hope successfully—their father's land and garden in Kent; and the fourth, who was a widow, has re-married." In this peep behind the scenes I think there is a gleam of comfort for us fearsome ones. Unseen dangers often possess a magnitude of abnormal dimensions which the visible reality dispels. Due reflection may enable us to see farther, and view the new crusade as a blessing in prospective. We cannot ignore the great and good work which has and is being done by ladies in the interests of horticulture—work which we cannot fail to recognise as ennobling the business and contributing in no small degree to the success of our labours.

There can be but one opinion, and that of unqualified admiration for Miss Ormerod's entomological researches, and the inestimable benefit they confer on our sphere of duties. Here, too, agriculturists join hands with us. Miss North's paintings, also, with their unique value and bearing on the art. Then there is that keen interest now taken by ladies in the gardener's work by which the best efforts of head and hand are developed. These examples are, I admit, somewhat wide of the mark, but in the infinite variety of our work, and the requirements of modern society,

there appears much that is peculiarly adapted to the more delicate manipulation of a lady's hand. It may be taken for granted that lady gardeners' hands will neither nip earwigs nor crush caterpillars with the gusto we delight in, but it is within their sphere to show us those microscopic foes which are ever increasing, leaving us to do the nipping and crushing.

What will they do without entrenching on our field of work? To this imaginary question I must refer to the only data to hand—viz., the quotation from the "Lady's Pictorial," limited and insufficient though it be. On analysis 50 per cent. are comfortably disposed of, 25 per cent. having retired, and 25 per cent. married—may they be happy. We, at least, have I think little to fear and something to hope for from the coming lady gardeners when they arrive.—E. K., *Dublin*.

EUTOCA VISCIDA.

THIS is a charming annual of dwarf growth, and is adapted for small beds or near the margins of borders, as otherwise the plants appear to little advantage crowded with the taller, stronger growing perennials. The Eutocas are not particular as to soil, any moderately light ordinary garden soil suiting them, and perhaps the best way to obtain plants in good condition is to sow the seeds in the borders in the autumn. The flowers (fig. 27) have very rich blue corollas, with a circular red blotch in the centre, and they are borne in curved racemes, several blooms being open at one time. The leaves are somewhat heart-shaped, but irregularly cut at the margin, and the surface of the plant generally is covered with hairs, the points of which each bear a viscid secretion, and to this character it owes its specific name. The bright blue tint is very pleasing, and the flowers, moreover, last a considerable time if cut with a good length of stem and placed in water, thus rendering them valuable for vases.

FARRINGTON HOUSE GARDENS.

WHILST recently visiting the gardens at Farrington House, near Preston, the residence of John Eccles, Esq., J.P., C.C., I was much interested in the successful manner of Grape growing there evident. Farrington House is situated about two and half miles on the south side of Preston, and is approached from the main road by a carriage drive through well-wooded grounds. Without attempting to describe the mansion or its surroundings I will commence at once with the glass houses and gardens attached, dealing principally with the Grapes, which formed the main object of my visit.

During the whole of my thirty-five years of horticultural experience in various parts of the country I have never seen Vines in better condition. The foliage was good, the wood sound, and the fruit as near to perfection as it seemed possible. The firstinery I entered is 40 feet by 15, and is planted with Madresfield Court, carrying about 150 bunches of fruit, perfect in shape, size, and colour. The next one is a large house, built for a Pine stove, but is now planted with Black Hamburgh Vines, bearing heavy crops of good fruit. From this house we have to cross the walled-in portion of the kitchen garden, and the same good culture is noticeable here as elsewhere. The wall trees were looking well, with a fair sprinkling of good fruit; while the daily supply of vegetables is not forgotten. We next entered a splendid house of Lady Downe's, 45 feet by 18, and I here counted 244 bunches of splendidly grown fruit, perfect in shape, and I am quite under the mark when I say that every bunch would average 2½ lbs. weight. At the end of this house is planted a cane of Gros Colman, which bore a crop of thirty-one bunches, decidedly the best example of this Vine I have seen. Another house is planted with Black Hamburgh, from which 210 bunches had mostly been cut. The sample still hanging convinced me of the same excellent quality and finish of the fruit, while the foliage and wood look most promising. Myself and guide then entered the Muscat house, and I was much impressed with the extraordinary crop of excellent fruit the Vines were carrying, and yet not showing the least sign of being overtaxed. I counted 222 bunches, and each bunch a model in shape and size.

A large conservatory situated on the west side of the mansion is well stocked, and at the time of my visit was gay with all the usual summer flowering plants. A large specimen Hydrangea had 102 trusses fully expanded, and a splendid Tacsonia Van-Volxemi was covering a great portion of the roof. A large fernery is situated on the opposite side of the mansion, and on entering this house one cannot help observing the health of the plants and the artistic arrangement of the rockery. Arches are covered with Mosses and Ficus repens, while Tree Ferns stand out conspicuously, all being in excellent health. The house altogether contains a choice and valuable collection of Ferns. In a small stove I noticed a choice selection of Crotons, Aralias, Palms, and similar plants, all in splendid health; also two of the finest plants of Adiantum farleyense I have ever seen, quite 5 feet through, and in grand condition. In another stove there were about thirty good specimens of Eucharis amazonica, and some very fine plants of Calanthe Veitchii. A large house, originally built for a stove, now used as a cool greenhouse, was planted all round with Tea Roses and other climbers suitable for supplying cut flowers.

A large square structure was built for a Palm house, but is now used for late Peaches, and very promising the trees looked; very clean and good crops. We also entered another large Peach house, planted back and front, and it is evident at first sight that the same cultural skill

applied to the Vines is also extended to the Peaches. Indeed everything, not forgetting the 400 Chrysanthemums, seems to thrive under the care of the able gardener, Mr. H. E. Tye, whom I take this opportunity of thanking for his kindness in showing me the gardens. I may just say that the natural soil in the neighbourhood of Farrington is of a black loamy nature, full of humus, and I am sure it would be interesting if Mr. Tye would give, through your columns, a short account of his proceedings in Vine culture.—E. P.

HORTICULTURAL SHOWS.

SEVENOAKS.—AUGUST 15TH.

NOTWITHSTANDING the windy and showery weather which prevailed on the above date hundreds of visitors were to be seen wending their way towards Knole Park, the seat of Lord Sackville, where the twenty-seventh exhibition of the Sevenoaks Horticultural and Floral Society was being held. This proved a very good show so far as the exhibits were concerned, but it cannot be said that they were arranged in the best possible manner. There were numerous classes, however, and the majority of these being well filled, the exhibits made an imposing display, this remark applying with much force to the groups of plants. These were arranged on one side of a large tent, in which the specimen plants were also given a place. Fruit and vegetables were extensively exhibited, the amateurs and cottagers coming well to the front in these classes.

In the class for a miscellaneous collection of exotic flowering plants, six distinct varieties, Mr. A. Gibson, gardener to T. F. Burnaby Atkins, Esq., Halstead, was first, showing well flowered specimens. These were Ixora Fraseri, Allamanda magnifica, Anthurium Scherzerianum, Dipladenia Brearleyana, D. amabilis, and Ixora Dixiana. Mr. A. Hatton, gardener to Mrs. Swanzey, The Quarry, Sevenoaks, was second. Mr. A. Gibson also secured the leading award for six foliage plants, staging Cycas revoluta, Seaforthia elegans, Croton Sceptre, Gymnogramma chrysophylla Laucheana, Croton Evansiae, and Asparagus tenuissimus. Mr. Hatton followed in this class with smaller plants.

Mr. S. Huntley, gardener to Rev. S. Curteis, Sevenoaks, had the best six Fuchsias, showing well-grown and profusely flowered plants. Mr. Heath was second with similar plants; the third prize going to Mr. A. Hatton, who staged smaller specimens. Mr. Heath was successful with half a dozen Begonias, and was followed by Mr. Hughes, gardener to J. Dixon, Esq., Edenhurst, both staging fine plants. In the class open to gardeners with only one assistant Mr. Huntley again won with four Fuchsias, staging excellent plants, Mr. Heath following.

Zonal Pelargoniums were very good. Mr. H. Heath, Riverhead, had the best half dozen plants, which included Hettie, Madame Thibet, and Dr. Jacoby. Mr. Gibson was second with creditable plants, the third prize going to Mr. A. Handley, gardener to F. L. Bevan, Esq., Sevenoaks. Mr. Ewing, gardener to Rev. G. France, won with half dozen Coleuses, staging small plants, the second prize being won by Mr. E. Hughes. In the class for four Caladiums Mr. Talmage, gardener to Miss Hodgson, Sevenoaks, was first with handsome specimens 3 or 4 feet high and as much in diameter. Mr. A. Hatton was second with smaller but well grown and finely coloured plants. Mr. Talmage was first with six Gloxinias, Mr. Hatton being second, and Mr. C. Noble third, all showing small plants. The prizes for four hardy Ferns went to Mr. Talmage, Mr. G. Fennell, and Mr. H. Heath.

Mr. Heath had the best single specimen plant in the restricted class, showing a fine Adiantum farleyense. Mr. W. Marton, Sevenoaks, was second with Asparagus tenuissimus, and Mr. Wing was third. The last named exhibitor was first, however, for three foliage plants, the second prize being won by Mr. H. Heath, and the third by Mr. C. Noble, gardener to Miss Austin, Sevenoaks. Mr. Huntley was first in the restricted class for a single flowering plant, showing a fine Fuchsia. Mr. E. Wing followed with an Allamanda, and Mr. Heath was third with Statice Holfordi. Mr. Heath was apparently the only exhibitor in a special class for four Zonal Pelargoniums, but was awarded the first prize for well grown plants.

Groups were very fine, and in the leading class some charming arrangements were noticeable. Mr. G. Fennell, Fair Lawn, Tonbridge, was first, having a bright and well arranged group. The background was composed of Palms and plants of Campanula pyramidalis, the frontal position consisting of Ferns, Gloxinias, Orchids, Bouvardias, Coleus, and Begonias amongst other plants. Mr. Heath was second with an effective group, the third prize going to Mr. A. Hatton. Mr. J. Hilling, Prestons, Lytham, was awarded the fourth prize, and Mr. S. Cook, Rosefields, Sevenoaks, the fifth. There were six competitors in this class. Groups of Ferns arranged for effect formed a striking feature. Mr. Heath was first in this class with a beautiful arrangement of deep green, healthy-looking plants, Mr. Hatton being a close second. There appeared to be some dissatisfaction in regard to the decision of the judges in this class, the second prize exhibit containing some charmingly coloured fronds, which, it was reported, was the only cause of its being placed second. For effect the latter was certainly the better of the two, but the judges ruled otherwise, probably taking into consideration the general excellence of the plants shown in the leading exhibit. Mr. J. Hilling was placed third. Groups in the restricted class were also good. Mr. W. Mears, Ightham, was first with a neat arrangement, amongst which Lilliums, Crotons, Ferns, Gloxinias and Palms were prominent. Mr. F. Bolton, gardener to G. Wilmot, Esq., Shoreham, was second and Mr. Martin third.

Roses were not extensively represented, Messrs. G. Bunyard & Co., Maidstone, being the principal exhibitors in the class for twenty-four blooms. The best of these were Ulrich Brunner, Her Majesty, The Bride, and La France. Mr. G. Sutton won with twelve blooms, Mr. H. Ware being second. Mr. F. W. Seale, Sevenoaks, was first with twenty-four Dahlias, staging fine blooms. Mr. J. Talmage won in the class for twelve Dahlias, and was followed by Mr. H. Heath. Mr. T. Robinson, Hollingbourne, had the best dozen Asters, Mr. W. Kennard being second. Zinnias were well shown by the last named exhibitor, and single Dahlias by Mr. H. Ware. Mr. A. Headley won with a dozen Cactus Dahlias, Messrs. Talmage and H. Heath being second and third. Mr. Gibson was first with twelve bunches of greenhouse flowers, the second prize going to Mr. C. Sutton. Mr. C. Noble was first for half a dozen bunches of Phloxes, the second prize going to Mr. J. Baker and the third to Mr. T. Fearer. Mr. A. Gibson was first with six bunches of Carnations, Mr. W. Searing being second and Mr. H. Ware third. Mr. H. Ware, Penshurst, was first with a dozen bunches of herbaceous flowers, the second prize going to Mr. G. Fennell and the third to Mr. C. Noble.

Table decorations, sprays, and buttonhole bouquets were remarkably good. Mr. R. Potter, gardener to Sir Mark Collet, St. Clare, Kemsing, was first with table decorations, showing a very light and graceful arrangement; Mr. S. Cook was second, Mr. R. Edwards third, and Mrs. Hatton fourth. Mr. Seale had the best bouquet; Mr. Potter being second. Messrs. Potter, Fennell, Hatton, Barnby and Cook were amongst the prizewinners in the minor classes for bouquets. Mrs. Searing, Swanley, was first with an epergne of flowers; Mr. R. Edwards second, and Mr. Potter third.

Fruit was well represented, and shown generally in fine condition. In the class for a collection of six varieties Mr. R. Potter was first, showing fine Peaches, Grapes, Pears, and Nectarines amongst others. Mr. T. Osman, Chertsey, was second, staging with other dishes a very fine bunch of Black Alicante Grapes. Mr. G. Fennell was third and Mr. R. Edwards fourth. Mr. C. Earl, gardener to Sir Julian Goldsmid, Bart., had the best three bunches of black Grapes, showing Black Hamburgs, Mr. T. Osman following with Alicante, and Mr. C. Sutton, gardener to Earl Stanhope, third with Hamburgs. Mr. Sutton was first with three bunches of white Grapes, staging Muscat of Alexandria; Mr. J. Bury was a close second with the same variety, and Mr. Osman third with Foster's Seedling. Mr. J. Bury was first with a collection of Grapes, staging Gros Maroc, Muscat of Alexandria, and Black Hamburg in splendid condition; Mr. T. Osman was second, and Mr. C. Earl third.

Peaches and Nectarines were well coloured. Miss Abbot had the best dish with Princess of Wales; Mr. R. Edwards was second, and Mr. W. Henson third. Nectarines were best shown by Messrs. A. Hatton, W. Henson, and P. Potter. Mr. C. Sutton was first with Cherries, Mr. J. Selby being second, and Mr. T. Butler, Hollingbourne, third. Mr. Potter was first with three dishes of Pears, Mr. J. T. Barnby being second, and Mr. W. Kennard third. Mr. J. Hilling had the best Melons, Messrs. A. Hatton and H. Ware following. Mr. R. Potter secured the leading award for three dishes of culinary Apples, the second and third prizes going to Mr. J. S. Barnby and Mr. C. Sutton. Mr. Potter also had the best three dishes of dessert Apples the other prizes going to Messrs. R. Edwards and W. Godfrey. Culinary Plums were well shown by Messrs. R. Potter, C. Earl, A. Headley; and dessert varieties by the same exhibitors. The fruit classes open to amateurs and single-handed gardeners were also well filled. Mr. J. S. Barnby had the best collection of nine varieties of vegetables, showing fine Peas, Onions, Potatoes, and Tomatoes with others; Mr. W. Mist was second with good produce. Mr. R. Potter won with a brace of Cucumbers, Mr. C. Earl being second, and Mr. J. Talmage third, all showing good specimens.

A unique feature of the exhibition was a class open to gardeners for a collection of twelve distinct vegetables, twelve dishes of fruit, and a stand of cut flowers, the prizes of £4, £3, and £2 being given by Messrs. H. Cannell & Sons, Swanley. With the first prize went Cannells' "star of honour" for good culture. Three competitors were forthcoming in this class, and the first prize was awarded to Mr. R. Potter, gardener to Sir Mark Collet, St. Clare, Kemsing, who had a collection of excellent vegetables, some grand fruit, and a charming stand of flowers. The vegetables included some well grown Potatoes, Onions, Peas, Carrots, Beet, Tomatoes, and Cauliflowers, and several splendidly coloured Peaches were noticeable amongst the fruit. The flowers, too, were varied and bright in colour. Mr. R. Edwards, Beech Lees, Otford, was a close second, showing a fine collection of vegetables tastefully arranged. Fruit was well shown by this exhibitor, who had some splendid Barrington Peaches. Mr. Hatton was third.

Miscellaneous exhibits included a group of flowering and foliage plants from Mr. W. C. Holland, Tunbridge Wells. Messrs. W. Cutbush and Sons, Highgate, sent a group of miscellaneous plants, including Palms, Lilioms, and Carnations. Messrs. J. Peed & Sons, Norwood, also had a group of various plants. Mr. Gillet, florist, Sevenoaks, sent a group of plants, as did Messrs. B. S. Williams & Sons, Upper Holloway, the contribution from the last named firm containing many choice Orchids. Mr. F. Webber, Tonbridge, Kent, had a group of Ferns, and Messrs. G. Bunyard & Co., Maidstone, a collection of Apple and Peach trees in pots. Mr. Seale, Vine Nurseries, Sevenoaks, Kent, sent a very large collection of cut flowers, amongst which Dahlias were conspicuous. The same exhibitor had bouquets and baskets of flowers in variety, the whole making a good display. Mr. T. Edmund, Westerham, Kent, sent boxes of cut flowers. Messrs. H. Cannell & Sons had a special tent devoted to tuberous Begonias in variety, and Dahlias. The same firm

exhibited blooms of Antirrhinums, and plants of the same, dwarf, bushy in habit, and carrying upwards of thirty spikes of bloom. Onions, large and handsome in appearance, The King Tomato, Peas, and Beans were also staged by Messrs. Cannell & Sons, who likewise had Melons and a collection of Cockscombs in fifteen different shades—the result of years of patient and judicious selection.

As already remarked, the amateurs' and cottagers' classes were well filled, and, on the whole, the exhibits were of excellent quality. Some jars and supers of honey and wax were also shown, these interesting exhibits coming in for their share of attention.

WILTS HORTICULTURAL SOCIETY.—AUGUST 15TH.

By kind permission of the Earl of Pembroke the Wilts Horticultural Society held its annual exhibition of plants, cut flowers, fruits, and vegetables in Wilton Park on Wednesday in last week under



FIG. 27.—EUTOCA VISCIDA.

favourable circumstances as regards the weather and the number of visitors. The show may be pronounced one of the best hitherto held by the Society, and the Committee, Honorary Secretary (Mr. Chas. G. Wyatt) and Assistant Secretary (Mr. H. Nicholson) are to be congratulated upon the result of their efforts to hold such a thoroughly satisfactory and representative show.

Plants in the open classes were shown in fine condition. For twelve stove and greenhouse plants, distinct, six foliage and six flowering, Mr. James Cypher, Cheltenham; Mr. W. Finch, gardener to James Marriott, Esq., Coventry, and Mr. J. F. Mould, Pewsey, won in that order. The first prize dozen plants were well ahead of the others staged in this class, and consisted of grand specimens of *Latania borbonica*, having fronds 5 or 6 feet across; *Kentia Belmoreana*, *K. Fosteriana*, *Croton Johannis*, *C. angustifolia*, both grandly coloured; *Cycas circinalis*, of great size and in fine condition; *Stephanotis floribunda*, a large pyramid oval-trained plant in fine health, and covered with large trusses of its white fragrant flowers; *Ixora salicifolia*, *Erica obbata*, *E. Macnabiana*, grandly flowered; *Phoenocoma prolifera* Barnesi, and *Statice profusa*. In the class for nine stove and greenhouse plants, four in bloom and five in foliage, Mr. Thomas Wilkins, gardener to Lady Theodore Guest, Inwood House, Henstridge, was a good first, staging, among other plants, fine specimens of *Kentia Belmoreana*, *Alocasia Thibautiana*, *Croton montifontainensis*, and *Bougainvillea glabra*. Mr. Peel,

gardener to Miss Todd, Sidford Lodge, Southampton, and Mr. Wills, Shirley, Southampton, were placed equal seconds for fairly good plants.

In the class for six exotic Ferns Mr. Thomas Wilkins was a good first. Mr. J. Evans, gardener to Lady Ashburton, Melchet Court, Romsey, was a creditable second; and Mr. Fred. Smith, gardener to the Lord Bishop of Salisbury was third. Tuberous Begonias were well shown by Mr. Arthur Robey, gardener to Captain Greenwood, Harnham Cliff, Salisbury, who secured first prize with six even, fresh, well grown, and finely flowered plants. Mr. A. G. Bedford, Harnham Nurseries, Salisbury, was second; and Mr. Hughes, gardener to William Baring, Esq., Norman Court, Salisbury, was third, both showing well. Mr. Robey was also first for six Begonias in the class confined to gentlemen's gardeners with similar plants to those that he staged in the open class. Mr. A. G. Bedford had the best half dozen Fuchsias, showing large, fresh, well trained and flowered plants.

Groups are always good at this show. In the class for a semicircle (of 12 feet in diameter) of plants, six excellent arrangements were forthcoming, and took the judges some time to determine the relative positions of those arranged by Mr. E. Wills, Shirley, Southampton, Mr. A. Robey, and Mr. E. Carr, gardener to A. Gillett, Esq., Bishopstoke, who took the prizes in the order in which their names appear. Mr. Wills' group had a fine Palm in the centre of background; the groundwork consisted of Maidenhair Fern (*Adiantum cuneatum*), including six irregular mounds having single plants of Palms and *Asparagus tenuissimus* in the centre of each, with "dot" plants of small brightly coloured Crotons, Anthuriums, Cattleyas, *Caladium argyrites*, *Ixoras*, *Lobelia cardinalis*, the spikes of scarlet flowers of this plant contrasting most effectively with those of the Bridal Wreath (*Francoa ramosa*), which is used freely and with advantage in all good groups. The group was fringed with *Panicum variegatum*, the only weak point in the arrangement. The second and third prize groups were slightly weak in the background, but otherwise exceedingly good. In the class confined to gentlemen's gardeners Mr. E. Carr was a good first, Mr. Peel being a creditable second, and Mr. Wilkins a good third, water having been introduced into his arrangement with pleasing effect. Mr. Edward Ford, gardener to J. M. Swayne, Esq., The Island, Witton, won the silver cup (value £5) given by the Mayor of Salisbury for a group arranged for effect in a semicircle of 10 feet; Mr. Frank Pearce, High Street, Salisbury, being an excellent second; and Mr. S. G. Smith, gardener to Alderman J. W. Lovibond, St. Anne Street, Salisbury, was a good third.

Dr. Budd, Bath, had the best twenty-four Roses, and Dr. Daniel, Bitterne, had the second best, both staging good, solid, fresh, even blooms. Mr. Thomas Wilkins had the best stand of eighteen bunches of cut flowers, distinct kinds, his stand including several pieces of Orchids and other choice flowers; Mr. Evans being second, and Mr. Brown third.

Fruit was well shown. Six good collections of eight kinds (Pines excluded) were staged, and the prizes were awarded to Mr. H. W. Ward, Longford Castle, Salisbury, Mr. J. Evans, and Mr. G. Inglefield, gardener to Sir John Kelk, Bart., Tedworth House, Marlborough. Mr. Ward's collection consisted of good Black Hamburg and Muscat of Alexandria Grapes, large Sea Eagle Peaches, Hero of Lockinge Melon, Dryden Nectarines, Moorpark Apricots, Williams' Bon Chrétien Pears, and Figs. Mr. Evans' best dishes were grand Brunswick Figs and good Pineapple Nectarines. Mr. Ward and Mr. Evans were first and second in the Pine Apple class, both staging Queens. Six stands of three bunches of Muscat of Alexandria were placed on the table, the prizes going to Mr. Ward, Mr. Charles Warden, gardener to Sir F. H. Bathurst, Bart., Clarendon Park, Salisbury, and Mr. Inglefield, in that order, for good solid bunches, well coloured for the season. Out of eleven stands of Black Hamburg Mr. Charles Frowd, gardener to Canon Coventry, Worcester, was placed first for three medium sized compact bunches, having beautifully coloured berries of average size. Mr. O. J. Fewtrell, gardener to C. C. Tudway, Esq., The Cedars, Wells, was an excellent second with larger bunches, finer in berry, and nearly, if not quite, as well coloured as the first prize bunches. Mr. Mitchell, gardener to J. W. Fleming, Esq., Chilworth Manor, Romsey, was a good third. In the any other black than Hamburg class Mr. Fred Smith was first with medium sized, shapely, well coloured bunches of Madresfield Court, Mr. Frowd being accorded second position for large bunches of Gros Colman, the third prize going to Mr. Warden for Gros Maroc. White Grapes were well shown by Messrs. Warden, F. Smith, and Ward.

Mr. Henbest, gardener to E. G. Marshall, Esq., Crawley Court, Winchester, had the best flavoured Melon in Blenheim Orange, Mr. Ward being second with Hero of Lockinge. Messrs. H. W. Ward and Inglefield were first and second respectively for Peaches in a good competition. Mr. Evans and Mr. Henbest were first and second for Nectarines, both showing good fruits of Pineapple. Mr. Fewtrell had the best dish of Apricots; Mr. H. Brown, gardener to the Hon. Percy Wyndham, Clouds, Salisbury, was second; and Mr. F. Smith third. Plums were good, Mr. Ward was first for Green Gage; Mr. Fulford, gardener to Earl Nelson, Trafalgar Park, Salisbury, was second; and Mr. R. West, gardener to H. T. Wigram, Esq., Northlands, Salisbury, was third. Mr. F. Smith had the best three dishes of dessert Apples, Mr. Ward was second, Mr. Thomas Wilkins taking third place. Mr. F. Smith was also to the front for a like number of dishes of culinary Apples. In the class for four dishes of Pears Mr. Ward secured the premier position with good even fruits. In the amateur classes black and white Grapes and other fruit were well shown. In the class for a

collection of twelve kinds of vegetables only two exhibits were staged, and these secured first and second honours for the owners, Messrs. Wilkins and Hughes.

Messrs. Keynes, Williams & Co. contributed several stands of Roses of the best varieties and Dahlias, in which were represented the various types and novelties of the season. This firm also had a fine assortment of Sweet Peas, all of which attracted a good deal of attention from visitors. Mr. B. Ladhams, Shirley, had a grand collection of herbaceous and other flowers tastefully arranged in one of the tents, and Mr. Bedford had an effectively arranged group of miscellaneous plants.

CARDIFF.—AUGUST 15TH AND 16TH.

OWING to the heavy storms which prevailed during the earlier part of the opening day of this show, visitors only attended in moderate numbers. An excellent exhibition was provided, most of the classes being well filled, and with but few exceptions the competition was close. Groups, both in the open classes and the amateurs' divisions, were well staged, completely filling one of the large tents, those in the former section being circular in shape and extending right through the centre, while the latter occupied all the other available space. Some splendid Grapes were shown, those of Mr. T. M. Franklin, St. Hilary, Cowbridge, being especially noticeable. Messrs. Case Bros., Cardiff, were successful in the decorative classes, though in this direction some of the other exhibitors staged fine wreaths, crosses, and bouquets.

Mr. J. Cypher was the winner of the first prize for twelve stove and greenhouse plants with a good *Phenocoma prolifera* Barnesi, a fine plant of *Anthurium Scherzerianum*, *Allamanda Hendersoni*, *Ixora Regina*, *Erica tricolor* vera, *E. Austiniana*, and *Statice Gilberti*, amongst others. Messrs. Heath & Son were second, and Mr. W. J. Buckley third. For eight foliage plants, distinct, Messrs. Heath & Son were first, showing well coloured examples of *Crotons* *Johannis*, *Williamsi*, *Queen Victoria*, and *Youngi*, also a healthy *Cycas revoluta*. Mr. Cypher was second, his *Crotons* not being so good. Mr. Buckley was third. The last named exhibitor was the winner in the amateur class for four stove and greenhouse plants in bloom, Mrs. Kelly and Col. Sir E. S. Hill being given equal seconds. For four foliage plants Mr. Buckley was again first, Mrs. Kelly second, Mr. M. Gunn was third. In the open class for six Fuchsias Col. Hill won with some finely grown and trained plants, the second and third prize entries of Mr. Hillard and Mr. W. L. Blake being well flowered but not nearly such good specimens.

Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, was an easy winner with twelve tuberous Begonias. These were large plants, bright, and well flowered. For a group of plants on a space of 100 square feet, Messrs. Case Bros., Cardiff, had an effective arrangement, the groundwork consisting of Ferns and Crotons, with a large Palm in the centre, the whole interspersed with *Lilium lancifolium album* and Tuberose, giving an elegant and chaste effect. Col. Chas. H. Page was second; Mr. R. Crosling, Penarth Nurseries, taking third prize. Mr. Cypher was first for four Orchids in flower, showing *Cattleya aurea*, *C. Sanderiana*, *Oncidium Harryana*, and *Dendrobium superbiens*. Messrs. Heath and Sons were second. In the open class for twelve table plants Col. Page was placed first, and Col. Hill second.

Cut flowers were well shown in the open classes, Roses producing a strong competition. Experts generally were of opinion that in the class for eighteen Teas Mr. Stephen Treseder's box must have been overlooked by the judges. They certainly appeared stronger than those which took the second prize. For twelve trebles Mr. S. Treseder, Pwllcoch Nursery, was first, and Mr. R. Crosling second. In the class for twelve trebles (Teas) Mr. Treseder won again first with good flowers, beating Mr. A. H. Gray, Bath. Messrs. J. Townsend & Sons, Worcester, won with twenty-four Hybrid Perpetuals, Mr. Treseder second. For eighteen Teas Mr. Gray won in a numerous competition, Messrs. Keynes, Williams & Co. being awarded the second prize. The latter firm also won with twenty-four Dahlias, not less than twelve varieties, and again with twelve bunches of Cactus Dahlias. For twelve bunches stove and greenhouse flowers Mr. C. E. Jenkins was placed first, Mr. L. Gueret being second with a good exhibit. Roses were well shown in the amateurs' classes by Mr. Thos. Hobbs, Bristol, and Mr. A. H. Gray, the former winning with twelve Hybrid Perpetuals, and the latter with twelve Teas.

Mr. T. S. Ware offered prizes for the best collection of tuberous Begonias, the first being easily taken by Mr. C. E. Jenkins, Penylan, Col. Hill being second, and Mr. Alex. Duncan third. For an amateur's group, covering a space of 50 square feet, Mr. M. Gunn took first with a well-arranged group, the second prize going to Col. E. S. Hill, Rookwood, Llandaff, who had a good collection, but which was staged much too flat and stiff; the third prize was taken by Mr. E. Lewis. There was also a class for smaller groups, producing a good display, Mr. C. Waldron, Col. Chas. H. Page, and Mr. Alex. Duncan winning in the order named.

Decorative exhibits were very good, Messrs. Case Bros. taking premier honours in nearly every class. The latter were first for dinner table completely arranged for eight persons, with a very light arrangement in pink and white, Mr. G. W. Hunt being second, and Miss C. Hill, Rookwood, third. Messrs. Case Bros. won in the two classes for bouquets, beating Mr. W. Treseder, who was second in each instance. The former also won with the best wreath and cross, being followed for the first by Mr. W. Treseder, and in the latter by Mr. A. Ellis, Roath Nursery. Bouquets and baskets of wild flowers were beautifully shown.

Fruit classes, with the exception of the collections which were only fairly good, were excellently filled and contested. For six bunches of

Grapes not less than three varieties, Mr. T. M. Franklin (gardener Mr. E. C. Silk) was an easy first, having good Muscat of Alexandria and Black Hamburgs and splendid Gros Maroc. Mr. V. Stuckey was second, and Captain Marling third. Mr. T. M. Franklin won with fine examples of Black Hamburg in the class for three bunches; Mr. L. Gueret, Chepstow, being second, and Captain Marling third. For three bunches of Muscats, Mr. Franklin was again first with large even bunches; Mr. V. Stuckey was second, and Colonel Page third. In the any other variety class for black, Mr. Franklin won with beautifully finished Gros Maroc; Mr. H. Heywood being second with good Alicantes, and Mr. Stuckey third. For any other white variety Mr. Franklin was first with good Foster's Seedling; Mr. Gueret and Mr. E. B. Martin being second and third respectively with the same variety. The classes for one bunch produced a keen competition and some good Grapes. Captain Marling won with Black Hamburg, Mr. H. Heywood for Alicante, Colonel Page for Muscats, and Mr. L. Gueret for Foster's Seedling. There were a large number of Melons, comprising some fine fruits, the Bishop of Llandaff winning with two scarlet flesh and also with one. Captain Marling won with two, and Mr. C. E. Jenkins with one green flesh.

For six dishes of fruit (Pines excluded), Mr. V. Stuckey, Langport, was the winner of the first prize. Captain Marling was second, and Mr. G. Maylett third. Mr. George Garaway, Bath, took first prize for six dishes of dessert Apples; Colonel Page being first for six culinary kinds. In the class for dessert Pears Mr. Lewis secured first prize for good Louise Bonne of Jersey. For a dish of five Nectarines Mr. V. Stuckey was first with Pineapple. Some good Peaches were shown, Mr. L. Gueret winning after a keen competition with Alexandra Noblesse.

Vegetables were good both in the open and cottagers' classes, Mr. George Garaway winning with nine varieties, distinct. Messrs. Sutton and Sons, Reading, offered special prizes for vegetables raised from their seed, the first being won by Mr. C. Foster, gardener to Mr. M. S. Williams.

In the cottagers' tent some fine exhibits were shown. Special prizes were offered by a number of the leading nurserymen, but these did not produce much competition. Honey in sections and also in bottles formed a feature of the exhibition.

Trade exhibits (not for competition) were both numerous and varied. Mr. T. S. Ware showed a fine bank of Begonias and also a large collection of miscellaneous hardy flowers. Begonias were also well shown by Mr. Davis, Yeovil. Messrs. Clibran & Son had a good exhibit, including novelties in Cannas and Caladiums. Messrs. Kelway and Son, Langport, had an extensive collection of Gladioli.

FARINGDON HORTICULTURAL SOCIETY.—AUGUST 16TH.

THE Faringdon Flower Show is an event that is generally anticipated with pleasure by the inhabitants of the old Berkshire market town, and the residents in the Vale of White Horse. Its annual recurrence imparts to the place an air of activity, and the lively interest taken in the proceedings connected therewith undoubtedly contributes largely to its deserved success. The support readily given to the Society by the resident gentry of the district is not only encouraging to the willing and painstaking officials, but a source of satisfaction to exhibitors and pleasing to all. The show held on Thursday in last week in the picturesque grounds of Faringdon House, the residence of Mrs. Bennett, was in every respect a good one, and was well patronised, the sum of £58 4s. being taken for admission to same.

The chief exhibits in the division for nurserymen and gentlemen's gardeners were the groups of plants arranged for effect on a space of 12 feet by 6 feet, the prizes being awarded to W. West, Esq., Barcote Manor, A. Henderson, Esq., Buscot Park, and Mrs. Tucker, Faringdon, in the order named. In the first two groups fine specimens of Campanula pyramidalis and the white variety were conspicuous objects, and included Galtonia candicans, Lilliums, Fuchsias, Kentias, Crotons, and Pandanus Veitchi; these mainly formed the centres of the groups. Surrounding them were feathered Cockscombs, various Caladiums, tuberous Begonias, Gloxinias, Gladioli, Coleus, Pancratiums, and single Petunias, relieved with Eulalia, different Ferns, and Dracænas.

Another class that attracted much notice was that for a group arranged for effect within a half circle, 10 feet by 5 feet, the first prize being secured by A. Henderson, Esq., and the second by the Hon. D. P. Bouverie, Pusey House. The plants employed in these groups were of a useful decorative size, the space allotted to their arrangement not admitting of large specimens being introduced, and herein centered the chief interest and utility of these classes, for, as will be conceded, the skilful and expeditious arrangement of miscellaneous plants in groups of the dimensions stated requires not only practice but taste, that when acquired form a very useful accomplishment.

For a collection of twelve stove and greenhouse plants, in or out of bloom, W. West, Esq., was first with large, well grown specimens, including Alocasia metallica, Anthurium crystallinum, Asparagus plumosus, Croton Weismanni, Kentia australis, and Pandanus Veitchi; A. Henderson, Esq., being second with creditably grown specimens of smaller size. For twelve Pelargoniums, six exotic Ferns, and six Fuchsias, severally, W. West, Esq., occupied the premier position. For six Cockscombs Sir James Bacon was first. For six single Begonias A. Henderson, Esq., and Mr. Tucker, Faringdon, were placed in the order named; W. West, Esq., winning the first prize for six Coleuses with well matched, fresh looking plants of large size.

Amongst the classes for cut flowers the most noteworthy were the exhibits of hardy perennials staged by Mrs. Bennett, who occupied the leading position with well chosen examples, and Sir James Bacon was

second with a very meritorious stand. A. Henderson, Esq., was first for an admirably arranged hand bouquet. Sir James Bacon was second, and an extra prize was awarded to the Hon. D. P. Bouverie.

The classes for fruit and vegetables were keenly contested, the collections of the Hon. D. P. Bouverie and A. Henderson, Esq., containing remarkably well grown examples. They were faultlessly staged, and formed a very attractive feature of the show. A noteworthy exhibit, too, in this division was an excellent brace of Cucumbers, staged by Sir James Bacon, that easily secured the premier award. The most successful exhibitors in the division for amateurs were Mr. W. Atkins, Mr. J. Baker, Mr. G. F. Crowdy, Mr. C. Clack, Mr. Dales, Mr. T. Drewe, Mr. G. W. Habgood, Mrs. Haines, the Rev. R. H. Hooper, Mrs. James, Mr. G. Liddiard, Mr. J. P. Lockwood, Mr. Luker, the Misses Luker, Mr. J. Robertson, Mr. J. Sheppard, and Miss Smith.

In the cottagers' classes the exhibits were exceptionally good and numerous, the staging in a large tent allotted for them affording barely sufficient accommodation for the whole of them. The majority of these were quite up to exhibition form, equal to, if not superior to those staged in other divisions, and may be taken as indicating the growing interest in this district by a class of exhibitors deserving of every encouragement.—J. E. J.

NATIONAL CO-OPERATIVE (CRYSTAL PALACE).

AUGUST 17TH AND 18TH.

THE seventh annual horticultural exhibition was held at the Crystal Palace on the above dates in connection with the Co-operative Festival, and proved a great success. Regarded as a whole the exhibits were of excellent quality, this applying particularly to the vegetables, which were very numerous. The long transepts at the Crystal Palace were required to stage the produce, occupying 6480 square feet of tabling, divided into 270 tables. The collections of six distinct kinds of vegetables, which form so remarkable a feature of these shows, ran to eighty-six entries coming from all parts of the country, including Scotland and Ireland. Of these seventy-two were entries in the working-class section, which showed the largest increase. Last year the total in both classes was seventy-nine. In Beans and Peas there were this year 369 entries, as compared with 297 last year. The great increase in these exhibits was also found to be in the working-class section. In Potato entries the working-class exhibits numbered 257 dishes, being five increase on last year. The total show of Potatoes occupied nearly 400 dishes, weighing probably a ton or more in weight. It is remarkable also to note how numerous the entries were this year in every class, working men coming forward in great numbers with exhibits of Grapes, Tomatoes, Cucumbers, Celery, Vegetable Marrows, and all kinds of outdoor fruit, besides the more common products of allotments, such as Onions, garden Turnips, Radishes, Beet, Lettuce, Leek, Cabbage, and Carrot in great profusion. Although the entries were so numerous it was noticed in some classes, however, that many of the intending competitors were not forthcoming.

The display of flowers was equal to those of previous years. The classes for women and children were very interesting, there being 125 entries of bouquets, decorated epergnes, baskets of flowers, buttonholes, and collections of wild flowers and Grasses (by children). The show was formally opened on the 17th inst. by the Hon. T. A. Brassey, a member of the Council of the Agricultural and Horticultural Association, which organises the exhibition. Much of the success attained may be attributed to the courtesy of the officials, Mr. E. O. Greening (Managing Director), Mr. Waugh (Manager of the Exhibition), and Messrs. Broomhall and Bell (General Secretaries), who are to be congratulated on the results of their efforts. The show was divided in two sections, one being for working people only, the other for members and customers of the above-mentioned Association or their gardeners. We publish the names of the prizewinners in most of the leading classes in the latter section.

As already mentioned vegetables formed the leading feature of the exhibition. Mr. C. J. Waite, gardener to Colonel the Hon. W. P. Talbot, Esher, was the best competitor in the class for ten kinds confined to growers in the southern district. Mr. J. Holton, Oxford, was a fair second, and Mr. C. Osman third. There were seven competitors in this class. Beans were splendidly and extensively shown, the number of entries in the five classes devoted to them numbering upwards of sixty. For a dish of Giant Scarlet Runners Mr. J. Holton was first, as also was he for a dish of White Runners, the pods in each case being large and of good shape. In the class for a dish of Dwarf French Beans Mr. Holton was again the first prizewinner with a highly creditable dish. Long-pod Beans were also good, Mr. J. Martin, gardener to F. W. Longman, Esq., being accorded the premier position with well-filled pods. There were eleven dishes shown in the class.

Mr. Mossman, gardener to G. D. Pollock, Esq., was first for a dish of Broad Windsor Beans, the competitors numbering nine. The same exhibitor was accorded the premier position for six Egyptian Beet with grand examples. Seventeen growers competed in this class, and thirteen in the one for six Selected Blood Red Beet, among which Mr. Martin was a good first. Cabbages were handsomely shown in the two classes devoted to them. Mr. C. Osman was first for three cooking Cabbages, the number of entries amounting to eleven. Mr. F. Tunbridge, Chelmsford, was a capital first for three Red Cabbages with solid well-grown heads. Carrots were staged in great numbers and superb form, Mr. J. Holton being a splendid first in the class confined to the One and All, New Red Intermediate. Mr. Palmer, Oxford, was first for a bunch of Scarlet Intermediate with good examples. For nine Long

Surrey Carrots, Mr. J. Holton was placed first out of the six competitors. Parsnips were not very numerous, Mr. J. Holton again proving the most successful competitor.

For six Early Silver Ball Turnips, Mr. R. Chamberlain, gardener to F. M. Lonerun, Esq., was a very fine first, eleven competitors being represented. Mr. J. Mossman was the most successful competitor for a dish of Exhibition Marrow Peas, as also was he for a dish of any other variety. Seventeen dishes were staged in the two classes. In the class for nine spring-sown White Spanish Onions with the tops on, Mr. C. J. Waite was first with superb examples, while Mr. Tunbridge was first for nine of any other variety. For nine Winter Onions, the seeds to have been sown in the autumn, Mr. J. Martin was a good first with Giant Rocca, the competitors numbering thirteen.

Potatoes were numerous, and on the whole of excellent quality. For a collection of white Potatoes, six dishes of nine tubers each, three of kidney and three of round, distinct, the prizes being awarded for weight and quality of appearance, Mr. J. Holton was first with International, Chancellor, Reading Giant, London Hero, Satisfaction, and Abundance, each in fine condition. Mr. C. J. Waite was a good second with larger but coarser tubers, and Mr. F. Tunbridge third. The first prize for nine tubers of any white kidney Potato was taken by Mr. G. Palmer, while in the class for coloured kidney Mr. J. Holton was first. The latter was also first for nine tubers of a white round with handsome specimens. For nine coloured rounds Mr. F. Tunbridge was first of the twelve competitors who staged. Tomatoes shown in the vegetable classes were very fine. Mr. A. Tunbridge, Chelmsford, had the best three dishes, staging Ham Green Favourite, Perfection, and Trophy; while Mr. Waite was first in the single dish class with One and All, Perfection, very handsome examples. In the class for the best display of farm produce the Royal Arsenal Co-operative Society won, showing fine Apples, Potatoes, Parsnips, Carrots, Tomatoes, Beet, Onions, Wheat, and flowers, amongst other things. Mr. C. Osman was, according to the prize card, placed second in this class.

Fruit was fairly well shown, Grapes being particularly good. The class for three dishes of cooking Apples brought forward eight competitors, the first prize going to Mr. A. Atell, Sittingbourne. Mr. S. Crofts, Reigate, was second; the third prize going to Mr. W. J. Battson, Penge. Dessert Apples were more numerous, there being eleven entries in this class. Mr. G. Martin won with small but well coloured fruits. Pears were not of excellent quality, the fruits being small and some of them unripe. Mr. G. Martin was awarded the first prize. For a collection of six kinds, Mr. J. Osman, gardener to J. T. Baker, Esq., Chertsey, was first, showing good Grapes, fine Peaches, Pears, Figs, and a well netted Melon. Mr. C. J. Waite was second. Mr. T. Osman won the first prize for two bunches of black Grapes, showing handsome well coloured Alicantes. The same exhibitor was awarded the first prize for two bunches of white Grapes with good Muscat of Alexandria.

In the class for five dishes of open air fruit, Mr. T. Osman was first with Figs, Peaches, Plums, Pears, and Apricots. The second prize went to Mr. J. Mossman, and the third to Mr. C. J. Waite. The last named exhibitor was first with one dish of dessert Cherries. Mr. G. Martin had the best dish of Morello Cherries, the second prize going to Mr. R. Chamberlain. Apricots were best shown by Mr. J. Mossman, Messrs. G. Martin and F. Tunbridge following. Peaches were good, and Mr. C. J. Waite secured the first prize with fine fruit, Mr. Osman following. The Esher grower was also first for a dish of Nectarines, the second prize going to Mr. E. Hammond, Chelmsford. Gooseberries were rather over-ripe, the best coming from Mr. Osman, while Mr. M. Webster had the finest Black and Red Currants; but these were by no means so fine as those staged by Mr. Moore of Maldon in the amateurs' section, which were probably some of the best Red Currants ever seen at any show. Tomatoes for dessert brought out four dishes, all showing "one and all" Epicure. Mr. J. Mossman was first, and Mr. D. Jones second. Melons were not very numerous, only three competitors coming out of seven entries. Mr. Mossman won with a small well-netted fruit of Hero of Lockinge. Plums were very abundant, and above the average as regards size, but somewhat under-ripe. Mr. C. Osman had the best two dishes of culinary Plums, the second prize going to Mr. R. Chamberlain. Mr. Waite won with dessert Plums, showing handsome fruits of Kirk's and Golden Gage. Mr. J. Neale followed with fine specimens.

There were likewise good displays of plants in pots, also cut flowers, bouquets, and table decorations. Fuchsias were above the average, the best one being staged by Mr. R. Chamberlain. Mr. F. Fulbrook, Brixton, had the finest Lilium, a handsome plant, and Mr. Chamberlain secured honours for well-trained Ivy-leaved Pelargoniums, the second prize going to Mr. J. Constable, Norwood. Tuberous Begonias were best shown by Mr. R. Fox and Mr. Webster, Bromley. Asters in pots were fairly good, Mr. J. Munday winning, and the same applies to other annuals in pots, Mr. C. Moody securing first prize for six varieties. Musk, Coleuses, Tropæolums, Stocks, and Balsams in pots were also shown. The table decorations were beautiful, and the first prize was won by Miss Holyoake, Gipsy Hill, who had a very graceful display. Mr. W. Salmon had the most effective epergne, Mr. C. J. Waite following. Baskets and bouquets of cut flowers were numerous and effective, Messrs. Webster, W. Garton, H. Cole, and R. Fox being amongst the prizewinners. Dahlias were well shown by Mr. A. Tunbridge and others, the same applying to Asters, Marigolds, Roses, and Sweet Peas. In the amateurs' section, too, the fruit, flowers, and vegetables were numerous, but space will not permit us to publish a detailed report.

NATIONAL CARNATION AND PICOTEE SOCIETY (NORTHERN DIVISION).

THE annual exhibition was held in the Botanical Gardens, Old Trafford, on Saturday, August 11th, and was above the average; a good competition, and a very large number of single blooms resulting. In the class for twelve Carnations there was a strong competition. First, Mr. T. Lord, Todmorden, with Duke of York, Arline, Edith Annie, Thaddeus, and Master Fred (both very fine), Gordon Lewis, Tom Briley, Magpie, George, Thalia, J. D. Hextall, and Robert Houlgrave; second, Mr. J. W. Bentley, Castleton; third, Mr. Crossley Head.

For twelve Picotees Mr. A. W. Jones, Birmingham, was first with a fine stand of Norman Carr, Favourite, Esther, Ne Plus Ultra, Mrs. Burnett (very fine), Isabel Lakin, Mrs. Payne, Mrs. Openshaw, Brunette, Muriel, Thomas William, and Little Phil; second, Mr. T. Lord; third, Messrs. Thomson & Co., Birmingham. For six Carnations, Mr. F. Maddock was first with Edward Schofield, Crista galli, Seedling S.B., Sarah Payne, Seedling R.F., and Admiral Curzon; second, Mr. G. Thorniley, Middleton; third, Mr. E. Shaw, Moston.

In the class for six blooms Mr. Crossley Head was first with John Smith, Norman Carr, Thomas William, Polly, Brazil, Zerlina and Lady Louisa; second, Mr. G. Shaw; third, Mr. C. F. Thurstans, Wolverhampton. For twelve fancy Carnations or Picotees, not more than two of any variety, Mr. A. W. Jones, Birmingham, was first with Romulus, Stadrath Bail, Janira, and Mrs. Henwood; second, Messrs. Thomson; third, Mr. Ben Simonite, Sheffield. Mr. Bentley, Castleton, near Manchester, was first with six fancy Carnations or Picotees with Brockhaus, Esmarch, Mr. Barlow, Van Dyck, Schleiben, and Yate's 304; second, Mr. Edwards; third, Mr. C. F. Thurstans, Wolverhampton.

Messrs. Thomson & Co. had the best stand of twelve Self Carnations with Germania, Theodore, Gilbert, Blushing Bride, two seedlings, Ruby, Rose Celestial, Negress, Mrs. Alfred, Mrs. Fred, and a superb broad-petalled scarlet Self unnamed seedling. Second, Mr. Edwards; third, Mr. B. Simonite. For six Selves Mr. J. Brockhurst was first, and Mr. C. F. Thurstans second.

As already mentioned single blooms of Carnations were numerous and shown as follows:—Scarlet bizarre: First, Mr. R. Gorton with Robert Houlgrave; second, Mr. T. Lord with Robert Lord; third, Mr. Beachley; fourth, Mr. C. F. Thurstans; fifth, Mr. T. Lord with Robert Houlgrave. Crimson bizarre: First, second, third, and fourth, Mr. T. Lord with Master Fred, J. D. Hextall, Thaddeus, and Arline respectively; fifth, Mr. T. Maddock with Edith Schofield. Pink and purple bizarre: First and second, Mr. R. Sydenham with Sarah Payne; third, Mr. T. Lord with Edith Annie; fourth, Mr. C. F. Thurstans with William Skirving; fifth, Messrs. Thomson with Sarah Payne. Scarlet flake: First and second, Mr. H. Geggie with Sportsman and Foxhunter; third, Mr. Bentley with Flamingo; fourth, Mr. B. Simonite with Sportsman; fifth, Messrs. Thomson with Sportsman. Rose flake: First and second, Mr. T. Lord with Lily Cannell and Thalia; third, Mr. J. W. Bentley; fourth, Mr. R. Sydenham; fifth, Mr. J. W. Bentley, all with Thalia. Purple flake: First, Mr. T. Lord with Magpie; second and fourth, Mr. B. Simonite with Charles Henwood; third, Mr. T. Lord with Charles Henwood; fourth, Mr. H. Geggie with Florence Nightingale.

For single blooms of Picotees, heavy red edged, first and second, Mr. A. W. Jones, with Ne Plus Ultra and Brunette, also third with Ne Plus Ultra. Light red edged.—First and third, Mr. T. Lord, with Thomas William; second, Mr. R. Sydenham, with Thomas William. Heavy purple edge.—First, Mr. A. W. Jones, with Muriel; second, Mr. P. W. Kenyon; third, Mr. R. Sydenham. Light purple edge.—First, Mr. R. Sydenham, with Mrs. Openshaw; second, Mr. F. Bleackley; third, Mr. C. F. Thurstans. Heavy rose edge.—First, Mr. R. Sydenham, with Mrs. Payne; second, Mr. A. W. Jones, with Mrs. Payne; third, Messrs. Thomson, and Mrs. Burnett. Light rose edge.—First, Mr. Shaw; second, Mr. R. Sydenham; third, Mr. A. W. Jones.



FRUIT FORCING.

Peaches and Nectarines.—*Planting or Lifting Trees for Early Forcing.*—For very early forcing no method succeeds better than a few select varieties in pots, such as Alexander or Waterloo, Early Leopold (an admirable variety for supplying pollen for fertilising purposes), Hale's Early, and Stirling Castle Peaches, with Advance, or preferably Rivers' Early and Lord Napier Nectarines. These afford a supply of fruit during a period of four to six weeks, and if only a few dishes, are welcome in April and May. The trees should now have the wood ripe and the buds plumped. If they are in small pots, and a shift is considered necessary, repotting must be attended to at once, whilst the leaves are on the trees, being content with removing the loose soil and drainage, shortening any long bare roots, and only giving such pots as will admit of about an inch of fresh soil being rammed tightly round the balls. With judicious watering the trees soon recover the potting, especially if sprinkled occasionally and shaded from powerful sun for a few hours each day for a short time; but this is only necessary

in very bright weather, and when the roots have been much interfered with. The trees should be continued under glass until the leaves are all down, when, placed on and plunged in ashes outdoors, they will not take any harm, but profit by the cleansing and refreshing autumnal rains, and be in condition for housing early in December, so as to swell their buds gradually and be in flower by the new year or soon after.

If new houses have to be filled, and fruit is wanted next season at an early period, plant the trees in late summer or early autumn, as soon as the growth is perfected, the foliage and wood being mature. The most suitable trees are those which have been for two or three seasons trained under glass or to south walls, and carefully lifted the previous autumn to insure a fibrous root formation, and stout, short-jointed, well-ripened wood. Even now, if there be any tendency to a late growth, or any doubt as to the maturity of the wood, the soil should be taken out as deeply as the roots one-third the distance from the stem that the branches extend on the trellis or wall, and the trench so made ought to remain open for a fortnight or three weeks, when it may be filled again, care being taken that the trees have sufficient water whilst the trench is open. All that is necessary, however, is to prevent severe flagging. This will effectually check the growth and insure ripening, whilst it will materially assist lifting with a ball or mass of fibrous roots. This, and the formation of new fibres after planting, are essential to a good set and satisfactory stoning of the fruit. Plant the trees for early forcing by the end of September, and commence lifting early forced trees as soon as the foliage gives indications of falling. It will not matter about a few sappy laterals, these will tend to the formation of roots.

Soil should be obtained in readiness, so that work of this kind can be performed with the utmost promptitude; also provide clean drainage in different sizes—rough for the bottom, and smaller for the upper part. The soil may consist of any good loam, preferably strong and calcareous, nothing being better than the top 3 or 4 inches of an old pasture overlying limestone or chalk, and if intermingled with ferruginous gravel or flints all the better. Such will grow Peaches and Nectarines to perfection without any admixture whatever. If, however, the soil be light it will be advisable to add a sixth or more of marly clay as finely divided as practicable, preferably dried and pounded. Any deficiency of calcareous matter may be overcome by an addition of chalk to light soil, and of old mortar rubbish to heavy soil. Ordinary garden soil may have a cartload of wood ashes or charred refuse added to every ten, always avoiding any uncharred portions, as woody matter in soils fosters fungi, which, though generally saprophytic, become parasitic on any unhealthy roots, and this may greatly interfere with the success of the trees, whilst very heavy soil will be benefited by burning about a fourth of it, and mixing all together.

New borders must have efficient drainage, the bottom of the border being concreted if the soil beneath be unfavourable, or better laid with bricks on flat and run with cement, the border being enclosed in walls, so as to confine the roots. Drains must be provided with proper fall and outlet, rubble being placed over them a foot thick, the roughest at the bottom and finest at the top, and if covered with a layer 2 or 3 inches thick of old mortar rubbish, the drainage may be considered sound for an indefinite period—indeed, the roots seldom pass the calcareous layer, becoming fibrous and matted therein, and the trees can be lifted and root-pruned as required without interference with the drainage. A border one-third the width of the trellis will be sufficient in the first instance, and 24 inches depth of soil is ample. The compost should be made firm, as Peaches and Nectarines are healthy and fruitful in proportion to the compactness of the soil. This has special application to soils inclined to be too light and porous.

Succession Houses.—Trees that ripened their crops in July will have the buds plumped and the wood sufficiently ripened for the removal of the roof lights by the early part of September. This is sometimes desirable when the buds become too prominent and tends to counteract the tendency to over-maturity of the buds or their premature development, alias falling, by affording the trees the benefit of rains and of night dews, the borders becoming thoroughly soaked right through to the drainage by the autumn rains, which invariably has an invigorating effect on the trees and in the preservation of the buds from dropping. It does not answer, however, to remove the roof lights until the wood is well ripened, but over-maturity of the buds is a far greater evil than a moderate degree of prominence.

Trees that ripened their fruit this month should, as soon as the fruit is cleared, have the wood that has carried fruit not being extensions cut away, and any wood not required for next year's bearing or for the extension of the trees also removed. Weakly and exhausted parts ought, as far as possible, to be cut out and the younger growths given advantage of their place. This will keep up a succession of bearing wood capable of producing large fruits, admit of the freer access of light and air and of the cleansing of the foliage by water or an insecticide if necessary, it being important that the foliage be continued in a healthy state to as late a period as possible for the perfecting of the buds and the maturity of the wood. Air should be admitted to the fullest possible extent. If, however, the trees are not ripening their growths well, keep the house rather close by day and throw it open at night, which will check the tendency to late growth and induce maturity both of the wood and buds. There must not be any lack of moisture at the roots, giving a good watering if necessary, or trees that are weakly will be assisted in plumping the buds and storing nutrient matter with liquid manure, not, however, in too powerful doses. Trees ripening their fruit will need water at the roots, and moisture

must not be withheld from the atmosphere; an occasional damping of available surfaces, especially on fine days, being necessary for the maintenance of the foliage in health. If the weather be cold and wet a genial warmth in the pipes, especially by day, so as to admit of a circulation of air, will be necessary for the satisfactory ripening of the fruit. A temperature of 60° to 65° at night will be sufficient, and 70° to 75° by day, artificially, in order to a steady progress of the fruit in ripening, air being afforded more or less constantly. If the fruit ripens too rapidly, as may be the case if the weather proves very bright, a shading over the roof lights of a single thickness of pilchard net, or a double one of herring net, will break the fierce rays of the sun, and not only retard the ripening but insure the fruit finishing more satisfactorily than when exposed to the direct rays of the sun.

THE KITCHEN GARDEN.

Cauliflowers.—If either caterpillars or much daylight are allowed to reach the hearts of these they are soon disfigured and rendered useless. Hand-picking is the remedy for the former, and it does not occupy very much time to keep them in check. The older leaves may either be tied over the hearts or some of the leaves from plants already cut from may be tucked over them, the aim being to keep them as white, clean, and close as possible. Those persons who would have extra fine plants should give occasional thorough soakings of liquid manure. In the midland and more northern districts seeds should now be sown with a view to having abundance of plants to stand through the winter ready for planting out early in the spring. The end of the month or first week in September is soon enough to sow in the more southern localities. Selections of varieties should always include Veitch's Autumn Giant, as autumn-raised plants duly planted on good loam produce extra fine hearts in August. So also would Veitch's Autumn Protecting Broccoli under similar treatment, a close succession of extra fine exhibition produce being had in that way. The seed bed may well be formed where frames could be placed over the plants before severe frosts injure them, or the seeds might be sown on raised beds in frames and not be covered with glass till absolutely necessary. This obviates the necessity for pricking out, and in addition it will be found that plants move more readily from seed beds in the spring than they do after having been once moved. If the ground is at all dry, moisten prior to sowing the seed thinly and broadcast upon the surface, and cover with fine sifted soil. Keep a sharp look-out for such enemies as birds, slugs, and Turnip fly. Netting over is the best preventive of the former, and resort to occasional dustings over with soot and lime for the two latter.

Lettuce.—The weather hitherto has been very favourable to transplanting Lettuces, but not to the preservation and good progress of the latest raised plants. Every care should be taken of all the small plants in the seed beds or rows, as it is these that would most probably prove of value for storing in the autumn. Should dry weather set in water the plants, also the drills to which they are to be transplanted. A few hours later they will draw readily, and can then be dibbled out where they are to attain a serviceable size. None of them will grow to a great size, and if room is scarce the rows of Cos varieties may be disposed 10 inches apart and the Cabbage kinds 9 inches asunder. Well fix the soil about the roots, and water occasionally till established. Not a plant of the valuable All the Year Round should be wasted—that is to say, all the thinnings ought to be transplanted. Late sown Early Paris Market and Golden Queen sometimes heart in before severe frosts are experienced, and in warm districts some seeds of one or both of these varieties might yet be sown where they could be covered with hand-lights or shallow frames. Seeds of Brown Cos, Hammersmith, All the Year Round, and other hardy varieties ought also to be sown thinly on borders where some of the plants are to remain during the winter, the rest being pricked out in frames or hand-lights.

Celery.—A showery time has suited Celery well, and good progress has been made by all the plants. Too much dependence ought not to be placed on the rainfall, as it is surprising how quickly the hungry roots absorb the moisture in a trench. Therefore examine the soil, probing deeply occasionally, and if found approaching dryness give a good soaking of water, or, better still, liquid manure of some kind. When the soil is in a semi-moist state and the weather is dull and showery is really the best time to apply liquid manure freely. Driblets are of no avail. The rows should have a second watering following closely on the first if need be, and watering should not cease after moulding up commences, or otherwise the chances are much of the Celery will bolt prematurely. Celery ought not to be allowed to open out badly before any soil is placed in the trenches, as should the leaves once become set in an horizontal direction they will split and crack when brought up together. First remove all weeds from the trench and then pull away the lower small leaves and any suckers there may be, afterwards giving a good watering. Then if slugs are apt to be troublesome dust soot very freely about the stems and soil in the trenches. The leafstalks to be well brought up together, so as to effectually enclose and protect the hearts, and kept so either with a pair of bands or a raffia tie, the latter to be loosened again after soiling up has taken place. Avoid making heavy additions of soil at one time, as should the heart be unduly confined bulging and splitting will take place.

According as the growth advances more soil may be added in about three times, sufficient being banked around the stems, always taking the precaution previously advised. When several rows of Celery are planted in wide beds extra care must be taken with the moulding up, boards placed across between the rows, admitting of the soil being added without any of it reaching the hearts of the plants, drawing these out as

the work goes on. If extra clean Celery is needed blanching can be best effected by means of bandages of brown paper, enclosed later on by canvas. Use only enough at the outset to keep the stems from spreading, but later on wider strips must be utilised. So-called self-blanching varieties of Celery, notably the White Plume, are not much grown in this country, and what few rows are planted should be either surrounded with paper or have soil banked around them, or otherwise the flavour will be too strong.

Globe Artichokes.—These promise to continue productive of large succulent heads for some time longer. All old stems should be cut out as fast as they have ceased to be productive, and occasional liberal supplies of water or liquid manure will further serve to keep them in a vigorous condition. Seedlings ought now to be forward enough to decide which are worth retaining and which are worthless. Many of them develop great branching stems surmounted by poor Cardoon-like flower heads, and these should be unhesitatingly destroyed. There will also be far too many with medium-sized heads, the scales of which are thin and valueless. These plants also ought to be cut out at once, saving only those that produce extra fine succulent heads. Even the latter should eventually be weeded out, only the very best being worth keeping. In this manner a fairly good late supply of Globe Artichokes can be had, and the stock probably prove slightly better than the old purple and green forms.

THE BEE-KEEPER.

APIARIAN NOTES.

BEES AT THE HEATHER.

Two weeks have elapsed since our bees were set down at the Heather, but beyond a few minutes in the interval of showers there has not been a dry hour, though at the time of writing the weather seems improving. So far nothing unusual worthy of record has occurred here, further than the Punic stocks, which had their entrances propolised, have reduced the fortifications. Does that also betoken a better time for bees?

MANAGING BEES.

I read with considerable interest the graphic article, pages 111, 112, of "A Young Scribe," and noted what he said concerning Mr. Summers managing his bees "on a different system to that generally advocated in these pages." Many of your readers as well as myself would be pleased to know the system; perhaps Mr. Summers or "A Young Scribe" will oblige. But is the system really different from what has been taught in these pages? I am not aware of a single instance where any system has not been fully explained; often, too, explaining the success, although the system did not meet my approval. The following gives a good criterion of what I mean. Elsewhere it was strongly advocated that "timeous room prevented swarming." Although there has not been a single good day, I have already had six swarms at the moors from the stocks and the current year's swarms, which had abundance of room for weeks past. I am certain had these hives remained at home not one of them would have swarmed. What then is the cause?

A few years ago an author wrote that "queens were at their best when three years old;" then again we were told, after several years had passed, they were at their best when "three months old;" then lately the same writer said they required to be some age, but was not definitely stated how old. I now ask the question, Why the change of opinion? At least thirty-two years ago it was mentioned in these pages that young queens shortly after mating were most prolific. I joined 9 lbs. of bees to a newly mated queen, or rather they joined themselves to it, and I find on inspection that upwards of 4000 eggs have been deposited daily since, probably 5000. The foregoing facts are worthy of consideration by bee-keepers; but all the same, Mr. Summers may work his bees on a system not known or taught by us, but let us hear all about it.

A PROFITABLE SWARM.

In the autumn of 1893 I gave Mr. Walter Henderson, Lamington, two hives of bees. One he kept, the other he gave to his brother. The first one threw a prime swarm on 6th June, and by the end of July he took from it fully 60 lbs. of honey in supers. The district will be about 700 feet above sea level. These bees were managed in hives according to instructions given in these columns, and I may say the owner was very successful, as will all those who follow my hints, as is verified by letters from bee-keepers residing in the district of Mr. Summers. Those working under our method took all the principal prizes over other competitors who wrought on "different systems."—A LANARKSHIRE BEE-KEEPER.



All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Chrysanthemum Shoots Decaying (H. T.).—The box arrived too late to enable us to examine the contents minutely this week. The matter will be dealt with in our next issue.

Cucumbers Unsatisfactory (J. S. M.).—Your specimens came to hand just as this page was being prepared for press. The leaves and roots shall be examined and a reply given next week.

Grapes not Colouring (W. S., Cheltenham).—The Grapes are red partly from shanking and to some extent from lack of colour, which is chiefly due to overcropping, want of nourishment, or its abstraction by insects such as red spider or thrips. The shanking may arise from a variety of causes, but it is chiefly induced by an unsatisfactory condition of the roots.

Sowing Grape Seeds (F. Cantelo).—It is perhaps best to sow the seeds as soon as they are ripe. Place in heat, and grow the seedlings as rapidly as possible. If that be inconvenient the seeds should be kept in the berries as long as practicable, but when that is not longer feasible they may be removed and sown in moist soil, and so kept in a position safe from frost until spring, when if placed in heat they will start freely if the seeds are good. When kept out of the berries or in a dry condition the seeds soon lose their vitality.

Onion Tops Rusted (J. S. B.).—The Onions are affected with black rust (*Puccinia mixta*) or rather the uredo form thereof, though there is some of the teleutospores present. The fungus has spent itself, and will not affect the bulbs, at least not those in the condition of those sent. It would be desirable to remove the dried tops and burn them. The Onions should be kept thin in a cool, dry, airy place, as there are spores of another fungus (*Mucor subtilissimus*), which may possibly develop on the bulbs in store, if they are at all kept damp and close, otherwise there is little danger.

Bullrushes in Osier Bed (A Perplexed Proprietor).—We are unacquainted with any kind of Bullrush that will grow in ground suitable for Osiers, as without water they soon come to an end. Possibly they are some kind of Rush or Water Reeds which are common to shallow water or damp places, and do not actually require to be grown in water. The mistake was in not uprooting them before the Osiers were planted, which to do well require a clean ground and as well prepared as for other plants. As that was not done we do not know of a better plan than to keep the Rushes cut down two or three times during the summer, which will weaken them, and encourage the Osiers, so that they will in time obtain the upper hand. Willows are very little use for faggoting, though they answer tolerably well for lighting fires when dry and not too old, as the wood soon decays when wet and becomes useless.

Calanthes Diseased (W. W.).—The Calanthes are affected with black rot, a kind of disease that commences in a spot on the leaves and pseudo-bulbs, and spreads with remarkable rapidity, the growths becoming quite black and decayed, and eventually dry. It is probably caused by an excess of moisture and too rich soil, especially cow manure used too liberally in the compost. In place of the latter it would be desirable to use good fibrous peat, also some crocks, so as to keep the compost open and sweet. This with very moderate watering in the early stages, and afterwards abundance of water at the roots and a moist genial atmosphere, with as much light as the plants can bear without scorching, ought to give you better results. There is no fungus, but numerous bacterial bodies, which may be a consequence rather than cause of the disease; at least, they are not of a malignant kind as usually considered, being common to decaying vegetable matter.

Chrysanthemums Infested by Yellow Thrips (F. W.).—There is no better remedy for thrips than tobacco juice, being diluted with water to a safe strength. No amount of feeding at the roots will kill the insects nor enable them to grow out of the infection. The point is to kill the insects, which may be effectually accomplished by dusting the affected parts with tobacco powder and syringing it off the following morning. The difficulty is to reach the insects, which we presume are safe in the unfolded leaves. If you find any trouble in procuring the powder, obtain some strong shag tobacco, place in a vessel and pour

over it 1 gallon of boiling water to every 4 ozs. Cover with a cloth, let stand until cool, then strain, and dip the point of every shoot in the decoction, making sure that all the parts are wetted. If the insects be on the under side of the leaves, lay the plants on their sides over a vessel or tray and syringe them with the tobacco water on the under side, turning over so as to reach every part.

Tree Carnations Infested with Maggot (A. H. E.).—There was no maggot in the one shoot, but in the other was a pupa. It is that of the two-winged fly—not unlike a house fly, only smaller in body—*Hylemia nigrescens*. The only remedy is to pick out the maggot with a needle or a pin, and to prevent the fly laying its eggs in the centre of the growth the plants should be sprayed with petroleum emulsion in May and June at intervals of a fortnight to three weeks.

Cattleya labiata (W. T.).—Newly imported plants of this or any other Orchid are not to be relied on to always grow or flower at the proper season. Among a number of imported plants of this species, received in April of this year, we have several in sheath, while others have growths little more than an inch in length, although they are all growing side by side in the same house. In several cases the large and small growths may be seen on the same plant. These vagaries are difficult to account for, but generally disappear after a few seasons, when the plants settle down to their annual routine of life, as induced by the growing and resting seasons provided for them in the Orchid houses.

Carnations Diseased (A. H. E.).—The sprays are slightly affected with "spot" fungus (*Septoria dianthi*), which is just pushing here and there minute growths through the epidermis, in the centres of the spots. These are the fruiting conceptacles, which, when ripe, will open at the apex and liberate an immense number of spores. The best remedy would be to remove all the spotted leaves at once, and burn them; but if numbers are affected, removing the leaves may make the plants too bare and weaken them too much, and other measures must be adopted. As the filaments are within the leaves, the conceptacles must push through the epidermis before you can assail them effectively, and it is best done by spraying with Bordeaux mixture, or you may sponge the plants with permanganate of potash (Condy's fluid), either neat, or preferably diluted with an equal quantity of water. This will destroy the spores, and passing into the ruptured parts will prevent the production of more. Afford the plants a light position, keep water from the foliage, and give abundance of air, for the fungus develops in damp muggy weather, and by thorough cleanliness, removing all bad leaves and providing a free circulation of air, it will either be prevented or checked in advance.

Repotting Orchids (W. T.).—The best time to repot *Cymbidiums* *Lowianum* and *eburneum* is directly the flowers are past, usually about the end of April or the beginning of May. Should the plants have suffered much from the strain of flowering it would be advisable to keep them in a shady position in a warm moist house for a fortnight previous to repotting, syringing occasionally with tepid water. This will renew the energy of the plants, and enable them to withstand the slight check which is unavoidable in repotting. Plants that are unhealthy through growing in a sour waterlogged compost may safely and with advantage be repotted at any season of the year, provided the roots are not unduly disturbed, and water is afterwards judiciously applied. The answer to your second query depends entirely upon the class of material used for the basis of the compost. In districts where good peat is scarce and difficult to obtain growers frequently use such substitutes as the blackish fibry material found under coniferous trees or the dried fronds of the common *Polypodium* (*P. vulgare*). This is not so lasting as good peat fibre, and Orchids grown in it need repotting oftener than would be the case if the latter material was used. As long as the compost is in such a condition that the water passes freely through it, and the drainage is in good order, repotting is not necessary, but a light top-dressing in late autumn will be found of great assistance to the plants. On the other hand, should the compost be found in a close and sour condition at the usual season for repotting them no time should be lost in transferring the plants to a more suitable rooting medium. Generally speaking once in two years is often enough to repot small plants; large specimens may with advantage be left in the same pots for three or even four seasons, removing a little of the surface compost annually, and replacing this with fresh sphagnum, peat fibre, and potsherds.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be

named in a hard green state. (A. H. L.).—1, English Codlin; 2, Irish Peach; 3, Possibly Gloria Mundi, but not sufficiently developed for positive identification. (R. G. L. B.).—Red Astrachan, small fruit.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (J. B.).—1, *Selaginella caesia*; 2, *Rondeletia americana*; 3, possibly a *Celsia*, specimen totally insufficient; 4, *Bocconia cordata*; 5, *Ophiopogon jaburan variegatus*; 6, *Eulalia japonica variegata*. (J. J. G.).—*Prunella vulgaris*. It is perfectly harmless. (J. F.).—1, *Hæmanthus tigrinus*; 2, a *Rondeletia*, too withered to identify species.

COVENT GARDEN MARKET.—AUGUST 22ND.

MARKET heavily supplied, with slow trade.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, per half sieve	1	6 to 2	6	Peaches, per doz.	1 0 to 6 0
Grapes, per lb.	0	6	1 6	Plums, half sieve	1 6 3 6
Filberts, per 100 lbs.	20	0	25 0	St. Michael Pines, each ..	2 0 6 0
Lemons, case	10	0	15 0	Strawberries per lb.	0 0 0 0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Beans, Kidney, per lb.	0	2	to	0	3	Mushrooms, punnet	0	9	to	1	0
Beet, Red, dozen	1	0		0	0	Mustard and Cress, punnet	0	2		0	0
Carrots, bunch	0	3		0	4	Onions, bushel	3	6		4	0
" new, bunch	0	9		1	0	Parsley, dozen bunches	2	0		3	0
Cauliflowers, dozen	1	6		3	0	Parsnips, dozen	1	0		0	0
Celery, bundle	1	0		1	3	Potatoes, per cwt.	2	0		4	8
Coleworts, dozen bunches	2	0		4	0	Salsafy, bundle	1	0		1	5
Cucumbers, dozen	1	6		3	0	Scorzoneria, bundle	1	6		0	0
Endive, dozen	1	3		1	6	Shallots, per lb.	0	3		0	0
Herbs, bunch	0	3		0	0	Spinach, bushel	1	6		3	0
Leeks, bunch	0	2		0	0	Tomatoes, per lb.	0	2		0	4
Lettuce, dozen	0	9		1	0	Turnips, bunch	0	3		0	4

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arum Lilies, 12 blooms ..	1	6	to	3	0	Orchids, per dozen blooms	3	0	to 12	0	
Asparagus Fern, per bunch	1	0		2	6	Pansies, dozen bunches ..	1	0		2	0
Asters (English) doz. bunch	3	0		6	0	Pelargoniums, 12 bunches	4	0		6	0
(French) per bunch	0	6		1	0	Pelargoniums, scarlet, doz.					
Bouvardias, bunch	0	6		1	0	bunches	2	0		4	0
Carnations, 12 blooms ..	0	6		1	6	Pinks, various, doz. bnchs.	1	0		3	0
doz. bunches ..	2	0		4	0	Poppies, various, dozen					
Chrysanthemums	3	0		9	0	bunches	0	6		1	0
doz. blooms	0	6		1	0	Primula (double), dozen					
Cornflowers, doz. bunches	1	0		2	0	sprays	0	6		1	0
Dahlias	2	0		4	0	Pyrethrum, dozen bunches	2	0		4	0
Eucharis, dozen	1	6		3	0	Roses (indoor), dozen ..	0	6		1	0
Gaillardia, dozen bunches	1	0		2	0	(outdoor), doz. bnchs.	3	0		8	0
Gardenias, per dozen ..	1	0		4	0	" Tea, white, dozen ..	0	6		1	6
Gladiolus, dozen sprays ..	0	9		1	6	" Yellow, dozen	2	0		4	0
Lilium longiflorum, per						" Safrano (English), doz.	1	0		2	0
dozen	1	6		3	0	" Maréchal Niel, doz. ..	1	6		4	0
Maidenhair Fern, dozen						Smilax, per bunch	1	6		3	0
bunches	4	0		6	0	Stephanotis, dozen sprays	1	0		2	0
Marguerites, 12 bunches ..	1	6		3	0	Stocks, dozen bunches ..	2	0		4	0
Mignonette, 12 bunches ..	1	0		3	0	Sweet Peas, dozen bunches	1	0		2	0
Myosotis or Forget-me-						Tuberoses, 12 blooms ..	0	4		0	6
nots, dozen bunches ..	1	6		2	0						

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.				
Arbor Vitæ (golden) dozen	6	0 to 12	0	Hydrangea, per dozen	9	0 to 18	0		
Aspidistra, per dozen	18	0	36	0	Ivy Geraniums	4	0	6	0
Aspidistra, specimen plant	5	0	10	6	Lilium auratum, doz. pots	12	0	18	0
Balsams per dozen	3	0	6	0	„ Harris, per dozen	12	0	24	0
Calceolarias, dozen pots	3	0	6	0	„ lancifolium, dozen				
Cockscombs, per dozen	3	0	4	0	pots	9	0	15	0
Coleus, per dozen	2	0	4	0	Lycopodiums, per dozen	3	0	4	0
Dracæna terminalis, dozen	18	0	42	0	Marguerite Daisy, dozen	6	0	12	0
Dracæna viridis, dozen	9	0	24	0	„ yellow, doz. pots	6	0	10	0
Euonymus, var., dozen	6	0	18	0	Mignonette, per doz.	3	0	6	0
Evergreens, in var., dozen	6	0	24	0	Myrtles, dozen	6	0	9	0
Ferns, in variety, dozen	4	0	18	0	Nasturtiums, per dozen	1	6	4	0
„ (small) per hundred	4	0	6	0	Palms, in var., each	1	0	15	0
Ficus elastica, each	1	0	7	6	„ (specimens)	21	0	63	0
Foliage plants, var., each	3	0	10	0	Pelargoniums, per dozen	6	0	12	0
Fuchsia, per dozen	3	0	6	0	„ scarlet, per doz.	2	0	4	0
Heliotrope, per dozen	3	0	6	0					



AUTUMN TILLAGE.

THOROUGH, seasonable, systematic tillage is the basis of good husbandry, a superstructure upon which rests every other detail of culture, successful cropping being more dependant upon it than upon the weather—we may go even farther than this, and say that in a very high degree it renders us practically independent of weather. By the term seasonable we mean

timely tillage, kept so well to the front that each field is ready for its crop when the best time for planting or sowing arrives. In dealing with heavy land, it has long been our custom to burn as much clay as we can every summer for working into the soil in autumn as a mechanical divider. Especial care is taken to do this thoroughly, and then a radical change in soil is a certainty. No longer does it become sodden by heavy rain, all superfluous water passing through it quickly by filtration; the air enters and circulates in it with ever-increasing freedom; it becomes porous, is more easily cultivated, never settles down into its original cold, sodden, inert condition, nor is it beaten down by heavy rain. The importance of such soil amelioration cannot be over-estimated, and when done gradually field by field, or acre by acre, the expense is not burdensome, the gradual outlay being richly rewarded by better crops, easier tillage, greater certainty of cultivation.

Clay-burning is done because it is the material lying nearest to hand for the purpose. All that is wanted is enough hard particles to mix with soil to divide and open it—gravel, coal ashes, slag, may all be turned to account when they can be had. This is so obvious that a mere hint seems superfluous. It is not so, however, for we frequently see vast heaps of slag and ashes lying idle near heavy land, the advantage to be derived from a dressing of the slag being precisely one of the first principles of agriculture of which so many farmers are ignorant. It is true enough that liming does much good, but its effect is not sufficiently lasting, and it should be valued much more for its chemical action.

Mention is now made of soil division for the simple reason that we never miss an opportunity of doing so. It may enter into autumn tillage when necessary, but it is a hindrance to the brisk action which is so desirable in destroying weeds, and ridging, before heavy autumnal rain sets in, as it so frequently does in October. The next five or six weeks should be among the busiest of the whole year, they will be where the true value and importance of the work being done now is realised. Where there is nothing but annual weeds the ploughs follow the clearance of the corn, the field is ploughed deeply enough to insure the destruction of the weeds, and so left for three or four weeks, then it is cross-ploughed with the double-breasted plough, and thrown into ridges for the winter. Nothing so simple, nothing more certain than this. But where there are perennial weeds, such as couch grass, coltsfoot, thistles, docks, or a thick carpet of weeds, the skim-coulter, horse hoe, cultivator, and harrow may all be required. In some exceptionally bad cases recourse is had to ploughing and hand forks to get out the weeds. This is so serious a hindrance to autumn work that it sometimes becomes necessary to leave a field or two for a bastard fallow and a crop of roots next season. It is just a question of ways and means and of weather, and some judgment is required to so arrange the work that as much land as is possible shall be got clean and ridged this autumn. All this should be done before the root crops are turned to for clearance.

As a standard of excellence in farm management we would have all winter corn sown by the end of September, all bare fields cleaned and ridged, water furrows opened into ditches, and men and horses ready for the clearance of Carrots, Mangolds and Swedes in October, when the fast decline in temperature prevents any more useful growth in such crops. Here early sowing, high culture, and good management tells. The crops are ready, the time is favourable, the work is done quickly, the roots are in clamp safe from all risk of frost before November, and the only ploughing to be done follows in due course. Not merely do we wish once more to enforce the importance of being beforehand with the work, but to do it while it can be done with ease, expedition, and economy. Autumn tillage has all these advantages, it also gives us the great privilege of being able to get inspring corn early, and yet be deliberate about it.

Ridged land is so thoroughly exposed all winter, that a deep fine seed bed early in spring is a certainty. We have full advantage of March winds and April showers; with so fine a seed bed the sowing is well done, seed germination is quick, a full even plant and a full crop is equally certain if we take equal care in the selection of seed and in the application of manure.

WORK ON THE HOME FARM.

Very little corn is in stack, but a run by the Midland railway to Leicester last week and the return journey by the North-Western enabled us to see that most of the corn was reaped. Some of it was very foul with a tall growth of weeds, which showed green half way up the sheaves. There is also much of the hay crop still out and sadly discoloured. We saw twenty-five men at it in one meadow, turning, turning! Such costly and disheartening work for such poor results. In Leicestershire mowing was still in progress, the earlier mown hay having been got into the big sugarloaf-like heaps termed "cobs" in the Midlands. The first growth, the legitimate hay crop, was brown and dry, springing out of a second or bottom growth, which was green and succulent. Curious fodder this will be. It may have some flavour in the stack; it will be inferior in quality. But it is not only in Leicestershire that the work drags its slow length along; we saw grass being mown for hay on the same day in Middlesex. What a muddle it all is! Corn and hay harvest intermingled; much of the hay worthless, when it might have been saved to perfection early in July. Where it was so saved the aftermath is abundant and excellent.

Where ensilage has been turned to a reminder of the value of salting it may be useful. Every layer of grass is sprinkled freely with salt, which has been found an excellent preservative of the silage, especially near the outsides of the stack. A plan often followed is to make a haystack upon the silage for the sake of pressure. Before doing so it is well to consider if the silage is likely to be required before the hay. We prefer keeping them separate, using the silage first and holding over the hay if it can be spared. It is with much regret that we find ensilage continues to be so much ignored. This is certainly a season when it might have proved a great boon, both in helping to avoid much of the expense of trying to save the hay, as well as in getting it off the land out of the way of that aftergrowth which is invaluable. To the dairy farmer especially a well sustained yield of rich milk now means a difference in his favour of so much more butter or cheese. For this and for every good reason ensilage, which clears off the grass as fast as it is mown, or earlier haymaking is desirable. Either or both can be managed on certain farms, and there can be no obstacle to its being so generally.

OUR LETTER BOX.

Sowing Vetches (H. C. T.).—Winter Vetches should be sown about the second week in September, and it is a good plan to make other sowings early in October, and again late in that month, for this is a most useful green crop, either for mowing for cattle and horses, or for folding with sheep. Winter Oats may be mixed with it if cared for; but we prefer the Vetches alone. Drill in the same manure as for winter corn to obtain a full crop, which is most profitable, and may be turned to account in a variety of ways.

METEOROLOGICAL OBSERVATIONS.

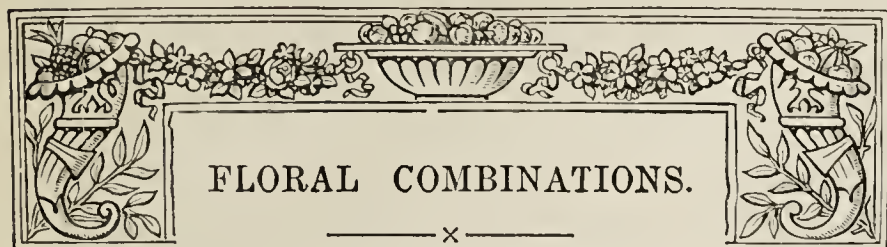
CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.
1894. August.	Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.
Sunday .. 12	30.096	62.8	57.6	W.	60.6	69.1	54.5	113.7	52.2	0.120
Monday .. 13	29.943	61.8	52.6	N.W.	60.2	69.1	56.2	119.0	53.9	0.010
Tuesday .. 14	29.799	68.2	63.0	W.	60.9	79.3	56.9	122.8	55.2	—
Wednesday .. 15	29.593	61.7	54.6	W.	62.6	69.2	55.9	116.7	51.3	0.088
Thursday .. 16	29.740	59.3	55.3	N.W.	61.2	67.3	51.3	118.4	48.9	0.434
Friday .. 17	30.095	57.2	51.7	W.	59.9	64.4	45.7	111.7	44.3	—
Saturday .. 18	30.103	60.5	55.1	N.W.	59.1	67.8	51.8	118.8	48.9	0.042
	29.910	61.6	55.7		60.6	69.5	53.2	117.3	50.7	0.694

REMARKS.

- 1th.—Fine and generally sunny in morning, overcast afternoon; rain from 6 P.M. to 8 P.M., and dull and damp after.
 13th.—Overcast early, fair morning, with occasional sunshine; sunny afternoon, cloud again at night.
 14th.—A little rain early; sunny, warm, and summer like from 8 A.M. to 5 P.M.; stormy and threatening evening.
 15th.—Windy and sunny day; frequent slight showers in afternoon, and a heavy shower at 3.15 P.M.
 16th.—Sunny early, drizzle at 8.30 A.M., and almost continuous rain from 10.15 A.M. to 4 P.M.; exceptionally heavy at 11.45 A.M., and from 2.15 to 3 P.M.; fair night.
 17th.—Fine, but only occasional sunshine.
 18th.—Fine, and frequently sunny except for a heavy shower at 1.40 P.M.
 Cloudy and showery as a whole, but some bright sunshine every day. Temperature slightly below the average.—G. J. SYMONS.



ALL who take an interest in the embellishment of the flower garden cannot fail to have noticed a gradual change in the method of summer bedding during the past decade. This, perhaps, is the more conspicuous in public parks, although it is gratifying to observe a similar revolution occurring in private establishments. As is well known, carpet pattern beds were popular not many years ago, and while these still linger with us there is now a tendency to introduce more variety and greater freedom in the arrangement of other plants. That this is a step in the right direction is generally admitted; but further alterations in the style than have been hitherto noticed might advantageously be adopted. In no case can any hard and fast rules be laid down as to how a series of beds should be planted to produce the best floral effect, inasmuch as a great deal depends on the surroundings as well as the season; but discretion should be brought to bear on the matter. There are instances where architectural elements predominate, and here perhaps formal arrangements may not be so much out of character as in a more naturally constituted garden. At the same time it is wise to conditionally effect a change annually, taking in consideration the probable results.

The present season can scarcely be termed an ideal one for flower gardening, nor will it in many respects bear comparison with the summer of 1893. Notwithstanding the prolonged drought, the tropical heat of last year favoured numerous plants, the more tender ones in particular, and where attention was given to watering and mulching, the results were of a gratifying nature. The growth of flowering plants was certainly retarded, but most of them bloomed profusely, whilst those employed for their foliage only were remarkably brilliant. This was the rule, with perhaps few exceptions, and rarely have ordinary bedding plants in the metropolitan parks looked better than they did last year. Considering the inclemency of the weather, which has, so far, characterised the present summer, the leading "lungs of London," however, well maintain the reputation they have long held in this respect, and during a hurried visit last week it was noticed that some of the floral combinations were unusually effective. Ample evidence was forthcoming, though, that while certain plants are attractive during a tropical summer, they are decidedly out of place in a wet season, this applying with much force to those with flowers of a frail nature or inferior colour. Bold masses of brilliant tuberous Begonias and scarlet Zonal Pelargoniums were almost too glaring under the cloudless sky of last year, but they are appreciated this comparatively dull, wet summer. True, the latter plants, where placed in rich soil, have made undue growth, at perhaps the expense of bloom, but what flowers there are stand out prominently and add to the effectiveness of the beds. As for the crimson Begonias, they are assuredly wet weather plants, if one may judge by those now to be seen in some of the parks, the blooms presenting an imposing appearance, even on a rainy day. This not only applies to the well-known tuberous kinds, but to their rivals, the more recently raised varieties of *Begonia semperflorens*, some of which are indispensable for the decoration of the flower garden. It will serve no good purpose, however, to eulogise certain plants and condemn others, the object now in view being rather to enumerate a few floral combinations that have recently

come under notice, and which, another year, may be worthy of imitation.

An expert expressed his opinion to the writer that although the bedding in Hyde Park is always good, it is this year, on the whole, even better than usual, and had the weather proved favourable this fact would have been brought out pre-eminently. As it is there are many charming arrangements, differing considerably in style, and sufficient to suit all tastes. Here may be noticed a trim carpet bed, the design being remarkably bold, and the foliage of the plants splendidly coloured for this dull season, whilst close by is situated a clump of Fuchsias laden with blossom. The carpet beds may have no charm for some eyes, but there is no disputing the fact that during an unfavourable summer they are, if properly managed, not without good points. It is obvious that the richly coloured foliage can bear with impunity more rain than ordinary flowers without presenting a washed-out appearance, and never was this more plainly demonstrated than in Hyde Park at the present time. Fortunately for British gardening our method of carpet bedding has its limits, not having so far, in the parks at least, reached to such an extent as is sometimes practised on the other side of the Atlantic. As before hinted, the designs for the most part are simple, and the plants well arranged, the colours being admirably blended. Whilst this method of bedding is thus managed it will always find a limited number of admirers, and consequently be seen in public places. For general effectiveness, though, in favourable seasons it cannot be compared to the free method of arrangement, and of the latter some really beautiful beds are noticeable in the above mentioned park.

The fact that purely floral displays are of a transitory character has obviously been borne in mind, for it will be observed that mixtures of ornamental foliage and flowering plants are numerous. The value of these is very striking during a dull period, for whilst the flowers are faded the richly coloured leaves remain attractive, and add interest to what otherwise would be an ineffective arrangement under a cloudy canopy. A large bed may be instanced as an example. This is situated beneath the branches of trees, and is filled with *Ricinus sanguineus*, thinly disposed so as to permit specimens of *Fuchsia gracilis variegatus* being planted alternately. Here and there are some well-flowered plants of *Verbena venosa* and Golden Privets, the whole rising from a carpet of *Alternanthera magnifica*. Tuberous Begonias are planted on the frontal portion of the bed, which is edged with *Iresine Lindeni* and *Lobelia Snowball*. Of a different character is an arrangement comprising scarlet Zonal Pelargoniums planted with fine masses of *Phalangium argenteo-lineare* and early flowering Chrysanthemums, the base being devoted to mauve Violas. A broad band of *Fuchsia Cloth of Gold* completes this bed, which has more admirers than might be imagined. In close proximity to the latter is another bed similarly planted. This is filled with medium-sized plants of the scented-leaved *Pelargonium denticulatum*, *Phalangium argenteo-lineare*, scarlet tuberous Begonias, and blush Chrysanthemums. There is a wide margin of *Fuchsia Cloth of Gold*, amongst which are plants of *Begonia semperflorens rosea*, with an edging of *Lobelia Lord Beaconsfield*. Viewed from a distance a large bed of brilliant Zonal Pelargoniums and Begonias, with "dot" plants of white Abutilons and the Golden-leaved Privet, with a row of a blush variety of *Begonia semperflorens* and edging of *Alternanthera magnifica*, is very imposing. The same may be said of another bed with a groundwork of *Alternanthera magnifica*, from which rise plants of *Seafortbia elegans* and *Dracenas*, alternated with *Begonia Worthiana*. The margin of this bed is devoted to small clumps of *Farfugium grande*, *Dracena rubra*, *Ophiopogon Juburan variegata* and *Centaurea candidissima* planted in rotation, with an edging of *Antennaria tomentosa*, the whole producing a grand effect. There are many more excellent arrangements in this park, and visitors will see

to what good purpose specimen Fuchsias, Plumbagos, Bamboos, Ivy-leaved Pelargoniums, and other plants are put, these being chiefly placed in imposing groups on the turf.

Passing to Regent's Park, a close observer will notice the bedding differs slightly in character to that just described. The surroundings are less formal, permitting of a more varied system of flower gardening, and of this the most is apparently made. Sombre-hued shrubs abound, these necessitating brightly coloured plants, such as *Celosia pyramidalis*, Cockscombs, and others of a showy nature, which are extensively employed. A bed of dark Cockscombs, yellow-leaved Fuchsias, and clumps of *Dactylis glomerata variegata* may not appear a very elaborate arrangement, but it is an effective one. Bushy plants of *Begonia semperflorens rosea*, having dark bronzy foliage and covered with pink blossoms, form a pleasing contrast to a carpet of *Mesembryanthemum cordifolium variegatum*, an edging of *Echeveria glauca metallica* completing the combination. There is nothing particular about a bed planted with *Begonia semperflorens rubra* and *Festuca glauca*, with a *Yucca* in the centre; but if simple, it is worthy of mention. Cannas are most imposing when judiciously employed, the dark foliaged kinds contrasting with the light leaves of other plants. A large circular bed of Cannas, *Eulalia gracillima*, and red *Celosias* rising from a base of yellow-foliaged Fuchsias is attractive, the same applying to one devoted to *Königa maritima variegata*, crimson Begonias, and *Eulalia gracillima*. Another feature in this park is a narrow border filled with plants arranged in an exquisite manner. The border is a long one, rather more than 3 feet wide perhaps, with a hedge of Privet, about 2 feet high, at the back. In front of the hedge are well-grown plants of the yellow *Celosia pyramidalis*, and between these *Begonia semperflorens rosea*, full of blossom. Next comes *Veronica Andersoni* and *Begonia fuchsioides*, planted alternately with clumps of *Dactylis glomerata variegata*, with an edging of *Lobelia pumila magnifica*. The surface of the whole border is covered with *Lysimachia nummularia aurea*, and "dot" plants of *Grevillea robusta* completes a choice arrangement.

Sub-tropical bedding constitutes the principal feature in Battersea Park, and readers who have this method of flower gardening to practise might to their advantage visit this popular resort. Many of the plants, however, appear at their best in seasons like that of 1893, although even this year the various arrangements are deserving of more than a mere reference. The mixed style of bedding is also extensively practised here, and some charming results are to be seen. A bed of Fuchsias with which richly coloured *Coleus*, fragrant *Heliotropes*, and Golden Fleece Pelargoniums are incorporated is attractive, while the same may be said of an arrangement of succulents, comprising *Kleinias*, *Echeverias*, and *Sempervivums* amongst others, all beautifully blended. Cannas, with showy flowers and dark foliage, make a fine contrast to plants of *Lilium longiflorum*, whilst *Daturas* associate well with early flowering *Chrysanthemums* and *Pentstemons*. *Hyacinthus candicans* is put to good use, and a bed of *Vitis heterophylla variegata*, from which rise specimens of the yellow and green *Abutilon Thompsoni*, forms a striking feature. The borders of Dahlias, Hollyhocks, and Phloxes, faced with *Calceolarias*, *Lobelias*, and other plants are also effective; carpet bedding being likewise worthy of notice. In Finsbury Park, too, on the northern side of the metropolis, some excellent arrangements may be seen. As elsewhere, the varieties of *Begonia semperflorens* are extensively employed, these to some extent having taken the place of the tuberous-rooted kinds. Arranged with variegated Pelargoniums, *Königa maritima variegata* and *Mesembryanthemum*, these Begonias are very effective, and to realise the value of these combinations they must be seen. In a secluded corner in this park some masses of *Campanula pyramidalis* arranged with Palms produce a charming display.

Going southwards to Hampton Court Palace the visitor will find much of interest as regards summer bedding. The beds are

well filled, some good arrangements being noticeable, and with a fine autumn the plants will flower profusely. Fuchsias are blooming grandly, giving evidence of their utility for a wet season. Between some of the light coloured varieties crimson Begonias are interspersed, while mauve Violas form an excellent base. *Begonia Worthiana* is seen at its best here, the bright orange scarlet flowers harmonising splendidly with other plants. As elsewhere, dark Begonias are pleasing when intermixed with *Königa maritima variegata* and *Mesembryanthemums*. A bed filled with Pelargonium Flower of Spring, Viola Blue Bell, and edged with *Iresine Lindeni* attracts notice, a similar remark applying to two beds of standard Roses, with a thick base of *Heliotrope President Garfield* and edgings of Golden Superb Pelargoniums. *Arabis lucida variegata*, too, forms a splendid edging. The mention of this calls to mind some good beds edged with *Ajuga reptans atropurpurea*, which the writer remarked in the Manchester Botanical Gardens some weeks ago. Hardy plants are also extensively employed for the embellishment of Dulwich Park in the south-east of London, where some grand examples of bedding may be seen. At Victoria Park, too, the bedding is always above the average in merit, many excellent arrangements being forthcoming this year.

Apart from the foregoing examples there are many other effective beds in the public parks and gardens of the metropolis, to say nothing of the numerous arrangements in the provinces. Doubtless, too, many readers of the *Journal of Horticulture* have effective combinations in their gardens that may be of interest to others were they recorded. Hardy plants are now recognised as being amenable for the embellishment of the flower garden proper, although seldom used so extensively for that purpose as they might be. Carnations and Violas, however, are employed in conjunction in many of the metropolitan parks, whilst masses of *Gladioli*, China Roses, *Nicotiana affinis*, *Pentstemons*, and *Helianthus* are most effective during the summer and autumn.—C.

IMPROVING FRUIT PLANTATIONS.

THE grower of produce for sale has no difficulty in procuring turfy loam and manure near towns for the potting of plants and the manuring of land under fruit and vegetable crops, as there are generally building operations more or less in progress, and the manure made in stables seldom finds its way to the land from whence it, as corn, hay, and straw, was originally derived. That is one reason why agriculture does not keep pace with horticulture; the first is impoverished to feed the latter, and the one becomes lean while the other fattens. This is the outcome of civilisation, for while it pays to sell off the land potash, phosphoric acid, and nitrogen in meat, corn, hay and straw, it is ruinous to restore it in bulk form—stable or town manure—as the railway charges and cost of cartage amount to sums little less than the produce value of the crop.

Green stuff—organic matter—is positively necessary to the continued fertility of soils, and this is obtained from crop residues, weeds, and sometimes solid manure. These are of a variable nature; few contain free nitrogen, and those that do might as well not do so without lime, potash, magnesia, and soda are found in the soil, for unless these enter the plant the micro-organism remains inert. Indeed, it is an annual, and must have organised matter to work on. So with all parasitical organisms, they cannot assimilate inorganic matter like plants. Such substances, therefore, as Rape and Turnips only supply matter for manufacture into nitrates. They supply humus, that contains certain organic elements, which, acted on by the micro-organisms, muriate and nitrate, convert it into the food of plants. Soft weeds are of the same nature as Rape; but this passed through the stomach of an animal is very much nearer plant food than raw, or such weeds as groundsel and chickweed, for they add little to the soil beyond humus, and that may be a positive poison without due amounts of corrective inorganic substances, of which there is little danger in ordinary soils.

Having in the spring told how a small fruit grower dispensed with manure by extracting perennial and burying annual weeds before they seeded and while in their green succulent state, I wish now to state that this thing has come to an end, or enough

green manure is not produced, for the land only grows such weeds as seeds are blown on to it, and from those brought up with a change of crop, as every advantage is taken to deepen the soil. Manure is out of the question at 10s. per ton on the land; besides, it is often so heated before it arrives there as to have little nature left. The county councils are improving the roads of rural England, and this fact gave the grower an opportunity of acquiring some solid matter, to wit, heaps of turfy parings, which collectively formed a huge pile, for it went on the land as soon as fit. This was effected during the summer. It was stacked like an ordinary compost heap, heated somewhat, and was turned outside to inside. When put up a hundredweight of kainit was sprinkled through every cartload of parings, and at the turning a similar quantity of freshly slaked lime. The parings came out quite mellow in the autumn. Some of the old soil was removed over the roots of each bush, and a coat of the compost given in its place, and that covered with soil from the spaces between the bushes. Thus the bushes had fresh soil, and when the fruit was set 2 lbs. of nitrate of soda per rod did the rest, for a branch-breaking crop—in fact there were two—a half peck per tree of green berries, and strong fine ripe Gooseberries, which pay better than the green ones if only the weather proves favourable.

Another heap had a cartload of the ash of dried weeds and hedge trimmings added to every ten of compost, and this gave the best return in Plums. Indeed, our plodding instructor insists on Plums needing lime, potash, magnesia, iron, and nitrogen to make them swell early. Then they do not "crack" their skins at ripening time if the weather be showery. For the Pears the material is better with the house refuse thrown on it, but I found out the more the waste of lanes, plantation, and household were utilised the better the fruit crops were. Some were under the weed-manuring system still, for only crops are kept on the land while they are young and profitable. That I see plainly is the way to obtain full and profitable crops out of the land.

Another point deserves notice. Plums are gathered and sold green. They make better tarts or pies and puddings than ripe ones, and pay better, as there is always a blank between the green Gooseberries and Plums. Besides, gathering half or more of the Plums green eases the trees, so that they bear more regularly, the ripe crop being finer and less liable to suffer from wet. The better quality Plums, as Denniston's Superb, Early Transparent, and Jefferson, make excellent preserves in the green condition, and are more firm and better than imported Gages, while such as Rivers' Early, Czar, and Victoria, taken on the turn for ripening, boil splendidly, and those once trying them are sure to buy again.

Then there is the winter pruning. It is easily done, for all the trees are on low stems; no higher in any case than to keep the fruit clear of the ground, and the heads are within reach of any person of ordinary stature. Gooseberries have the branches thinned out to give place to young and promising as soon after the ripe berries are off as practicable and spreading branches are shortened. That is all they have or require—abundant growths so as to admit the hand freely between them, and no old shoots or worthless spray.

Kentish and Morello Cherry trees require little pruning beyond removing dead spurs. It is the same with Plums. A gloved hand does the work quickly, while with a knife the worn-out branches are removed in favour of young and well-placed ones. Summer pruning is confined to shortening unruly growths in June or July, and removing those likely to crowd or cross to a few joints of their base. Apples and Pears are alike amenable to the practice, thinning the spurs while the leaves are on the trees, and the sooner after the crops are gathered the better, so as to give the trees a chance to recuperate and form buds for furnishing next year's crop.—G. ABBEY.

SEASONABLE HINTS ON FLORISTS' FLOWERS.

EACH season as it comes round, although it has to do with the same flowers, differs in its character, that the directions of one year will oftentimes vary considerably from those of another. What, for instance, can be more different than the condition of florists' flowers in 1893 and the present year? In the former everything was parched, growth was feeble, and watering was the grand necessity, and even now in some parts of the country that terrible drought has left its mark. In the south-eastern part of England we have had a fair supply of rain, and with a temperature much lower than the average. This has been helpful to most kinds of florists' flowers, which present, I think, in general a healthy appearance.

AURICULAS.

These plants delight in a low temperature during the summer, and they are now in a favourable condition. The growth is short and sturdy, and the plants are evidently making an abundance of roots. There are some growers who defer the repotting of their plants until August, but generally speaking this is done, as in the case of my own plants, the end of May and early in June, and consequently they are now well re-established. The frames in which they are placed facing north should be watched to see that there is no drip falling into the pots, for this is fatal to Auriculas. The plants can stand frost and biting winds, although they do not particularly relish them, but sodden soil they cannot put up with. All dead leaves should at this time be removed, and if there be any appearance of green fly the pest should be brushed off before it does any damage, or the frames be fumigated. I am very indifferent now to the presence of woolly aphis amongst the roots, but think well when it appears round the collar of the plant to carefully remove it. Weeds should also be removed, and it is a good plan to occasionally stir the surface of the soil in the pots. No positive directions can be given on the subject of watering, as this will depend a good deal on the state of the atmosphere; but as the days are now shorter, such frequent waterings will not be so necessary, but all this must be regulated by the experience of the grower.

CARNATIONS AND PICOTEEES.

The frequent rains and low temperature have so contributed to the growth of these plants that there has been a difficulty in obtaining the wood firm enough for layering, while for the same reason the plants have produced more flowering stems than were desirable. As a rule the end of August is too late for this operation, but should next month be favourable I have no doubt that the layer will be sufficiently well rooted before the winter sets in. I am referring, of course, to those plants in the open border, for where they are grown in pots they are much more under the control of the cultivator. It is remarkable what a change has taken place with regard to these flowers. As one of the old school of florists I should be very sorry if the taste for Selfs and Fancies, and what are generally called border flowers, was to oust the beautiful flakes and bizarres amongst Carnations, and the pure and delicately edged Picotees. There is this tendency I fear, and I can only hope that some of those who share my admiration for these plants will still uphold their cultivation.

Lovers of Carnations owe a deep debt of gratitude to Mr. Martin R. Smith for the generous kindness he has shown in helping forward their cultivation. He last year distributed to the members of the National Carnation and Picotee Society packets of his hybridised seed. So good was this that of the 120 seeds sent to me not one has refused to grow. The plants are now strong and healthy, and I look forward with a good deal of curiosity to their blooming next season; and it is remarkable when the fashion sets in for a particular flower what unlooked results are obtained. Thus the breaks that Mr. Smith gained in the "Malmaison" group and the yellows of Mr. Douglas's raising are unlooked for advantages, and we know not, of course, what else may be before us.

When the layers are rooted, which should be by the middle of next month, they ought to be taken off and potted singly or in pairs, using as a compost good loam and a little sand. Many persons put the border kinds out at once, but I am not an advocate for this, as our winters are so uncertain, and severe frost and extreme wet are alike injurious to them, and when both are combined very fatal. I therefore pot all mine and keep them in cold frames all the winter, and if they are given abundance of air and watering is carefully attended to there will be no fear of the dreaded spot.

GLADIOLI AND PANSIES.

Gladioli are now in their full beauty, and in some respects, such as elegance of form and variety of colour, may be fairly placed at the head of autumn flowers. In both of these respects the Dahlia is far behind, while for cutting for house decoration they will not bear comparison. At this season they of course require merely the attention of staking and tying, and weeding when necessary.

To those of us who live in the south of England this has been a favourable season for Pansies. Our drier and sunnier climate is not so well suited for them as the north and Scotland, where they are to be seen in their greatest beauty. In the drought of last season whole collections of them were swept away; but this year there are comparatively few losses. Now is a very good time to root cuttings. These should be taken off and placed round the edges of pots, which ought afterwards to be put in a cold frame, shaded from the sun but secured from damp, while the old plants may be left in the ground or pots, and afterwards divided. The plants raised from cuttings are by far the best. In these remarks

I am alluding only to fancy Pansies; in fact, I have long since given up growing the show varieties, and no one who saw the splendid collections at the Drill Hall of the London Pansy Society would wonder at anyone doing so, the wonderful variation of colour and their great size winning admiration from all who saw them.

ROSES.

As a rule there is but little to be done in the Rose garden at this season except loeing, which cannot be done much too often; but there is one operation to which I would draw attention, and which is coming to be more generally practised than formerly, I mean the autumn pruning. This consists in cutting out all the wood that has flowered this year, thus giving to the shoots which have been thrown up this season a better chance of obtaining light and air and so of ripening the wood than if they were left with a crowd of other shoots around them. The Rose garden may suffer in appearance as the plants will look somewhat scanty, but I am convinced that in the long run it is more advantageous for the plants. It will be time, too, next month to determine as to the future of the Rose garden as to what plants are to be discarded and replaced by others. There is not much temptation this year to eliminate old varieties and introduce novelties, for these latter are very few. While the shoots are long it is better to put stakes to them to protect them from high winds, and prevent the plants being shaken in the ground.

With regard to Tulips and Ranunculuses there is little to be said. All that will be necessary will be to examine the roots from time to time to see that mice do not attack the former or mildew the latter. They have both been harvested with me in good condition, and ought to bloom well next season. I have never in my long experience seen Ranunculuses in greater beauty than in the present year, and the wonder to me is that such charming flowers are so little known.—D., Deal.

MUSCAT OF ALEXANDRIA GRAPE.

"W. I." generally writes so much to the point that it is unusual to be necessary to take exception to one or two remarks in his interesting article on this Grape (page 167). It is on the question of colouring the berries by direct exposure to the sun by tying back the foliage that I take exception to. I do not say "that beautiful clear amber, so dear to exhibitors," is best obtained by exposure to direct sunshine, because I know this perfection in the colouring of this grand Grape is brought about by other means. My contention is this, that bunches produced by healthy Vines will put on that golden colour, which is really the first step towards the amber tint so much prized, not only quicker, but quite safely, and free from any objectionable disfigurement if the leaves are tied back quite away from the bunches, admitting all direct sunshine available.

Vines started into growth by closing the house the first week in February cannot produce bunches with sufficiently coloured large berries by the 1st of August good enough to win prizes if they are allowed to colour naturally. My experience is that the only way to win prizes from such Vines is to expose the berries thoroughly for at least a month before the date of the show. I find much more time is needed than that stated to colour the berries satisfactorily without direct exposure to the sun. I have taken many prizes during the last ten years by adopting this practice, and if I mistake not "W. I." knows a little about this, and I never had cause yet to regret the practice. No later than last year I was successful in two classes at the Southampton summer show with Muscat of Alexandria. The previous year the bunches of this Grape that were awarded a similar position were produced under exactly the same method of treatment—exposure. In that vinery I have never seen a disfigured bunch through this cause, nor in the one devoted to the growth of this Grape under my charge. This, I hold, is a very good reason for taking exception to this part of "W. I.'s" article.

I have several times pointed out the too common practice adopted by many gardeners of crowding their Vines with too much useless foliage, the direct result of allowing too many growths to remain when disbudding the Vines in the spring. More than once I have noted as many as four and more shoots growing from one spur. I need hardly state the condition of the crop. Such practitioners as these too often complain that they cannot procure a good "set" with their Muscat Grapes. The rods of this Vine under my care are 3 feet 3 inches apart, and while admitting they would be as well if 4 feet asunder, I question if the results would be justifiable by the addition of another foot of space between the rods.

I agree with every word "W. I." says anent the overcropping

of this Vine. Muscat of Alexandria appears to be more subject to this practice than any other variety, and taking it altogether I believe it is the worst managed Grape in cultivation. When growing in prescribed limits the roots may require more moisture than any other variety, and especially if the soil be light; but under opposite conditions less water appears to me to be necessary for this Grape than any other. The Vines here in some seasons have borne satisfactory crops of fruit, and had not been watered at the roots from the first week in February until the same time in July.

There is one point about the cultivation of this Grape that puzzles me still, and I think I may safely say many others. I allude to the shrivelling of the berries. I have never been able to quite prevent this objectionable accompaniment to otherwise good examples. I am inclined to think it is the soil that contains some constituent not agreeable, or that it lacks some other necessary ingredient for the support of the berries themselves. I note in this neighbourhood, where the soil is of a variable nature, shrivelling of the berries varies in extent also. I think many men make the mistake of deferring the removal of superfluous bunches too long. I believe in the practice of cutting them away to a great extent before the blossoming period. It seems to me to be a useless strain upon the Vines to have to support three times as many bunches whilst in flower as is necessary. Muscat of Alexandria is perhaps of all Grapes the one that produces more bunches than any other, it being not an uncommon occurrence to find four bunches on one shoot. This latter occurrence is due in a great measure to the manner in which the Vines are managed, for if they are strong with well ripened wood yearly a profusion of bunches will be the result.—E. MOLYNEUX.



SCUTICARIA KEYSERIANA.

THIS *Scuticaria* was introduced from the Roraima district a few years ago, but it does not appear to have found its way into many collections. It has the same habit as the other species, *S. Steeli*, *S. Hadweni*, and *S. Dodgsoni*, which are all South American, the leaves being several feet long, cylindrical or quill-like, and pendulous; the flowers fleshy, with broad petals and sepals heavily spotted with purplish maroon on a yellowish ground; the lip broad, open, and streaked with a similarly dark colour on a lighter base. The plant (fig. 28) is a handsome one, owing to the clear well-defined markings.

NOTES ON EPIDENDRUMS.

THIS genus contains a great variety of plants of widely differing habit and form of inflorescence. Many of these are not worthy of attention, so small and insignificant are their flowers, while others are dingy and uninviting in colour. Still, there are abundance of really useful and attractive kinds in the genus that merit more attention from growers than they at present receive. To take the pseudo-bulbous division first perhaps the most generally grown is *E. vitellinum*. This popular kind when well flowered is one of the most attractive of cool-house Orchids. The orange-scarlet sepals and petals have a gay and effective appearance, which is very pleasing, especially when arranged with Maidenhair Ferns in a cool house. This species does well in shallow pans suspended from the roof with the coolest section of *Odontoglossum*. Abundance of water is required while growing, and the plants must not be dried in the winter. During this latter season the lightest available position must be given the plants. The variety *majus* is supposed to be larger flowered than the type.

A larger growing but smaller flowered cool house kind is *E. sceptrum*. This charming species grows about a foot high, and produces a many-flowered raceme from the top of the pseudo-bulb. The individual blossoms are pale yellow with the exception of the lip, which is purple; there are also purple spots on the sepals and petals. I have not seen this plant for some years, and my description is from memory; so if this is not accurate I hope someone who is better informed will correct me.

E. atro-purpureum is a beautiful kind, which thrives best in an intermediate temperature. If kept at the cool end of the Cattleya house this and all the pseudo-bulbous kinds named below, with the

exception of *E. bicornutum*, will do well. *E. atro-purpureum* has brown sepals and petals and a broad white lip, stained at the base with yellow and purple. The varieties, *roseum* and *album*, as the names imply, differ slightly in colour from the type. *E. aureum* has pseudo-bulbs and foliage resembling *Cattleya Trianae*. The flowers appear in early spring on short racemes at the top of the pseudo-bulbs; they are small, the sepals and petals orange red, the lip lighter in colour and streaked with bright crimson.

The well-known *E. bicornutum* is a difficult Orchid to keep in health. It is, however, a species worthy of all care, and certainly the most chaste and beautiful *Epidendrum* in cultivation. The hollow inflated-looking pseudo-bulbs are a foot or more high, and from the tops of these the spikes are produced. The flowers are pure white, with the exception of a few crimson spots on the labellum. A healthy newly imported plant should be obtained if possible, and established in a pot or basket filled with clean potsherds, simply surfaced over with a little sphagnum. There will be nothing in this that can possibly become sour, therefore re-potting will be seldom required. If a little fresh moss is added annually the plant will grow fairly well in this for a number of years; but the home-grown pseudo-bulbs will probably not be so large as those on the plant when imported. A light position in the East Indian house, with abundance of moisture at the root and in the atmosphere, is the best for this Orchid. Frequent spraying with tepid water while growing tends to keep thrips in check and the foliage clean and healthy.

E. Brassavo'ae produces a raceme 18 inches in length, bearing many flowers; each of these measures $3\frac{1}{2}$ inches across the sepals and petals, brownish yellow; the lip is straw coloured tipped with mauve. This is a distinct species, well worth growing. *E. cochleatum* is a singular Orchid, and one of the oldest in cultivation. The pseudo-bulbs are similar to those of a dwarf *Cattleya*, and with the leaves deep green. The raceme is produced in summer from the top of the pseudo-bulb, and bears a succession of flowers. The sepals and petals are elongated, somewhat resembling those of a *Cirrhopetalum*; the lip is bright magenta, rounded, broad at the base and tapering to a point.

Another beautiful summer flowering kind is *E. nemorale*. The large drooping panicles of pale mauve flowers frequently attain a length of 30 inches, and are delicately perfumed. This Orchid, like the majority of *Epidendrums*, enjoys a light sunny position; it should be carefully watered during the winter, as it is then usually growing and must not be dried. *E. prismatocarpum* should be more extensively grown; it is a beautiful and fragrant Orchid, easily cultivated. The flowers vary considerably, but the typical blossom has sepals and petals about equal in size, lanceolate and pale yellow, with spots of crimson and purple; the lip is light rose with a whitish margin. Many more might be named, as *E. dichosmum* and its variety *amabile*, *E. fragrans*, and a host of others did space permit, but enough has been mentioned to show there is no lack of good kinds in this division of the genus.

Quite a distinct section of *Epidendrums* are those species with reed-like stems, the leaves being arranged on most of these in a distichous manner. These if strongly grown require ample head room, and are for this reason unsuitable for small low houses. Where, however, there are large central stages they fill up well, and either in or out of flower are ornamental. The fact of a small house only being at command need not, however, deter anyone from growing this class; they thrive well if trained up the rafters a few inches from the glass, and in this position such kinds as *E. evectum* are, when in flower, exceedingly attractive. This species is an almost continuous bloomer, and very easily grown; it thrives in a *Cattleya* house temperature, and the flowers are bright red, produced in large loose panicles.

E. myrianthum is a very fine Orchid which blooms most satisfactorily in a cool house. The stems are long and very slender, and from the apices of these the branched racemes of deep pink flowers are freely produced in summer. A somewhat similar species in habit to the last named is *E. rhizophorum*, the stems are frequently 8 or 9 feet in length and require training on a trellis of some kind. The flowers are large and abundant on the racemes. It is not often this Orchid is seen in good condition, but when well flowered the effect of the scarlet and yellow blossoms is quite gorgeous. I have known this plant to be in flower from April to

August, as the individual blossoms last a long time in perfection, and the racemes are produced successively. This is also true of *E. Wallisi*, the racemes of delicately fragrant flowers being produced from the axils of the leaves over a considerable period. Both these species thrive in the *Cattleya* house, as also does *E. falcatum*. *Epidendrums Frederici Gulielmi*, *paniculatum* and *syringothyrsus* are easily grown in the cool house if given a light position and abundance of air.

All the tall growing species of *Epidendrum* require abundance of water at the root in summer; the winter supply must be regulated according to the growth, in no case allowing the plants to get quite dry. The ordinary mixture of peat and sphagnum is a suitable



FIG. 28.—SCUTICARIA KEYSERIANA.

compost for all except *E. bicornutum*. The size of pots or baskets will depend on the habit of the species, using the larger sizes for the most vigorous growers, and keeping the weaker growing kinds rather pinched for root room.—H. R. RICHARDS.

RIPENED WOOD.

If your readers are not tired of this subject I would fain reply to your correspondents' amusing banter. Before doing so, however, I desire to correct a printer's error appearing in my last (page 160). At the end of third paragraph, when alluding to the present promise of fruit buds, I am made to say, "Notwithstanding our house had no sun, &c." The word "house" should read "having."

But to return. "E. K." (page 180) is so delightfully orthodox that I am unwilling to disturb his complacency, but Mr. Raillem is too acute not to perceive the weakness of his case, and consequently abuses the plaintiff's attorney—i.e., myself and my methods of culture. Let me

tell him at once that all my trees are trained on the extension system and rigorously thinned both winter and summer. None have tap or other large roots, while each are heavily mulched both before and after flowering. Furthermore, those carrying crops of fruit receive copious waterings of diluted liquid manure whenever a dry day occurs. Will this satisfy Mr. Raillem?

He considers me a sceptic regarding those May frosts. Not at all; only I consider these so common in this climate that their occurrence, and the disastrous effects attributed to them by Mr. Raillem and others, would never have been noticed were it not for the weakened condition of all trees at that time, due to the ripening or roasting process their wood underwent last summer.

Reports on the present condition of the fruit crop in the provinces are now appearing in your contemporaries' pages, and the majority of writers, while agreeing as to the unsatisfactory yield, especially of Apples, lay the blame on those late frosts, though the more observant acknowledge how much of the fruit fell before May 20th. In addition, there is singular unanimity among the writers as to the havoc wrought by insects this year. Surely Mr. Raillem will hardly blame the frosts for this plague? I, for one, regard it as an indication of the unhealthy condition of trees after that scorching they experienced last summer.

Friends once gave me some interesting particulars respecting their attempts at Apple culture in Ceylon, where the tropical sun should ripen wood with a vengeance. Each year their fruit became smaller by degrees and beautifully less, the trees being so stimulated by continued hot weather that they never went to rest, and consequently their constitutions became enfeebled, and were unable to produce fruit. Curiously enough, in confirmation of this there is much complaint as to the small size of Apples this year. Undoubtedly a long period of complete rest is essential to the well doing of an Apple tree, and explains why it thrives so amazingly in North America, the severity of the winters there enforcing a long period of absolute rest. In England our trees rarely get sufficient rest, and last winter hardly any, for the buds began to move as soon as the leaves were off. I, and probably others, had Pear blossoms expanded at Christmas.

Mr. Raillem has indeed much to learn if he never perceived the terribly weakening effect on vegetation of the blooming period. Has he grown Orchids, bulbs, and the like? The deterioration due to flowering is notorious in such plants, and even fruit trees suffer more than many superficial observers are aware of. It is for this reason I prefer obtaining fifteen Pears from fifteen rather than 1500 blossoms; indeed, I am convinced that sooner or later clever cultivators will recognise this fact, and take to disbudding their trees just as they now do their Roses, Chrysanthemums, and other flowering plants.

Before parting with so cheery an antagonist I should like to shake hands over "the scoundrel sparrow." My heart went out to the writer when I read that anathema. If your correspondent will only tell me how to be rid of this hardened offender I would willingly forgive and forget his belief in "ripened wood." I trust, however, that Mr. Raillem may yet be spared to see such jargon pooh-poohed as old-fashioned twaddle.—A SCEPTIC.



NATIONAL CHRYSANTHEMUM SOCIETY.

ON Monday evening last the General Committee of this Society held a meeting at Anderton's Hotel, Fleet Street, Mr. B. Wynne being in the chair. The minutes of the previous meeting having been read and confirmed, and other routine business disposed of, a letter was read from Mr. H. Briscoe Ironside expressing his thanks for having been elected on the Committee in the place of Mr. Hamill, who recently resigned. Mr. Ironside, who was present, received a cordial welcome on his return from a three years' absence in Italy, most of which time he said he had devoted to the seeding of the Chrysanthemum. He had made many experiments, and hoped before long to say something more fully about the interesting work upon which he had been engaged. It was stated that the income for the present had amounted to more than £140, which was in excess of that received at the corresponding period last year. Eighteen new names were added to the list of membership, four being Fellows, and the remainder ordinary members; the number of new members since the beginning of the year being sixty-five. The attendance was rather smaller than usual, and the meeting broke up somewhat earlier than usual.

STOPPING CHRYSANTHEMUMS.

I WAS disappointed that my note on stopping Chrysanthemums, which appeared at the early part of the season, did not elicit fuller replies and more discussion upon this vexed question of stopping as a means of the more correctly timing of the buds so as to insure perfect blooms. Since that time I have met with several gardeners who were deeply interested in the subject, and who would gladly have hailed any reliable information as to the manipulation of certain varieties. Some varieties are known to produce beautiful blooms if the buds could only

be produced at the most suitable time for their development, and it is these on which we require information. Now if by stopping the plants the buds of these varieties may be correctly timed, why not do so, and not wait to chance, as many growers are now doing?

At page 172 "H. D., Warwick," supplies a note, and if my memory serves me correctly, as I have not the number at hand at present, I believe he put forward the plea of late propagation as the panacea. Notwithstanding his observations that buds generally are showing at an opportune time, and they are with me, I am inclined to the belief that information on stopping is much needed. I do not believe in growing plants to produce only one bloom, to be selected from the first bud, before the natural break of three shoots. Mrs. Falconer Jameson treated thus produces an early coarse bloom, whilst a stopped plant will produce three handsome and refined blooms of good colour, and produced at the right time. This season I am experimenting on several uncertain varieties, and will give results in due time. Some of these I find, unless the buds come on rapidly, were stopped too late, so I can well imagine what the plants or blooms of these varieties will be from unstopped plants, to be grown three blooms to a plant.

Chrysanthemums as grown for large blooms may be formed into three groups. First, those which invariably show the crown bud, if grown by what is known as the orthodox method, at the correct time; the next, which if grown by this method are very apt to show the crown too early, whilst if left to run on to the terminal would be too small or imperfect; and the other, which produces the crown too late. This latter is a very important group, as it comprises many of the most beautiful flowers, a few of which are Lord Brooke, Princess Victoria Beauty of Castlehill, Le Prince du Bois, Miss Ada McVicker, J. Stanborough Dibbin, and Mrs. Falconer Jameson. The two latter varieties produce beautiful flowers by stopping.

We cannot hope for a standard, as the introduction of so many varieties annually prevents this; in fact, we only know how to treat a variety upon introduction by experimenting. In these days of horticultural enlightenment there should be no secrets, consequently, if a person is able to show those not so fortunately placed in treating a particular variety successfully he should do so. With the newer varieties this is very important, especially when it is considered that these do not reach the hands of the greater body of cultivators until a year or two afterwards. A year, at any rate, might be gained, if those who have grown them a season could give some kind of information as to the character of the blooms from early or late buds, also stopped *versus* unstopped plants.—A. YOUNG.

THE PAPAW TREE.

HAVING noticed "J. L." (page 178) wishes to know if the Papaw tree has been fruited in this country and its cultivation, it may interest him to know that I have grown it here for the last five years, and also fruited it for three years. I have three plants in fruit now, one of them bearing twelve fruits the size of a small Melon. The plants were grown in pots, and some are now planted out in a bed in same house. They are in a house where we grow the Guava, Custard Apple, Monstera, and Mango. The temperature is kept at about 60° in the winter, and in the summer it runs up to 100°. Of course "J. L." knows fertilisation is necessary to insure fruit. I only had two female plants out of fifty seeds sown. If he will give me his address I will send him a fruit of it when ripe.—T. W., Inwood House Gardens.

A FRIEND of mine tells me he saw the Papaw tree with ripe fruits hanging twenty-eight years ago in a tropical house at Byfleet, Surrey. On referring to "Johnson's Gardeners' Dictionary" I find it requires 60° to 80° in the summer, 50° to 60° in the winter. I also find an interesting account of it in the "National Encyclopædia."—R. DARK.

"J. L." will find no difficulty in fruiting this plant if he grows it as an ordinary stove plant. It succeeds best in good loam and leaf soil, not forgetting grit or sand to keep the soil open. Being a dioecious species "J. L." will need a staminate plant in order to "set" the ovaries of the pistillate plants. The former plant when in flower is a graceful and handsome object. Mr. Tidy of Stanmore Hall Gardens has quite a crop of these fruits, looking at present not unlike small green Melons.—JOHN W. ODELL.

FOR the information of "J. L." I will state what I know of the Papaw tree. Thirty years ago I was foreman in the gardens at Byfleet Lodge, near Weybridge, Surrey, where there was a very large house specially for the cultivation of tropical fruits. A small plant of the Papaw was planted in a tub about 3 feet square, and of the same depth, filled with turfy loam. The tub was placed in a large bed 3 feet deep, under which was a water tank heated with several 4-inch pipes, which kept the bottom temperature at about 100°. All spaces in the bed between other tubs were also filled with the same turfy loam. Holes were bored in the tubs to allow of the roots working through. The plant made rapid growth, and within eighteen months after planting began to flower, and in less than two years ripened its first fruits. The night temperature in summer was 75° to 80°, and in the day 90° to 95°, and even up to 100° with air on. In the winter the night heat was 65° to 70°, and 70° to 75° by day. After it was well established and

the tub full of roots the plant was given abundance of water from the tank under the bed. In the summer all these tubs received as much as 12 to 15 gallons of water daily.

Now for the result. The Papaw tree in three years attained a height of 18 feet, with a stem at the base of 3 feet in circumference, and presented a very interesting sight. From the top to within 6 feet of the soil it was one mass of yellow flowers, fruit just setting, some half grown and some ripe, all growing out of the main stem, as there were no side branches. The fruit when ripe was 12 inches long and about the same in circumference, of a bright yellow colour, the flesh yellow and very soft. As to the flavour, it was not much liked. However, the late Mr. Hindes had resided in the West Indies thirty years before purchasing Byfleet Lodge, and was his own gardener as far as tropical fruit-growing went. Although over eighty years of age he spent an hour or two in the houses daily. He had a recipe for making the Papaw fruit very palatable, but I do not know of what it was composed besides sherry. If "J. L." succeeds in growing it, and should he happen to get a tough joint of meat from his butcher, he will find, by suspending it in the tree, it has the power of making it tender in a very short time. I have suspended a dead bird in it, and another in a different part of the same house, with the result that the one in the Papaw tree was decomposed in thirty-six hours, while the other was four days arriving at the same condition.—T. SHARPE, *Virginia Water*.



NATIONAL ROSE SOCIETY.—MULTIPLICITY OF EXHIBITS.

WHATEVER side issues may be introduced into the amateur trophy question—and some people must bring in collateral subjects in all discussions—there is now no doubt as to the opinions of those best entitled to a voice in the settlement of that competition. I only wish that Dr. Budd, the present holder of the trophy, had also said something *pro* or *con*.

I propose now to go into the question of the multiplicity of exhibits difficulty. That this is a difficulty I do not dispute; but it lies more in the desire I have to suggest some arrangement by which we may encourage new exhibitors rather than unduly repress old ones. Yet I am sorry to have to say that with some of the latter the proverb, "*L'appetit vient en mangeant*," seems too apparent, and that success only encourages them to show more profusely each year. I think it was Dean Hole, the President of our Society, who proposed at the annual meeting in 1891, when my suggestion for the present arrangement of our schedules was under discussion, that those who won the premier prizes in certain divisions should not be allowed to compete in the same classes after two such consecutive victories. The idea was not a bad one, but it would tend to even a greater restriction in the competition than that which I have proposed. Although I suggest that no one should be allowed to enter in more than four classes, exclusive of those for trophies, garden Roses, new Roses, and the large open classes, yet I consider that this leaves a large number of classes for an exhibitor to venture into. There are not six amateurs in the Society who could show well in all the classes suggested to be left open. Even now the inferior exhibiting in some of them, notably that for new Roses, is a constant source of remark at our shows. A class that should be one for our instruction seldom if ever has a high-class exhibit. Experts know this to be the case, and it was partly in consequence of both the inferiority of the exhibits and also the poor competition in recent years that the date qualification in the new Rose class was modified last season.

It is very difficult for anyone not having access to a book of the entries to know what is the average number of entries which regular exhibitors usually send in, and I do not suppose any record is kept of the number of exhibits actually sent, but I should think that very few amateur exhibitors send over six, and the great majority not even as many as four exhibits. I have never sent more than five to any Rose show; last year I sent one to the Crystal Palace and this year three. I think that this gives a fair idea of what exhibitors of my own standing are able to do when growing from 500 to 1000 "cut back" Rose plants. That a man should get the full advantage of his efforts in Rose culture is all fair enough, as everything else is up to a point, but I say that the phrase used by two writers that "every dog has his day" is utterly inappropriate and incorrect in regard to Rose growing and exhibiting, if by its use be meant that each man wins in his turn. Certain men, by climatic position and superior soil, can always win, and they can annually defeat those who are every whit their equals in knowledge of every phase of Rose culture. I will further say that no matter what labour, attention, or expense some rosarians pay to their plants, they can never, under ordinary circumstances, defeat those who have the greater advantages I above refer to. The recent discussion in

your columns on the trophy question has brought to light the fact that six great rosarians have retired from that contest for reasons which we need not enter into, and I know that others meditate following their example. The cause for such defections would not require much seeking, and ere long the disinclination to exhibit will further spread.

I know that a feeling of discontent has been created by the present N.R.S. system, which enables a few (who are well placed, or who by residential position or otherwise, are eligible for competition in many classes) to avail themselves annually to the utmost of our rules for competition. As I said before, I do not blame anyone for doing what is perfectly regular and open to him. Some prefer showing where they know they must win; others like the excitement of hazarding for higher stakes. I regret to have to use the word "stakes," but after all what else can it be? If our amateur exhibits were shown merely for honour it would be preferable, but many openly avow they would give up exhibiting if there were no money prizes. It is to be regretted that this is the case, but matters being so I think the amount to be won should be restricted by the number of prizes available to each competitor.

I do not think the giving of money in prizes has brought many members into our Society. In the course of the last few years I have induced many amateurs to subscribe, but I do not think there are six exhibitors amongst these new members. The fact of their getting tickets for our shows can be no inducement either (although this is suggested by one of your correspondents), as they can attend our meetings at less expense by buying tickets on the day; but many of these new subscribers have friends who are members, and exhibit, the fact of their being members reminds people of the date and induces them to go to our meetings, and thus indirectly it is an advantage to Rose culture, as it benefits those who should get every encouragement, I mean professional Rose growers who have to live by the results of their energy and the reputation gained at these meetings. Let me finally warn some old exhibitors who may not be in favour of a plan by which I think we shall encourage new members, and possibly new exhibitors, that a reading of an old French proverb with which I end this letter may by the present state of our arrangements be a cause of the loss of old members, and consequently partly the reason for the exceedingly slow progress of our Society in accession to its numbers:—"Le jeu est le fils de l'avarice, et le père du désespoir." Transposing the meaning of "Le jeu" from gambling into exhibiting the proverb will read that, "Exhibiting is the child of avarice and the father of despair," and so I consider, in a sense, it is to many.—CHARLES J. GRAHAME.

WHAT a pity it is that "E. M., *Berkhamstead*," does not give us his reasons for the last sentence in his few lines on page 149, which, owing to absence from home, I have only just read. "One thing, I think, is certain, and that is that it would be a very serious mistake to lower the number of varieties in the champion class below thirty-six."

This is, after all, only "E. M.'s" opinion, and most of us would like to know on what grounds he forms it. Whether the honour is the greater in winning a trophy in a larger or smaller competition, I should have supposed we were all agreed that it must be greater in the former; but a forty-eight or a thirty-six cannot possibly be put up by the majority of exhibitors except on rare days in rarer seasons, unless the grower be a large one. I presume that to cut on a given day thirty-six blooms without any tail is almost, if not quite, an impossibility to growers of 1500 plants, unless they are exceptionally favoured in locality; and I fancy the growers of 1500 to 2000 plants and under form the very large majority of the Rose-growing amateur fraternity. Mark, that I do not say members of the National Rose Society, and I append to this the question, Is it not possible that many of these might become members if they saw the numbers of the trophy stands so lessened as to bring it within the range of their vision?

Again, what would be the general effect of a reduced trophy class to visitors as to Rose growers? Picture a dozen stands of twenty-four varieties, with scarcely a weak bloom amongst them. Would not this be a sight worth going many miles to see? and would not such a class test the capacity of judges rather severely—a thing that marks very certainly the excellence of the competition? "J. H. P.'s" table (page 149) is startling, and without some change it looks as if the trophy might be won and no honour be attached to the victory. That, surely, is not what we desire.

With Mr. H. V. Machin's remarks (page 149) on the latter portion of this subject I am quite in sympathy. Railway officials are not railway shareholders. Increase of traffic adds to official labours without increase of remuneration, unless the objectionable "tip" comes in. One might imagine that even a novice would understand something of our green boxes, and handle them gently. But no! Railways are our masters now, and their takings are too large for them to trouble about our flowers or our poultry and other hobbies. I am afraid, Sir, that even your influence will be lost on the railway companies; at least, that is the opinion I have formed after my experiences with them in years long since passed away as regards poultry; and if they would not do anything for live stock I have no hope that they will for flowers.—Y. B. A. Z.

CHINA ROSE LAURETTE MESSIMY.

IN my contribution to the *Journal of Horticulture* (page 175) I referred to the above Rose as "Laurette de Thessiny," and now make this correction. Though this beautiful Rose is included, I find, in the

Messrs. Cocker's catalogue, I have never seen it in any garden in Scotland, save my own. I hope it may yet receive a wider Scottish circulation, and if it does not, the fault will not be mine. Independently of its flowers, which are exceedingly artistic, the plant itself is highly ornamental, as throughout the summer and autumn it is constantly producing shoots (each crowned with several flower buds) of a strikingly handsome chocolate colour. In this respect it rivals many of the finest Teas, such, for example, as *Perle des Jardins*. It was raised by M. Guillot in 1887.—DAVID R. WILLIAMSON.

ROYAL HORTICULTURAL SOCIETY.

AUGUST 28TH.

THE meeting on this occasion was a small one compared with others that have been held this year. Hardy flowers, greenhouse and stove plants were fairly well represented, but Orchids made a poor display. Fruit and vegetables were not extensively shown.

FRUIT COMMITTEE.—Present: Philip Crowley, Esq. (in the chair); Messrs. Malcolm Dunn, G. Bunyard, T. J. Saltmarsh, A. Dean, H. J. Pearson, C. Herrin, J. A. Laing, T. Glen, H. Balderson, J. Smith, G. Norman, and E. Gilman.

Messrs. J. Veitch & Sons, Chelsea, sent a collection of Apples and Pears, comprising upwards of thirty varieties. The best of the Apples were Manks Codlin, Stirling Castle, Potts' Seedling, Lord Suffield, and Worcester Pearmain. About forty dishes of Plums in distinct varieties were shown by the same firm, and these attracted more than ordinary attention. Sultan, Red Magnum Bonum, Goliath, Kirke's, Duke of Edinburgh, Washington, Coe's Golden Drop, and Lawson's Golden Gage were particularly fine. Some dishes of Damsons were likewise exhibited by Messrs. Veitch & Sons, to whom a silver Banksian medal was recommended. Messrs. S. Spooner & Sons, Hounslow Nurseries, Middlesex, sent a collection of Apples and Plums, for which a silver Knightian medal was recommended.

Several Melons were brought before the Committee, but only one variety was adjudged an award of merit, this being granted to Mr. E. Hart, Totteridge, Herts, for *Fairlawn Empress of India*. This is a pale green flesh Melon of a good flavour, sweet and juicy. It is said to be the result of a cross between *The Countess* and *Sion House*. Mr. E. Gilman, Ingestre Hall, sent a fine looking Melon, but it was not ripe, and no award was made. The same exhibitor had a dish of splendidly coloured Barrington Peaches, for which a cultural commendation was awarded. Mr. Wythes, gardener to the Duke of Northumberland, Sion House, Brentford, had a handsome scarlet flesh Melon named *Golden Queen* of good flavour, but it was passed.

Mr. Miller, gardener to Lord Foley, Ruxley Lodge, Esher, sent a collection of fruit, including Royal George and Bellegarde Peaches from the open wall, Melons, and Tomatoes (vote of thanks). Mr. Farr, Spring Grove House, Isleworth, had Tomato Farr's Commander, but it was passed. Mr. R. Owen, Maidenhead, sent fruits of Owen's Perfection Tomato. Cherries, Apricots, and Melons were shown by Mr. G. Dyke, Stubton Hall Gardens, Newark, for which a vote of thanks was accorded. Mr. W. Weir, Wrexham, exhibited a bunch of Cheswell Muscat Grapes, but it was apparently passed, as was a dish of Raspberries shown by Messrs. Watkins & Simpson, Exeter Street, Strand. Mr. Evans, Chard, sent a dish of Apricots (vote of thanks).

Messrs. Hurst & Son, 152, Houndsditch, E.C., showed a brace of a handsome Cucumber named Hurst's Selected Black Spruce. Mr. J. Chinnery, gardener to A. R. Broughton Knight, Esq., Downton Castle, Ludlow, staged a collection of fruit, also some good vegetables, including Potatoes, well-grown Carrots, Onions, Beans, and Peas (vote of thanks).

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); Messrs. J. Laing, Owen Thomas, H. Herbst, J. Fraser, R. Dean, H. B. May, C. T. Druery, G. Stevens, C. J. Salter, J. Jennings, P. Barr, C. E. Pearson, W. Bain, T. Godfrey, H. Selfe Leonard, R. Owen, H. Turner, J. D. Pawle, and Rev. H. H. D'Ombraim.

Messrs. J. Laing & Sons, Forest Hill, S.E., had a fine group of flowering and foliage plants, amongst which Crotons, Dracenas, Caladiums, Lilioms, and Anthuriums were conspicuous (silver-gilt Flora medal). Awards of merit were also granted to Messrs. Laing & Sons for *Croton M. E. Fournier* and *Caladium Gurupa*, both of which are described elsewhere. Messrs. H. Cannell & Sons, Swanley, sent a collection of Asters in variety, with annual Chrysanthemums all beautifully arranged (silver Banksian medal). Messrs. W. Cutbush & Sons, Highgate, exhibited blooms of Watford Gem Dahlia, a new single variety of merit, the colour being orange and red. Mr. H. Perkins, gardener to the Hon. Frederick Smith, M.P., Henley-on-Thames, had three varieties of Anthuriums, securing an award of merit for one of them, which is described below. A basket of French Marigold, Legion of Honour, came from Mr. Herbst, Kew Road, Richmond; and Mr. F. Clark, Lowther Castle Gardens, Penrith, had seedling Carnations. Messrs. F. Sander & Co. showed a number of new Bertolonias and ornamental foliage Begonias, the most attractive of which were B. Madame Treuve and B. Gloire de Vesinet. Mr. Anthony Waterer, Woking, sent *Spiraea Anthony Waterer*, and Mr. G. Humphries, Chippenham, had a box of Dahlias, the best of these including Camperdown, Iona, and Matchless.

Messrs. Dobbie & Co., Rothesay, contributed Dahlias in variety, the

single Cactus type being well represented. Of these the most distinct and effective varieties were *Isabella Warden*, *Ivanhoe*, *Queen Mary*, *Novar*, and *Lochiel*. The same firm sent a fine collection of herbaceous Phloxes, the trusses being large and the flowers varied in colour (silver Banksian medal). In the competitive class for twelve *Gladiolus* spikes Mr. D. Wheeler, High Street, Brechen, N.B., was the only exhibitor. Mr. Bain, gardener to Sir Trevor Lawrence, Bart., had some *Montbretias*, and Dr. P. H. Emerson, Broadstairs, exhibited a collection of *Gaillardias*. A few new Dahlias were shown by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, the finest of these being Mrs. Francis Fell, Stanley Ford, and Mary Durie. Mr. A. Taylor, The Gardens, Brougham Hall, Penrith, sent a box of Carnations, *Pride of Brougham*, *Luck of Eden Hall*, and Sir R. Musgrave.

ORCHID COMMITTEE.—Present: Dr. M. T. Masters (in the chair); Messrs. J. O'Brien, W. Cobb, H. M. Pollett, H. Chapman, W. H. White, E. Hill, C. Pilcher, J. Douglas, F. Sander, and A. H. Smee.

As has been said, but few Orchids were staged. Messrs. B. S. Williams & Sons, Upper Holloway, sent a plant of *Cattleya Blesensis*, the result of a cross between *C. Loddigesi* and *C. pumila*. Messrs. F. Horsman & Co., Colchester, staged a plant of *Miltonia Lubbersiana*, which is said to have been imported with *M. Clowesi* and *M. cuneata*. Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, had some choice Orchids, including *Cypripedium The Pard* (award of merit), *Stenia Chesterton* (botanical certificate), *Cattleya crispa*, and *Zygopetalum brachypetalum*. Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, exhibited with others, *Cypripedium James Veitch*, a splendid hybrid from *C. Stonei platytanum* and *C. Curtisi* (first-class certificate). This is described elsewhere. Mr. W. Thompson, Walton Grange, Stone, showed cut blooms of *Cattleya Gaskelliana alba* and *Lælia Canhamiana*.

Messrs. F. Sander & Co., St. Albans, contributed a small group of choice species, including the beautiful *Cattleya aurea*, *Miltonia Morelliana*, *Cattleya hybrida Kienastiana* (first-class certificate), *Phalenopsis Sanderiana*, and a plant of *Habenaria Susannæ* (first-class certificate). A group of *Cypripedium Charlesworthi* with other Orchids came from Messrs. Hugh Low & Co., who gained an award of merit for *Saccolabium cæleste superbum*. Mr. G. D. Owen, Selwood, Rotherham, (gardener Mr. Mark Watts), sent a plant of *Cattleya Hardyana*, Selwood variety, *Lælia Oweniæ* (awards of merit), and *Cattleya Gaskelliana virginale*. Mr. T. Statter, Stand Hall, Manchester, was awarded a botanical certificate for *Dendrobium album*.

CERTIFICATES AND AWARDS OF MERIT.

Anthurium Scherzerianum rotundiflora sanguinea (H. Perkins).—A dark coloured variety with medium sized roundish spathes (award of merit).

Caladium Gurupa (J. Laing & Sons).—A distinct variety, with green and yellow leaves, each of which has a red centre (award of merit).

Cattleya hybrida Kienastiana (F. Sander & Co.).—This is the result of a cross between *C. speciosissima* and *C. aurea*, and shows the parentage of both species. The sepals and petals are pale rose, the lip being large, crimson lobe, and orange veined throat (first-class certificate).

Cattleya Hardyana, Selwood variety (G. D. Owen).—This is a beautiful Orchid, the flowers being large and attractive. The sepals and petals are bright rosy mauve, the lip having a splendid rich crimson lobe, with yellow in the throat (award of merit).

Cypripedium James Veitch (J. Veitch & Sons).—This is considered to be one of the finest hybrid *Cypripediums* ever raised. It is the result of a cross between *C. Stonei platytanum* and *C. Curtisi*. The petals droop, are long, pale green, and thickly spotted with chocolate. The dorsal sepal is greenish striped reddish-brown, while the lip is a dull red (first-class certificate).

Cypripedium The Pard (Sir T. Lawrence).—This is a charming hybrid, the result of a cross between *C. concolor* and *C. superbiens*. The dorsal sepal and petals are white, spotted purple, the lip being white suffused with a purplish shade (award of merit).

Croton M. E. Fournier (J. Laing & Son).—The leaves of this *Croton* have bright green margins veined yellow, the centre being a rich golden hue (award of merit).

Habenaria Susannæ (F. Sander & Co.).—A tall-growing and distinct species, the plant shown having a spike nearly 2 feet in height. This bore two pure white flowers, each with a deeply serrated lip (first-class certificate).

Lælia Oweniæ (G. D. Owen).—The flowers of this species are large and bright in colour, the lip being a rich crimson with a white throat (award of merit).

Lælia elegans nobilis (F. Sander & Co.).—A very dark coloured form of the well-known type. The flowers are a uniform purplish crimson shade (award of merit).

Saccolabium cæleste superbum (H. Low & Co.).—A charming variety with purple and white flowers, borne in profusion (award of merit).

At the afternoon meeting Mr. Malcolm Dunn, of Dalkeith Gardens, N.B., read an excellent paper on "Gardeners and their Employers." Unfortunately, however, the attendance was much smaller than usual, and an essay of this kind would have been better for a larger gathering of gardeners. It was nevertheless much appreciated by the audience, and the customary vote of thanks was accorded Mr. Dunn for his admirable paper.



EVENTS OF THE WEEK.—Apart from local exhibitions but few events of special interest to horticulturists will take place during the ensuing week. A show of early flowering Chrysanthemums, Dahlias, and Gladioli will be held at the Royal Aquarium, Westminster, on September 4th, 5th, and 6th. The annual exhibition of the National Dahlia Society will open at Crystal Palace on September 6th, continuing the following day.

WEATHER IN LONDON.—Much rain has fallen in the metropolis since publishing our last issue, the weather at the end of the week being particularly wet. Sunday, however, was fine and very warm; Monday growing dull, but close; Tuesday was favourable, and at the time of going to press the weather appears more settled.

BEGONIA ERFORDIA.—This is one of the *semperflorens* strain, and makes one of the most effective masses of colour. It grows to about 10 to 12 inches in height, the flowers being of a bright rosy carmine. I saw it the other day bedded out in Mr. Cannell's garden at Swanley, and was much pleased with it. If doing as well everywhere it will become a popular bedder.—D.

RANUNCULUS LYALLI.—While going through the garden of the late Mr. Charles Jenner at Easter Duddingston, near Edinburgh, in the end of June, my attention was called to a fine plant of this fine New Zealand Ranunculus which had flowered in the rock garden and was in seed. I should be glad to hear from anyone who has tried and succeeded with this rare plant. So far as I can learn most people have lost it, and I should be glad to know under what conditions it has been found to do well.—S. ARNOTT.

KENT RASPBERRIES.—Down in the alluvial bottom of Mr. Cannell's Eynsford Farm Raspberries Superlative, Norwich Wonder, and Le Quatre Saisons Rouge do well. The two latter were fruiting heavily a few days since, and women were busily engaged gathering the fruit. The latter is essentially an autumn fruiter, but the two others are practically summer fruiters. Norwich Wonder is one of the oldest Raspberries in cultivation apparently, as it has been grown in Kent for over sixty years, and it is one of the hardiest, most enduring, and heavy cropping.—A.

RECREATION GROUNDS IN LONDON.—Negotiations for the purchase of the 17 acres of land for the purpose of providing a recreation ground for Deptford are now, says a daily contemporary, on the point of completion. The purchase money is £36,000. Another of the proposed new parks is situated in the Isle of Dogs, facing Greenwich Hospital. It is 3 acres in extent, and the purchase price of £8700 will be contributed partly by the Council and partly by the Poplar District Board. Hilly Fields, Brockley, purchased some time ago, consists of between 40 and 50 acres of beautifully undulating land, and the Council propose to expend about £5000 in fitting it out as a recreation ground. Bostal Heath, at Woolwich, will also be greatly improved by the proposed inclusion of 16 acres of private land which at present extend into the centre of the heath and somewhat mar its usefulness as a public resort.

FLOWER AND FRUIT SHOW AT WEST NORWOOD.—The Norwood cottage gardeners and allotment holders held their ninth annual fruit and flower show on Saturday last at the Institute, Knight's Hill, West Norwood, which was opened by Mr. C. E. Tritton, M.P. Mr. Tritton in opening the show said he had much pleasure in being able to state that their enterprise was not only a thorough success, but was superior to any of their antecedent ones, and would, he was quite certain, inspire new competitors for the coming year. The collections of flowers, fruit, and vegetables staged were beautiful, and reflected much credit on the careful hands which cultivated them. The competition was open to anyone within a radius of two miles of the Institute, with the exception of the open classes, in which case it was extended to three miles. The following are among the chief exhibits:—A beautiful collection of foliage plants from Mr. James, West Norwood; a group of cut flowers from Mr. Salmon, and some fruit, not for competition, from Mr. Longley, Croxted House, West Dulwich.

SEEDLING PANSIES.—Mr. J. G. Hawley, Brookfield House, Swinton, Rotherham, sends us a box of his new seedling Pansies. The blooms are large, and richly coloured, the various shades being clearly defined.

LONDON TREES.—In passing through Southwark Park, London, recently I was much struck with the Weeping Willows, Planes, and Black Italian Poplars. No lovers of trees should miss seeing them at once while they are in full beauty.—WILLIAM PAUL, *Waltham Cross, N.*

ANCHUSA ITALICA.—“E. K., *Dublin*,” page 127, asks why this plant is blue. In Malta, where I saw it repeatedly last April and May, it is always of a deep blue colour (ultramarine). It occasionally, but very rarely, fades to reddish tinge, like so many of the *Boraginæ*, but is certainly never yellow, as far as I know.—GEORGE HENSLOW.

A FINE BEGONIA.—I have sent you a double Begonia bloom. The variety was raised by a friend of mine four years ago, and was named Mrs. A. Ross. It is a very free bloomer; plants of a fairly large size, carrying over 150 blooms, equal to the one enclosed.—J. S. A. [The variety is apparently a good one, the blooms being large, very double, and a rich yellow colour.]

A CURIOUS TREE.—One of the most curious trees in Germany stands on the left bank of the River Oder, in Ratibor, Silesia. A reliable contemporary says it is a Maple, at least 100 years old, which has been twisted and cut into a sort of circular two-storied house. A flight of steps leads up to the first level, where the branches have been gradually woven together so that they make a firm leafy floor; above this is a second floor of smaller diameter formed in the same way, and the ends of the branches have been woven into solid walls, and cut so that eight windows light each of the apartments. Below the first floor, at the level of the second and at the top of the tree the boughs have been allowed to grow out naturally, while the intermediate walls and the edges of the window-like openings are kept closely clipped.

SHIRLEY GARDENERS' AND AMATEURS' MUTUAL IMPROVEMENT ASSOCIATION.—The monthly meeting of the above Society was held on Monday, the 20th inst.; Mr. B. Ladhams, F.R.H.S., presiding. Vine Culture formed the subject of a very interesting paper read by Mr. W. Mitchell of Chilworth Manor Gardens. The essayist, who is a successful exhibitor of Grapes, based his remarks on an experience of twenty-three years, dealing very fully with the methods of planting, and touching briefly on borders, manures, and the various diseases to which the Vine is subject, expressing a decided opinion that a large number of Vines, in inside borders particularly, are ruined from insufficient root watering. The subject for the next meeting will be “Hardy Flowers for Garden and House,” by Mr. A. Dean, F.R.H.S., Lecturer on Horticulture to the Surrey County Council.

POPULATION AND GARDENING.—In your report of the jam factory celebration at Histon (page 173) Mr. Hugh Hoare, M.P., is stated to have said that Histon is one of the few villages in Cambridgeshire in which the population had increased. That is so far true of all other villages, parishes, or districts where market gardening, and especially fruit culture, is carried on. With agriculture comes decay and reduction of the population; with gardening comes wealth and increase of the people. For one person employed on an agricultural farm the fruit or vegetable farm employs three or four at least, if not more. Then the people have regular work, better pay, and have more comforts; in addition, women find much employment, and good wages also. This is a fact that should attract the attention more than it does of philanthropists and politicians.—A. D.

KAFFRARIAN PLANTS.—Mr. Thomas R. Sim, curator of the Botanic Garden, King William's Town, South Africa, has done good service by collecting and systematically arranging the records of Kaffrarian plants in a pamphlet recently published at Cape Town. As a botanical district Kaffraria is described as an oblong tract of country 200 miles long by about 100 miles wide, bounded at one end by the Karoo and at the other end by Natal. According to “Nature,” Mr. Sim finds that the flora includes 2449 species, of which 1690 are dicotyledons, 656 monocotyledons, and 103 vascular cryptogams. The richness in species is shown by a comparison with Great Britain—an area much greater than that of Kaffraria, but containing only about 1700 species. The opinion is expressed that were the Kaffrarian plants as well known as our own they would number more than 3000 species. Though Mr. Sim's list is incomplete, it is an excellent groundwork upon which a detailed description of the flora of the district surveyed may be built.

— A DOUBLE CEANOTHUS. — A double-flowered variety of *Ceanothus americanus*, which was received from Mr. Lemoine under the name of *C. hybridus flore-pleno*, a transatlantic contemporary says, was recently blooming in the Arnold Arboretum. It seems to be perfectly hardy, and has the good foliage of the single type, and will probably endure drought as well. But in addition to this it is much more floriferous and bears larger heads of flowers, which are slightly tinged with pink, and altogether seems to be an interesting addition to the low shrubs which bloom during the summer.

— CACTUS DAHLIAS. — One of the great objections to these, all the same beautiful Dahlias, is their tendency to grow so tall. I saw Mr. Cannell's breadth of them the other day—and he has a wonderful collection—and was struck with the comparative dwarfness of most, showing that we are gradually obtaining these nearer to that low stature which now marks the Show sorts. That is great gain. That, too, be it remembered, in a wet, dull season. There is a large collection of the single Cactus forms there also. These are, to my mind, poor flowers, but they please some people. For them the new beautiful Cactus doubles have corrupted my taste.—D.

— CALIFORNIAN FRUIT. — The American liner "Paris," which arrived at Southampton on Wednesday night in last week, brought 6716 packages of excellent Californian fruit, consisting of 5518 boxes of Williams' Bon Chrétien Pears, 508 boxes of Plums, 688 boxes of Peaches, and two crates of Grapes, the last mentioned being sent only for experimental purposes. This is the largest consignment of Californian fruit ever entrusted to one ship, and is the first received at Southampton. Carried from California in a special train of refrigerator cars, which left Sacramento on the 8th inst., the fruit reached New York in time for shipment in the "Paris" on the 15th. On board the steamer it was placed in the cold chambers which were specially constructed for carrying meat, and being despatched from Southampton at three o'clock the following morning, the whole of the fruit—which was in one lot, weighing about 110 tons, consigned to Messrs. W. N. White and Co., Limited—had by eight o'clock been delivered in Covent Garden Market, where it was found to be in admirable condition.

— OLD WEST-COUNTRY GARDENS. — A Plymouth correspondent writing to a western contemporary says:—"Mr. Gladstone has just re-designated Devon 'The Garden of England,' and the love of flowers in west countrymen is shown to be a very old love by the fact that the Devon and Exeter Horticultural Society is holding to-day (August 17th) its 179th exhibition. It is pleasant to know that there are still some ancient gardens in Devon and Cornwall, which are preserved in much the same form as they were fashioned two or three centuries ago. At Penheale, near Launceston, there is an Elizabethan garden, the original design of which—in keeping with the fine Tudor mansion—has never been much disturbed; and at Whitleigh, near Plymouth, there is a charming old garden of the time of William and Mary. Whitleigh Hall was, for the most part, built in the reign of their Majesties, on the site of an earlier house, and has some of the finest ceilings in South Devon. The garden referred to is called 'The Garden of the Two Crowns,' from two large beds which it contains in the form of crowns, and is believed to have undergone little change since its beds were first filled with Dutch Tulips two centuries ago."

— FRUIT ABOUT SWANLEY. — The other day Mr. Cannell kindly, at his offer, drove me round a large district that seems to be almost exclusively given over to market gardening and chiefly to fruit culture. One of the wonders of the district just now is the crop of Farleigh Prolific Damsons. Surely hardly any other locality can show some three miles of rural lanes bordered on each side in the hedgerows of trees of this Damson, heavily laden with fruit. The lines of trees seemed to be endless. They border the Plum orchards also to a wonderful extent, and what with Damsons and Victoria Plums, the trees of the latter tremendously laden with fruit, it would seem as if they must collapse; there should be enough of these fruits here to satisfy all requirements. Yet is it but a drop in the ocean. What a district it is for fruit culture! It is a locality to open one's eyes as to what England can do in that way. All the same I saw comparatively few of Apples or Pears, as stone fruits seemed to be most favoured. There one sees enormous areas from 20 to 40 acres of Strawberries constantly cropping up, great breadths of Raspberries, then of Gooseberries, Red and Black Currants, and interspersed with Potatoes, Cauliflowers, and other vegetables. Some old orchards would be best grubbed and burned, but there are thousands of trees planted from year to year. Clearly the faith of the Swanley growers in hardy fruit culture is great.—A. D.

— PINK MRS. LAKIN. — I entirely agree with "W. D." (page 173) that Mrs. Lakin is the best white Pink. I saw the collection of Pinks grown at Chiswick, and I could then but believe that Mrs. Lakin was the purest, smoothest edged and most acceptable sized flower of the entire batch of whites. As to freeness the variety produced literally a mass of flowers, and none others produced more. Both Her Majesty and Mrs. Sinkins are coarse, rough flowers relatively, and such great pod bursters that often half the petals are falling out of the calyx. I hope the day is not far distant when the Pink Society, if it wishes to make its mark on Pink production, will ruthlessly boycott every Pink that has these burst flowers. Tastes may differ as to smooth or rough edges, though smooth edges are best to my mind; but there should be none as to character of the blooms.—A.

— VELLOZIA ELEGANS. — Mr. W. E. Endicott, writing in the "Garden and Forest" recently, says, "Vellozia elegans was introduced in 1866, having been raised from seeds received from Madagascar or from South Africa. Its native country is not known, therefore, with certainty, as it has never, I think, been collected since its discovery. The plant having been sent to Kew was named *Xerophyta elegans*, as it seemed to belong to Commerson's genus of that name, which is now reduced to Vellozia. As *V. elegans* the species is figured in the 'Botanical Magazine,' t. 5803. It is a distinct plant, whose chief fault, horticulturally speaking, is the persistency of its flowers, which turn green, and remain a very long time after their beauty has gone. At their first appearance they are very pure white stars, an inch or more across, borne singly on long slender stalks produced from the axils of the leaves. The foliage is abundant, consisting of long Sedge-like leaves closely set along the bristly stalks. No plant that I know, outside of the succulent kinds, can suffer so severe a drying as this and recover. Pleasing as it is, I cannot help longing for the introduction of some of the Brazilian species, among which there are plants with flowers of purple, violet, and yellow, some of them 4 inches in diameter."

— HÆMANTHUS CANDIDUS. — This handsome new species is likely to become a favourite greenhouse plant, as it grows as freely as *H. coccineus* and has flowers quite as large and of the purest white. According to an English writer in the American "Garden and Forest," it differs from *H. albiflorus* in having larger leaves, clothed with hairs on the under side and on the margin; the rachis also is distinctly hairy and the bracts are small. The head is fully 4 inches across, and is composed of a dense cluster of white flowers with linear segments and erect golden-tipped stamens. It is a native of the Transvaal, whence it was sent to Kew a few years ago, where it recently flowered in a cool greenhouse. Mr. Bull also includes it in his catalogue of new plants for 1894. Along with it in the same house at Kew are several fine examples of the bright crimson flowered *H. magnificus*. There are about half a dozen species of *Hæmanthus* which are well worth the attention of bulb growers in the Southern States; they are the three already named, *H. Katherineæ*, *H. carneus*, and *H. cinnabarinus*. These are all capable of outdoor cultivation wherever the scarlet Pelargonium is hardy, and they grow and flower as freely as the best natured of bulbous plants.

— COTTON IN COREA. — *Aprèpos* of the note which appeared on page 176 of the *Journal*, the following extract from the paper on the cultivation of Cotton in Corea, published in "Journal of the Society of Arts," may be interesting:—"The Corean fibre is reported to be superior to that produced in Japan. The method of cultivation is as follows:—The ground is usually ploughed up during the early winter, and allowed to remain in this condition until the frost is well out of it, when it is broken up with a hoe, and manure, mixed with wood ashes, spread over it. The fields are now ready for the reception of the seed, which is generally sown about April to May. The seed, of which there is but one kind, is not placed in drills, as is done in Japan, but is sown broadcast, and then trodden in and covered up with the feet, sesamum seed being very often sown in the same field with it. The young shoot shows above ground about the tenth day, and at maturity attains a height of from 2 feet to 2½ feet. The plant blossoms in August, and on an average bears forty pods, each containing four cells, as a rule within a double capsule. The gathering of the crop, which begins about October, continues until frost sets in, some time in November. No attention is paid or skill displayed in the cultivation once the seed is in the ground; everything is then left to Nature. No further manure is added, nor are they ever thinned out or given water in times of drought. The crops are principally gathered by women, who also are largely employed afterwards in separating the seed."

— **PEPPERMINT IN AMERICA.**—A writer in the "American Agriculturist" states that from 6000 to 8000 acres of land in Wayne County, New York, are devoted to the cultivation of Peppermint. The average yield is about a ton of dried plants to the acre, and this will produce some 20 lbs. of oil. The yield runs down from this to 10 lbs., and even less, and has been known to go as high as 45 lbs. of oil to the acre, the price of which has varied within a few years from about 4s. to £1 a pound. The prices received by different growers depend largely on the freedom of the Mint from weeds, which are the great enemy to success. The habit of the Peppermint is such that its profitable cultivation is impossible upon foul land. Low, rich land is selected, and in April portions of the old plants are strewn in furrows 30 inches apart. The ground is kept clean until the plants, by tillering, take entire possession of it. After this hand-weeding must be resorted to. The land is cropped two and sometimes three years, but it then becomes so weedy that the oil will not be good enough to pay for harvesting. Of course, the first crop is best. The Mint ripens when about 2½ feet high. is cut with cradles in the latter part of August, raked into cocks, dried, and then taken to the still which extracts the oil.

— **INSECT PESTS.**—I do not know who W. S. E. (p. 178) may be, but at least he should before he criticises carefully read what he proposes to comment upon. I referred solely, so far as the Onion is concerned, to the maggot, and showed that if Nature has her bances she has also her antidotes, for whilst last year we were all terribly concerned over our Onion crops because of the Onion maggot, this year the pest had been literally drowned out by the rains. That fact—for it is a fact—shows us that let things be ever so bad we should never despair. Even this year, because of so much wet, we have the Onion badly affected with fungus in some places, and the attacks are after all but partial; still the same weather has prevented funguses or moulds attacking some other crops. Still further, we have rarely had Onions more plentiful or cheaper than we have now, for they are hawked about so cheaply that it is hard to find purchasers, and these good spring-sown Onions too. Potatoes are being fast defoliated by the fungus, but in spite of that there are few complaints of disease in the tubers, and the sample is fine and clean and quality excellent. It is this fact no doubt as much as anything which prevents spraying with Bordeaux mixture, as I am assured that so plentiful and cheap is the crop, dressings would not pay. Perhaps not. I do not know; but I have always held that those who raised the fine disease-resisters of to-day have done more to make Potatoes cheap, good, and plentiful than have all the scientists and antidotes in creation. Still I do not wish people to refrain from using antidotes; far from that, I point simply to indisputable facts. —A. D.

— **THE MARKING OF FOREIGN FRUIT.**—The second report of the Select Committee of the House of Lords on the above subject has just been made public. The commission has evidently been conducted with the greatest care; a large number of searching questions were put to expert witnesses; but that anyone will be the better for the labours of the noble lords is, the "Field" thinks, improbable. Seeing that the average amount of fruit other than Apples, Oranges, and Lemons imported into England in 1891 and two following years was 3,485,734 bushels, and the average value was £1,675,753, it is certainly not surprising that our native fruit growers and the consumer should cry aloud to be relieved of having foreign fruit palmed off upon them as English. The commissioners seem to have arrived at the conclusion that some at least of those who are in one way and another engaged in the fruit trade do not know very much about it, for, in the words of the report, "It was stated that a parcel of Black Currants offered to an agent was refused by him one day on account of their foreign origin, but was sold to him next day as English, having in the meantime been transferred into English baskets." A certain eminent statesman who once advocated the making of jam as a means of increasing the shrunken fortunes of the farmer would do well to read some of the stories told in connection with the jam-making industry. One witness said that, owing to Currants and Plums required for jam being picked on the Continent, the home crop was not worth picking, and was not picked. The market being already overstocked with foreign fruit, it did not yield prices sufficient to pay the expense of picking and bringing to market. Messrs. Crosse & Blackwell, on the other hand, who buy a good deal of berried fruit abroad, thought that the prices were about on a par with that of the English; but the foreign berries came into the market earlier, and were of as good quality as the English varieties. The Scotch fruit growers complained that the foreign fruit competing with what they grew arrived at the jam manufactories in Scotland in a pulpy and

unsound state, while one witness described it as unfit for human food; but here, again, Mr. Blackwell offered a contradiction, declaring that fruit in a pulpy state would be useless for the purpose of jam making. None of the manufacturers of jam remembered an instance of any fruit being examined at their factories, and most of those interested in the fruit trade did not know that it was the duty of any person to inspect fruit.

— **FUNGICIDES.**—Much is made of the supposed modern discovery that copper sulphate is destructive of most kinds of mildews and moulds which are so injurious to vegetation, and yet, says "Meehan's Monthly," the use of copperas in destroying fungi has been known to every intelligent farmer for many years past. Smut of the Wheat and other kinds of grain, which is a manifestation of one of the lower forms of fungi, has been prevented by simply soaking the seed before sowing in a solution of 1 lb. of commercial copper sulphate, to 24 lbs. of water, soaking the grain for about twenty-four hours before sowing. It is now thoroughly understood that the germs of many of these species of minute organisms travel with the seed, and enter the system of the plant while the seed is growing, going through the whole circulation and germination in the leaves and young branches. Many of the California Coniferae carry their special funguses along with them in this manner. The mammoth Sequoia, especially, carries a species not found on any other, and it is chiefly on account of the presence of this fungus that it is impossible, with but a few exceptional cases, to cultivate the tree successfully in eastern gardens. It is more than likely if the same treatment was applied to it as is applied to grain, by steeping the seeds in a copper solution, this great enemy of the grower of Coniferae might be eventually conquered.

— **TOMATO PROLIFIC QUEEN.**—On page 154 Mr. Witherspoon writes about this Tomato, which, as he says, was raised from cross-fertilised seed. According to my experience in crossing Tomatoes, there is often more vagaries shown in the fruit of the second generation from the cross than is exhibited in the cross itself. Last year I selected fruit for seed from cross-breds, which to all appearance were desirable varieties to cultivate. This year the produce from that seed has been rather disappointing—not in crop, but in standard of excellence in fruit; and if anyone else had saved the seed I would have said the fruits were gathered from the wrong plants. Some of the sorts vary much, while others show a marked parental resemblance, but none equal to the fruit from which the seed was saved, unless it be one variety—the produce of Ham Green × Prelude. This fruit is medium in size (a Guernsey lady to whom I showed it said it was the size wanted), will average seven fruit to the truss, and have had as many as ten trusses set on one stem, conical or egg-shaped, and a good traveller, as the fruit is of a firm texture. I should never name any variety until it is thoroughly fixed, and is found worthy of distribution.—G. McD. [Mr. Witherspoon sends for our inspection a cluster of Prolific Queen Tomato, consisting of a dozen fruits weighing exactly 2 lbs. The fruits are medium in size and smooth, but some of them exhibit a tendency to crack.]

— **FRUIT-GROWING IN VIRGINIA.**—Mr. J. C. Townsend writes to "The Bristol Times":—"In the beautiful section of Virginia situated almost under the shadow of the 'Blue Ridge Mountains' we grow most kinds of fruit to perfection—Grapes, Apples, Pears, Cherries, and Peaches flourish; but each and all require some special knowledge to bring them to their best, and to secure the best prices for the grower. There is not only the necessary pruning, fertilising, and cultivating to be considered, but the protection of the fruit from insects and fungoid enemies by proper methods of spraying. Even when well-grown and handsome fruit rewards the grower's labour, there is still the question of packing in the most attractive manner, and of choosing the most advantageous market for its sale. A young Englishman coming to this country to grow fruit would no doubt find out all this for himself—in time, but he would have to buy his experience in rather a dear market. It would be much cheaper in the end, and far better for him, to take twelve or eighteen months on a farm, as a pupil, where the farmer works himself, and to pay a fair sum for his board. Like every other business, successful fruit culture requires technical knowledge, perseverance, and industry. There is no fortune in it; but for a young man with no great ambition, a natural inclination for an open-air life, and a small capital, there is much to recommend it. In Virginia we have many advantages. Labour is cheap, and the coloured man, if justly treated, is a first-rate workman. The climate of the Blue Ridge section is very healthy, the summers hotter than at home, and the winters much the same as in England."

CAMPANULA SPICATA.

THIS is a sub-alpine species growing on the mountain sides and stony places in the north of Italy. It was known to and described by Linnaeus in the last century, and it is somewhat astonishing that this attractive *Campanula* is not more frequently met with in cultivation. Usually the flowers are borne upon a single stem, but the plant from which the drawing was taken for engraving had as many as six stems rising from closely set linear leaves near the base. The flowers are of a rich violet blue, having the fullest tint upon the inner sides of the limbs of the corolla, and fading away to the palest mauve at the base of the tube. Similarly the calyx teeth are of bright green, but the tube being set with a close, thick pubescence, the colour is lost towards the base. The flowers occur in the axils of bracts two or three together, and fall into secondary spirals on the stems, like the scales of a Fir cone. This accentuation of colour in the floral parts towards the extremities of the members, and the paleness of the stalk and floral bracts, cause the elegant bells to appear as if springing out of a mist of lavender hue. When the plant is at its prime and before the lower flowers begin to shrivel, the spikes are about a foot in length, and are extremely beautiful. It grows from 15 inches to 2 feet in height, is a biennial, and unfortunately somewhat difficult to grow. The engraving (fig. 29) has been prepared from a sketch of a well grown plant in the Alpine house at Kew Gardens.

HORTICULTURAL SHOWS.

KINGSWOOD AND WEST GLOUCESTERSHIRE.—AUGUST 22ND.

THIS Society's shows have rapidly gained the reputation of being among the best held in the West of England. Prizes to the value of upwards of £200, including three 7-guinea silver cups, are offered, and as a consequence there are no lack of entries, the quality, too, giving equal satisfaction to the promoters. It was thought there might have been some falling off in the number of exhibits as well as attendance owing to other exhibitions taking place in the neighbourhood, but the reverse was the case. Upwards of 11,000 people passed the turnstiles, which, considering that the flower show and good music were the only attractions during the day, was a highly satisfactory attendance. Messrs. Jullian and Cottle are the Hon. Secretaries, these energetic gentlemen having good assistance from an enthusiastic Committee.

For twelve flowering plants, Mr. J. Cypher, Cheltenham, was a good first, having a grand *Phenocoma prolifera* Barnesi and well flowered specimens of *Allamanda nobilis*, *Bougainvillea glabra*, *Anthurium Scherzerianum*, *Ixora javanicum*, *Statice profusa*, *Erica Marnockiana*, *Ixora Williamsi*, *Erica McNabiana*, *Stephanotis floribunda*, *Statice Gilberti*, and *Erica Turnbulli*. Mr. J. F. Mould, Pewsey, was a good second, his collection including a remarkably fine specimen of *Erica Austiniana*. Mr. J. Cypher was also first for fine-foliaged plants, showing moderately large, highly coloured specimens of *Crotons Newmanni*, *Montefortainensis*, *Sunset*, and *Chelsoni*, *Kentia Belmoreana*, *Encephalartos villosus*, and *Latania borbonica*. In the open class for six Ferns, Mr. W. Coombes, gardener to J. W. Langdon, Esq., took the lead, having fine specimens of *Adiantum cardiochlamum*, *Davallia Mooreana*, *Blechnum corcovadense*, *Lomaria gibba*, *Adiantum farleyense*, and *A. cuneatum*. Mr. W. Rye, gardener to Captain Belfield, Frenchay, was a very close second. In the amateurs' class for six flowering plants, Mr. T. Wilkins, gardener to Lady Theodore Guest, Blandford, gained the silver cup offered as first prize, having well flowered specimens of *Clerodendron Balfourianum*, *Phenocoma prolifera* Barnesi, *Statice Gilberti*, *Erica Aitoniana*, *Bougainvillea glabra*, and *Erica insignis*. Mr. W. Rye was placed second, his best plant being a capitally flowered specimen of the richly coloured *Bougainvillea spectabile*. With six fine-foliaged plants Mr. Rye took the lead, having large healthy specimens of *Thrinax elegans*, *Areca lutescens*, *Cocos Weddelliana*, *Anthurium crystallinum*, and *Crotons Warreni* and *Victoria*. Mr. W. Bannister, gardener to H. St. Vincent Ames, Esq., was second. Mr. T. Wilkins succeeded in winning another cup, this time offered for six Ferns, winning with a grand *Thamnopteris nidus avis*, and good plants of *Nephrolepis davallioides furcans*, *Davallia Mooreana*, *Gymnogramma peruviana argyrophylla*, and *Adiantum farleyense* and *cuneatum*. Mr. Rye was a close second, his exhibit including two grand *Todeas*.

Fuchsias were extensively and well shown. For nine plants, Mr. W. Marsh, Bath, was first with freely flowered pyramids of *Charming*, *Arabella*, *Marginata*, *Elegance*, *Bountiful*, and *Snowcloud*. Mr. J. Newman, Bath, was second. Begonias were particularly numerous and well shown, and the principal prizewinners with these were Messrs. J. Rogers, J. B. Blackmore, and J. Newman. Gloxinias were also good. Mr. F. Golding, gardener to E. A. Jones, Esq., was first, and Mr. J. Newman second. Zonal Pelargoniums were numerous and very freely flowered, Messrs. Gale, Coles, W. Coombes, and T. Bryant being most successful exhibitors. Lilliums were admirably shown, and with these Mr. A. W. Cottle took a first prize; Mr. F. Golding, gardener to E. A. Jones, Esq., also doing well in these classes. Coleuses occupied a considerable amount of space, the first prize going to Mr. J. Haynes, gardener to H. Croot, Esq., for six fine plants. Mr. T. Bryant was

second. Hardy Ferns are not often seen so good. Mr. Goodenough was well first, and Mr. F. Golding second.

Cut flowers are invariably numerous and good at the West of England shows, and on this occasion they were even more abundant than usual. For twenty-four triplets of Roses Dr. Budd, Bath, was well first. His best represented varieties were Marie Baumann, Alfred Colomb, La France, Ulrich Brunner, Mons. E. Y. Teas, Mrs. J. Laing, Francisca Kruger, Le Havre, Madame C. Crapelet, Madame de Watteville, Fisher Holmes, Horace Vernet, Souvenir d'Elise, Charles Darwin, Innocente Pirola, Gustave Piganeau, C. Mermet, and Duchess of Bedford. Mr. W. Smith, Kingswood, was a creditable second, his best being La Rosière, Victor Verdier, and Sénateur Vaisse. With twelve triplets, distinct, Mr. T. Hobbs, Bristol, was easily first, showing particularly good blooms of Marie Baumann, Victor Hugo, Horace Vernet, E. Y. Teas, Mrs. J. Wilson, Duc de Wellington, Duchess of Bedford, and C. Lefebvre. Mr. G. Maylett was second. In the open classes for Dahlias Mr. T. Hobbs was the most successful, other prizewinners being Messrs. A. A. Walters, G. Maylett, J. Smith, and F. Williams. The stand of singles shown by Mr. A. A. Walters was particularly good. Begonias, Phloxes, Asters, Hollyhocks, Carnations, annuals, and herbaceous flowers were all well shown, and the principal prizewinners were Messrs. A. A. Walters, G. Garraway, G. Maylett, W. Smith, J. Rogers, J. B. Blackmore, T. Evry, E. Hall, J. Newman, J. Burgess, F. Golding, T. Hobbs, T. Haskins, S. Cox, and F. Hooper.

Only one collection of fruit was staged in the class, the first prize in which was a silver cup, but this was so good that there would have been no justification in withholding the cup. The exhibitor was Mr. W. Nash, gardener to the Duke of Beaufort, Badminton, who had remarkably fine, well finished bunches of Alicante and good Muscat of Alexandria Grapes, a fine Golden Gem Melon, Bellegarde Peaches, Galopin Nectarines, Hemskerk Apricots, Brown Turkey Figs, Black Tartarian Cherries, and Williams' Bon Chrétien Pears. With a very similar exhibit Mr. Nash was also first in another class, the second prize in this instance going to Mr. G. Maylett, and the third to Mr. E. Hall. There was also a local class for collections, and in this instance Mr. J. Baker, gardener to F. W. Lewis, Esq., was first; and Mr. W. Coombes, gardener to J. W. Langdon, Esq., second.

In the open class for black Grapes Mr. Nash was first with grand Alicantes, and Mr. J. Marshall, gardener to J. Dole, Esq., second with good Black Hamburgs. The last named took the lead in the class for white Grapes, staging very fine well coloured Buckland Sweetwater; the second prize going to Mr. B. Kerslake, gardener to G. L. Matthews, Esq., for fine bunches of Muscat of Alexandria, not quite ripe. Mr. D. Jefferies was first for a Melon, having Blenheim Orange in good condition; Mr. J. Baker taking the second prize. Mrs. Gale Coles was first with Peaches, and Captain Belfield second, while with Nectarines Mr. P. Fussell was first, and Dr. H. Grace second. Apples, Pears, Plums, Cherries, and such like were also well shown. Vegetables were likewise very numerous, and the quality throughout decidedly good. The Tomatoes shown by Mr. Holbrook, gardener to Mrs. Beddowes, were worthy of special mention, fine clusters of fruit as well as a single dish being shown.

Amateurs' and cottagers' produce made quite a grand display, and at but few shows do ladies compete so admirably with vases of wild and garden flowers, baskets of Roses, and table decorations.

TROWBRIDGE.—AUGUST 22ND.

THE forty-fifth annual exhibition of this popular Society was held in a field, presented to the Committee by the President of the Society last year for the holding of flower shows and similar fêtes. There was an excellent display in every department, and the competition in many instances was very keen, particularly in fruit and vegetables. Fuchsias, always a feature at the Trowbridge show, have lost none of their former grandeur, the numerous plants in competition being beautifully fresh and freely flowered. Flowering, trained, and foliage plants, Ferns, Coleus, Begonias, Caladiums, and Achimenes brought forth a brisk competition, and many highly creditable specimens were on view in every department.

In the classes for six and four Fuchsias, Mr. G. Tucker, gardener to Major W. P. Clarke, was first; the veteran raiser, Mr. J. Lye, gardener to the Hon. Mrs. Hay, being a close second in each instance; Mr. T. Edwards, Frome, and Mr. H. Pocock, Trowbridge, taking third positions respectively. For nine specimen flowering plants, Mr. H. Mathews, gardener to Sir W. R. Brown, was adjudged first, Mr. G. Tucker second, and Mr. Pocock third, and the same order was repeated in the class for six plants. For three specimens, Mr. G. Tucker secured first, Mr. Mathews second, and Mr. H. Kiff third. In the single specimen class the last named easily scored with a well-bloomed *Eucharis*. Local exhibitors carry off the prize for ornamental foliage plants, but these are not shown in such good style as are the flowering specimens. Mr. Mathews was first for nine plants, and Mr. Bishop, gardener to F. Applegate, Esq., Bradford-on-Avon, second. Messrs. H. Matthews, H. Pocock, G. Tucker, G. Pymm (gardener to Mrs. Goldsmith), J. Coke (gardener to A. P. Stancombe, Esq.), J. Hiscox, were among the most successful winners in the classes for Heaths, Gloxinias, Achimenes, Petunias, Zonal Pelargoniums, Ferns, and Begonias, all of which were of high quality.

There were three groups of plants not exceeding 50 square feet, Mr. W. Strugnell, gardener to W. H. Long, Esq., M.P., Rood Ashton, taking the first prize with a neatly finished and bright arrangement of foliage and flowering plants. Mr. Pymm was second with a good exhibit,

among which Orchids played an important part, but lacked the colour and finish of the winning group. The remaining prize was taken by Mr. Hiscox. There were only two exhibits of four Orchids, Sir W. R. Brown and Mrs. Goldsmith taking the prizes in the order of their names. For a new or rare plant there was a good entry. Mr. C.

and Sons, Bath, and Mr. J. Mattock, Oxford, taking the remaining prizes in each class. Messrs. Keynes, Williams, & Co., Salisbury, won with twenty-four Show Dahlias, and also for twelve Fancy ditto and twelve bunches of Pompons. The same firm staged a grand box of their new varieties of Cactus Dahlias, not for competition. There were many



FIG. 29.—*CAMPANULA SPICATA*.

Rickman, gardener to G. L. Palmer, Esq., won with *Cypripedium Charlesworthi*.

Cut flowers made an extensive display generally, Roses and Dahlias being perhaps the best represented, by reason of other shows clashing and the showery weather interfering with the first-named flower. Dr. Budd of Bath won in each class for twelve triplets and twenty-four distinct varieties with beautifully fresh and full blooms. Messrs. Cooling

classes for which space does not permit of mention beyond the fact that they were of high quality throughout, and reflected credit on each individual grower.

Fruit made an imposing display, every class being well filled. For ten dishes Mr. W. Strugnell secured the first prize with well-finished Alicante and Muscat of Alexandria Grapes, Sutton's A1 and Blenheim Orange Melons, Pineapple Nectarines, Bellegarde and Dymond Peaches,

Apricots, and Williams' Bon Chrétien Pears, all of good colour and finish. Mr. Pymm was second with good Black Hamburg and Foster's Seedling Grapes, Melons, and fine Royal George Peaches; Mr. H. W. Ward, gardener to the Earl of Radnor, Longford Castle, Salisbury, being third with Madresfield and Muscat Grapes, a fine dish of Brunswick Figs, and Melon. For six dishes Mr. Ward was a good first, having Golden Queen Grape, fine in berry and colour; Madresfield Court, a good Melon, Peaches, Nectarines, and Apricots. Mr. Gibson, gardener to Earl Cowley, secured the second prize with splendid Madresfield and Buckland Sweetwater Grapes, and had his front dishes been of the same quality, would have been a very easy first. Mr. F. Perry, gardener to Captain Spicer, Spy Park, Chippenham, being third.

Mr. Gibson was first for two bunches, black Grapes, with Black Hamburg, fine in bunch, berry, and colour; second, Mr. J. Fortt, Bath, with large bunches of Alicante; third, Mr. J. Attwell, gardener to J. B. Brain, Esq. In black Muscats, Mr. J. Gibson was again a very easy first with large clusters of Madresfield Court splendidly coloured. Mr. F. Smith, gardener to the Bishop of Salisbury, was second; and Mr. H. Clack, gardener to E. Colston, Esq., M.P., third. Mr. W. Strugnell won with Muscat of Alexandria; Messrs. J. Fortt and J. Attwell second and third respectively, all good in bunch and berry, but slightly deficient in colour. In the class for any other white, Mr. Attwell was first with Buckland Sweetwater, Mr. Ward second, and Mr. F. Smith third.

Two classes for Melons were well filled. Messrs. Mathews and Nabbett won with green-fleshed, and W. Strugnell, F. Smith, and H. W. Ward in the scarlet-fleshed varieties. Mr. Pymm won with Peaches, Nectarines, and cooking Apples; Messrs. G. Tucker with Apricots; T. Smith, dessert Apples; Pears, T. Jones; Plums and Green Gages, W. Matthews and J. Hancock, in all of which classes a keen competition prevailed.

Vegetables in the open and cottagers' classes were extensively shown and in splendid quality throughout, the cottagers' produce being equal and in some cases superior to that of the gardeners. The collections, however, were the feature of the large tent, both in the open and Messrs. Webb's classes, for here there were not only excellent produce, but artistic arrangement of the many sorts shown. Messrs. J. Hall, Crosscombe, defeated Mr. G. Garraway, Bath, in the class for nine sorts, and Mr. T. Evry, Bath, had that privilege in Messrs. Webb's class for six sorts obtained from their seeds.

The bouquets, vases, and wreaths were a source of attraction in the fruit tent, and formed a relief to the numberless dishes on view. Prizes are given for an arrangement of fruit and flowers, and flowers and Ferns alone in vases. In the first named Mr. Attwell excelled, though he had formidable opponents in Messrs. J. Hill, Westbury-on-Trym, and E. S. Cole & Son, Bath. The latter won from Mr. J. Hill with the vase of flowers without fruit; also for a memorial wreath. Messrs. Brown and Sons (Frome), W. Strugnell, and E. S. Cole & Sons secured the prizes for hand bouquets in the order of their names.

Mr. James Huntley has been the Hon. Secretary for over thirty years, and under his guidance the Society flourishes and maintains its reputation in a marked manner.

SHREWSBURY.—AUGUST 22ND AND 23RD.

THE twentieth exhibition of the Shropshire Horticultural Society was held in the Quarry Grounds, Shrewsbury, on the above mentioned dates. The Society commenced in a small way, and has steadily increased in size and importance under the able direction of the Honorary Secretaries, Messrs. H. W. Adnitt and W. W. Naunton, until it has attained the honoured position of being the finest exhibition in the provinces. It is indeed questionable if a larger and more representative exhibition of horticultural produce has ever been brought together either in the metropolis or elsewhere. The entries this year numbered no less than 2360, being 200 more than in 1893. The magnitude of the show may be judged from these figures alone. Few societies have increased their prize money annually until it has reached the large sum of £750, and in spite of the weather the takings at the gate have annually increased. The opening day was a glorious one, but the weather on the second day was without exception the worst ever known in this district. Rain fell in torrents from four o'clock in the morning and continued until the evening, making the ground little better than a quagmire. Despite this, however, over 30,000 persons paid at the gates for admission, and the amount taken at the gates on the second day was £1242 8s. 9d. On the first day the money taken was £583 11s. 3d., and the total receipts from all sources for the year will be nearly £3500. It is estimated that over 17,000 visitors were present the first day, and about 40,000 on the second day. The position in which the exhibition is held is one of the finest in the county; it was not so once, it has been rendered so by the combined efforts of the Honorary Secretaries. They have assisted the Corporation in beautifying the grounds in a very liberal and generous manner, and the old rough quarry, as we once knew it, has been converted into a charming garden, thus affording pleasure to thousands. The Society has also used its surplus money for other objects of a worthy character. We wish the fête every success, and the able Secretaries, on whom the greatest credit reflects. The subjoined report will give some idea of the exhibition, at which the following experts officiated as judges:—

PLANTS AND GROUPS.—Mr. Outram, B. S. Williams & Co., London; Mr. Ranger, R. Kerr & Sons, Aigburth Nurseries, Liverpool; Mr. Chapman, gardener to J. Spode, Esq., Hawkesyard Park, Rugeley.

CUT FLOWERS, FLORAL DESIGNS, AND BOUQUETS.—Mr. W. Dean, Sparkhill, Birmingham; Mr. J. Wright, *Journal of Horticulture*

Office, London; Mr. Blair, gardener to the Duke of Sutherland, Trentham; Mr. Barnes, gardener to the Duke of Westminster, Eaton Hall.

FRUIT.—Mr. O. Thomas, gardener to H.M. The Queen, Windsor; Mr. Coleman, gardener to Lady H. Somerset, Eastnor Castle, Ledbury; Mr. Miller, gardener to the Earl of Craven, Combe Abbey; Mr. Rabone, gardener to the Earl of Shrewsbury, Alton Towers.

VEGETABLES.—Mr. Muir, gardener to Miss Talbot, Margam Park, Glamorgan; Mr. Lambert, gardener to the Earl of Powis, Powis Castle, Welshpool; Mr. H. W. Ward, gardener to the Earl of Radnor, Longford Castle, Salisbury; Mr. Pownall, gardener to F. Wright, Esq., Lenton Hall, Nottingham.

WILD FLOWERS.—Mr. W. Beacall, Shrewsbury; Mr. T. P. Blunt, Shrewsbury; Rev. W. Serjeantson, Acton Burnell.

COTTAGERS.—Mr. Farrant, gardener to Mrs. Juson, Shrewsbury; Mr. Newman, gardener to Major Cholmondeley, Condover Hall, Shrewsbury; Mr. Gaut, gardener to J. Watson, Esq., Berwick House, Shrewsbury; Mr. Pearson, gardener to Lord Berwick, Attingham, Shrewsbury.

STOVE AND GREENHOUSE PLANTS.

The tent devoted to plants was about 200 feet in length and 60 feet wide, with tabling 6 or 7 feet wide round the sides. In the class for twenty plants in variety, not less than twelve in bloom, two competitors entered for the two prizes offered—namely, £25 and £20 respectively. That veteran exhibitor, Mr. J. Cypher, was well first with magnificent plants, comprising *Ixora regina*, good; *Ixora Pilgrimi*, 5 feet through, well flowered; *Erica Aitoniana*, *E. obbovata purpurea*, very fresh, well bloomed, and 5 feet over; *E. Austiana*, *E. Turnbulli*, *Allamanda nobilis*, *A. Hendersoni*, a large well-flowered *Bougainvillea glabra*, *Stephanotis floribunda* rather short of bloom, and *Phenocoma prolifera* Barnesi between 6 and 7 feet through, full of bloom, and very healthy. The foliage plants included a splendid plant of *Croton Victoria* 7 feet through; *Croton Suusset*, nearly as large, well coloured, foliage rather small; a grand plant of *C. angustifolium*, a fair *Dracæna indivisa*, a large *Kentia Belmoreana*, *Latania borbonica*, *Kentia Fosteriana*, both large, and a healthy *Cycas circinalis*. Mr. Finch, gardener to J. Marriott, Esq., Coventry, was second with excellent plants of *Allamanda grandiflora*, *Dipladenia Thomas Speed*, two good *Kentias*, three very good *Crotons*; *Ixora Pilgrimi* was good. The *Ericas* in this collection were smaller and less healthy than those that gained the premier position.

In the corresponding class for six plants, four to be in bloom, confined to the county of Salop, Mr. Thos. Lambert, gardener to Lord Harlech, Oswestry, was placed first. He staged a good *Ixora Prince of Orange*, *I. Pilgrimi*, *Dipladenia amabilis*, good; *Croton Williamsi*, and *Seaforthia elegans*, large. Mr. J. Farrant, gardener to Mrs. Juson, Monklands, Shrewsbury, was second with weaker flowering plants; Mr. A. Jones being third, and having a good *Stephanotis floribunda*. For six plants in flower, three collections were staged. Mr. J. Cypher took the lead with healthy plants of *Erica Irbyana*, *Allamanda grandiflora*, *Ixora Williamsi*, *Bougainvillea glabra*, *Rondeletia speciosa*, and *Phenocoma prolifera* Barnesi. Mr. Finch was second, having good *Statice profusa* and *Erica Marnockiana*. Mr. J. Farrant was third with smaller plants, his best being an *Erica*.

Ferns.—Two classes only were devoted to these plants, nevertheless good collections were staged, and the prizes offered well competed for. Mr. J. Farrant took the lead with *Dicksonia antarctica*, *Cyathea medullaris*, *C. Schiedei*, *Nephrolepis exaltata*, *Microlepia hirta cristata*, and a large *Adiantum*. The plants were clean, large, and well grown. Mr. J. Rice, gardener to T. Parkinson, Esq., Abergelly, was placed second, having good *Nephrolepis davallioides*, *Davallia Mooreana*, *Adiantum cuneatum* and *A. gracillimum*, *Alsophila australis*, and *Microlepia hirta cristata*; all the plants being splendidly grown. Mr. C. Roberts was third, staging good plants of *Davallia Mooreana* and *Microlepia hirta cristata*. In the corresponding class open to the County of Salop for the same number, Mr. Thos. Stevenson, gardener to J. H. Slaney, Esq., Wellington, was deservedly first, having good *Polypodium glaucum*, *Adiantum formosum*, *A. cuneatum*, and *Microlepia hirta cristata*. Mr. S. Bremmell, gardener to H. H. France Hayhurst, Esq., Wellington, second; and Mr. J. Farrant third, with smaller plants.

Palms.—Three collections of Palms were staged, Mr. J. Cypher being first with *Thrinax elegans*, *Latania borbonica*, *Kentia Fosteriana*, *Phoenix rupicola*, *Caryota sobolifera*, and *Areca lutescens*. Mr. Finch was second, having a good *Latania borbonica*, *Areca lutescens* and *Phoenix reclinata*; Mr. C. Roberts was third, having a good *Phoenix rupicola*.

Dracænas.—The class for these useful plants brought out five competitors, all staging well-grown examples. The first prize plants contributed by Mr. T. Lambert were exceedingly good. Mr. Farrant was placed second with excellent specimens, not so well furnished at the base, and Mr. Bremmell was third with smaller plants.

Caladiums.—These were very much better than they are generally seen, some four or five exhibits being staged. Mr. W. Leith, gardener to J. R. Greatorex, Esq., Mylton Hall, was first with large plants having finely developed foliage. The varieties were Meyerbeer, Rameau, Paul Veronise, Leopold Robert, and Prince Albert. Mr. R. Lawley, gardener to Mrs. R. Darby, was second with smaller but very compact plants. Mr. Farrant gained the remaining award.

Coleus.—Two classes were devoted to these plants, and the competition was keen. In the class for four those exhibited by Mr. A. Myers were pyramidal in shape, 4 feet high, and 3 feet at the base, perfectly symmetrical, well grown, splendidly coloured, and were deservedly accorded the premier position. The second prize plants were equally

large, but less even in outline and scarcely so rich in colour. Mr. J. Rice was third with smaller plants. Mr. T. Carter, gardener to W. J. Scott, Esq., took the lead for three plants, very fine pyramids, equal to those in the preceding class. J. Barker, Esq., and Mrs. J. H. Slaney were second and third respectively.

Fuchsias.—These plants were not large, but clean, shapely, fresh, and profusely flowered. Mr. J. Carter took the lead, followed by Mr. G. Phillips, gardener to Hon. W. H. Herbert, Prestfelde, Shrewsbury, and Mr. A. Myers. Three exhibits were staged in the class for three plants. Mrs. Mace took the first prize with large healthy plants, Mr. R. Taylor was second with smaller uneven specimens, and Mr. E. Burd third.

Tuberous Begonias.—The plants that secured the first place in the class for six were about 18 inches high and as much through, healthy and well bloomed. Mr. G. Phillips was first; Mr. E. Haycock, gardener to W. Beacall, Esq., second with larger plants not so well flowered, and Mr. A. Myers third. Mr. J. Carter was first for three with dwarf, compact, large flowered plants; Rd. Taylor, Esq., being second with specimens uneven in size.

Zonal Pelargoniums.—These plants were certainly a feature, and taking them as a whole they were exhibited in fine condition. In the class for six double varieties Mr. A. Myers was first with large plants having good foliage and large trusses. Mr. G. Phillips was second with plants both smaller in size and in the truss, Mr. H. Cliff being third. Mr. J. Carter took the lead for three plants, and contributed well flowered specimens. In the class for six single kinds Mr. A. Myers was again first, and staged equally as good plants as in the previous class. Mr. H. Cliff was second, and Mr. G. Phillips third. For three plants the prizewinners were Mr. J. Carter, Mrs. Mace, and Mr. W. Pachett.

The classes devoted to four Orchids, Achimenes, Petunias, Balsams, and Gloxinias need no special comment, as there is much room for improvement, and were the weakest classes in the exhibition.

Table Plants.—These are a feature at this exhibition. Some fourteen exhibits were staged in the class for twelve plants in 5-inch pots, but with the exception of the prizewinners the collections were not up to that standard of excellence that they ought to be. Mr. J. Edmonds took the lead with small neat plants of *Dracenas*, *Crotons*, *Pandanus*, *Aralias*, and *Cocos*. Mr. Thos. Lambert was placed second, and Mr. Chas. Bellis, gardener to Sir C. H. Rouse Broughton, Bart., third.

GROUPS.

These occupied one side of the large tent, and four groups were arranged for effect, space for each 300 square feet. Mr. Edmonds, gardener to the Duke of St. Albans, Bestwood, Nottingham, was deservedly placed first with a very effective arrangement not too crowded. A good *Kentia* was raised in the centre, and from the mound *Lilium lancifolium* and its variety *roseum*, *Anthuriums*, *Caladiums*, *Eulalias*, and *Ferns* were carefully and judiciously arranged, the ground-work being filled in with moss. Four well grown, highly coloured *Crotons* formed the principal of other raised mounds with choice, small, decorative plants in variety surrounding them. Two other mounds had for a centre *Zea japonica* with similar plants to the other mounds below. The back of the tent was hid by *Bambusas*, while the little valleys running through the group were tastefully arranged with small plants. A few creeping plants were used in suitable places. The front of the group was not quite so well finished as it might have been, nevertheless the arrangement was good, which with a groundwork of wood moss rendered the group very picturesque. Mr. Cypher, Cheltenham, was a good second. This group was very imposing from the large number of Orchids used towards the front on four or five almost circular mounds, but the front was too formal and the back of the group was faulty. In spite of this, however, the group was good and the judges were some time before they gave the premier position to Mr. Edmonds. Mr. C. Roberts, gardener to C. H. Wright, Esq., Oswestry, was third. This was a very nice and taking group, red *Carnations* being freely used near the central mound, while *Caladium argyrites* were requisitioned near the margin of the valleys. The *Crotons* in this group were well coloured. *Lobelia cardinalis* rising out here and there from amongst *Adiantums* and other dwarf plants were very effective. The fourth award was given to Messrs. Jones & Sons, Shrewsbury, for what might be termed a new design. The group was certainly distinct from anything we have before seen, and it is nearly time we had a change. The group in question had some rockwork at the back formed into an arch with blocks of sandstone, but these were not sufficiently covered with *Ferns* or *Mosses*, while the remaining portion, though distinct, had a weedy appearance through a too free use of *Francoas*, *Eulalias*, *Lilium lancifolium* and other similar plants.

For a group of Orchids in flower not less than twenty varieties, two exhibitors competed; but Mr. J. Cypher was well to the front with a very choice collection, tastefully arranged with *Adiantum cuneatum* with a Palm or two at the base. Another Palm, *Areca lutescens*, with a fairly long stem, stood out of the group, and suspended from the fronds and stem were Orchids in bloom growing in small pans and baskets. A few of the principal Orchids were *Cattleya aurea*, *C. Sanderiana*, *C. speciosissima*, *C. Leopoldi*, *Odontoglossum Harryana*, *Lycaste costata*, *Cypripedium Curtisi*, *C. cardinale*, *Catasetum Bungei* with a very fair number of *Dendrobium Phalaenopsis* rising above plants of a dwarfer nature. This group was most effective. Messrs. Charlesworth, Shuttleworth & Co., the only other exhibitors, were placed second. For a group of fifty miscellaneous plants in 5-inch pots, not less than thirty in bloom, three collections were arranged on the side tables, Mr. A. Jones,

gardener to G. Burr, Esq., Oaklands, was placed first. The plants comprised well grown examples of *Fuchsias*, *Zonal Pelargoniums*, tuberous *Begonias*, *Vincas*, *Heliotropes*, and *Oncidium flexuosum*. Messrs. Jones & Sons, Shrewsbury, were placed second, having good *Crotons*, small Palms and *Begonias*. Mr. J. Farrant was placed third. For twenty-five plants in 5-inch pots, not less than fifteen in bloom, devoted to amateurs only, three collections were again staged, W. J. Scott, Esq., Besford House, was first; Mr. A. Jones, second, and Mrs. Wall third, the three collections being most creditable. For a collection of tuberous *Begonias* in flower, space to occupy 10 feet by 6 feet, prizes given by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, Mr. G. Phillips was first with clean, dwarf, well flowered plants; Mr. W. Beacall, Sunfield, Shrewsbury, being second.

CUT FLOWERS.

In the cut flower section in the open class—a very important one with forty-one classes, and nearly £150 in prizes—there was a fine display. In the class for a collection of cut *Roses* in a space 8 feet by 6 feet, there were three exhibits, and Mr. E. Murrell, nurseryman, Shrewsbury, was well first with an artistic arrangement and a good variety of *Teas* and *Hybrid Perpetuals*. There was a back central arch of William Allan Richardson blooms, two side arches in a more forward position of *Maréchal Niels*, with a large centre of fine blooms of Mrs. John Laing, with a ribbon of *Niphetos* running through the group, with other kinds in clusters and boxes of exhibition blooms in front. The Society's silver medal also accompanied this prize. Messrs. Harkness and Sons, nurserymen, Bedale, was second, with ten boxes of exhibition blooms only, but of fine quality. Messrs. Perkins & Sons, Coventry, were third with an artistically set up display, but with a too formal arrangement of their shields of flowers, which told greatly against this exhibit, still it was a good one. In the class for twenty-four *Roses*, single blooms, Messrs. Harkness & Sons were first, Messrs. Perkins and Sons second, Mr. E. Murrell third, and Messrs. R. W. Proctor and Son, Chesterfield, fourth, all very good for so late in the season.

A class for a collection of *Dahlias*, all kinds, space 10 feet by 6 feet, brought a fine display, and Messrs. Keynes, Williams & Co., nurserymen, Salisbury, were well first (with the Society's silver medal added) with a very fine admirably arranged display. In this group the following *Cactus* varieties were very fine: *Bertha Mawley*, brilliant carmine; *Matchless*, deep maroon; *Earl of Pembroke*, crimson purple; *Gem*, orange red; *Lady Penzance*, light yellow; *Lady Skelmerdale*, pale lemon; and *Gloriosa*, very rich scarlet. Second, Messrs. J. Cheal and Son, nurserymen, Crawley, Sussex, and although a certain amount of artistic work was brought to bear on this fine group the arrangement was formal. It included a fine display of single and *Cactus* varieties, amongst the singles *Phyllis*, a light flower beautifully clouded and striped; *Queen of Singles*, W. C. Hawley, Miss Glasscock, Danon, *Gulichna*, *Rosebank Cardinal*, and *Duke of York* were all fine. Third, Mr. M. Campbell, florist, Blantyre, N.B., with a display of *Pompons* and others and excellent show varieties. In the class for twenty-four *Dahlias*, Messrs. Keynes & Co. were again well first. Messrs. Harkness & Sons were second, and Mr. John Rutledge, Chesterton, third.

Collections of *Gladioli* in a space of 12 feet by 5 feet, for prizes of £5, £4, and £3, with the Society's silver medal added to the first prizes, brought four exhibits, Messrs. J. Burrell & Co., nurserymen, Cambridge, being first with a superb exhibit; Messrs. Harkness & Sons, The Nurseries, Bedale, second; Messrs. Jones & Son, nurserymen, Shrewsbury, third; and Mr. Wm. Shaw, florist, Kidderminster, fourth. For eighteen spikes of *Gladioli*, Messrs. Harkness & Sons were a strong first; Mr. Robert Morrow, Leominster, second; Mr. Wm. Shaw, third; and Messrs. Jones & Son extra fourth. For twelve *Carnations*, Mr. A. R. Brown, Handsworth, Birmingham, was first; Mr. Campbell, Blantyre, N.B., second; and Messrs. Thomson & Co., nurserymen, Birmingham, third. For twelve *Picotees*, Mr. Brown was first, Messrs. Thomson second, and Mr. Campbell third. For twelve *Fancy Carnations* or *Picotees*, Messrs. Thomson were first with an excellent stand, and Mr. Campbell second. Some good stands of *Asters* were staged, and Mr. A. Lowe of Bonnington Wood was first with some fine *African Marigolds*.

In the class for a collection of hardy border flowers, annuals, bulbous and tuberous-rooted plants, and shrubs excluded, arranged in a space 12 feet by 6 feet, for good prizes, with a silver medal added to the first prize, there was truly a fine bank of exhibits. Messrs. Harkness & Sons were first with a well-staged display a little crowded. Messrs. Dicksons, Limited, Chester, were second with a fine display; and Messrs. Burrell and Co., Cambridge, third. Another class was for a collection of hardy, bulbous, and tuberous-rooted border flowers in a space 12 feet by 6 feet, with prizes of £5, £4, and £3, with a silver medal added to first prize, but it brought out only one exhibit. Messrs. Dicksons, Limited, Chester, however, richly deserved the first prize awarded to them for a most interesting and beautiful display. In this group was a branch in flower of *Eucryphia pinnatifida*, a hardy shrub with distinct foliage and a large single white flower with a large cluster of stamens. In other classes for hardy border flowers and hardy annuals there was good competition.

Another class was for a collection of *Carnations* and *Picotees* in variety, not dressed in any way, in a space 8 feet by 6 feet, prizes £5, £4, and £3, with a silver medal accompanying the first prize, and there were four good exhibits. Messrs. Thomson & Co., Sparkhill Nurseries, Birmingham, were first with a fine collection, well set up, with just a few plants of small *Ferns* and *Carex marginata* amongst them. Mr. Campbell, Blantyre, was second; Messrs. Laing & Mather, florists,

Kelso, with good sorts, an effective exhibit, in which Lady Nina Balfour (to which a certificate was awarded), third; and Messrs. Dicksons, Limited, Chester, fourth.

In the class for twelve bunches of stove or greenhouse cut flowers, Orchids excluded, Mr. W. Finch, gardener to James Marriott, Esq., Coventry, was first with massive bunches too stiffly arranged; and Mr. T. Lambert, gardener to Lord Harlech, Oswestry, second. Messrs. Jones and Sons were first for a light and elegantly arranged epergne, and Messrs. Jenkinson & Sons, florists, Newcastle, were second with a heavily dressed epergne of *Epidendrum vitellinum* chiefly and Grasses. Some excellent baskets of wild flowers were staged—a charming feature.

One of the most striking features of the exhibition, however, was the grand exhibits in the class for a display of floral arrangements in a space 10 feet by 4 feet 6 inches, with the gold medal of the Society added to the first prize, and this brought out three exhibits, the first prize group of Messrs. Perkins & Sons, Coventry, being exceeding beautiful, well arranged, and included many designs. Messrs. Jones & Sons, Shrewsbury, were adjudged the second prize for a pretty display of great merit and good arrangement. In the classes for bouquets Messrs. Perkins and Sons were first; Messrs. Jenkinson second; and Messrs. Jones and Sons third.

The honorary exhibits in the cut flower section were very numerous, and in combination with the splendid plants were sufficient in themselves to make up a very fine exhibition.

NEW PLANTS.

Several new plants and flowers were awarded certificates, the following being a full list of them:—Messrs. Veitch & Sons' beautiful new dwarf Caladiums—Duke of York, Duchess of York, Chelsea Gem, Ladas, F. W. Moore, and Marguerite, being singled out for their great beauty; also the fine *Nepenthes Burkei* excellens, *Pteris longifolia* Mariesi, *Pteris ludens*, *Adiantum macrophyllum variegatum*, and the new golden yellow *Arum Elliotianum*. To Messrs. Keynes, Williams & Co. for new Cactus Dahlias, Earl of Pembroke and Marquis. To Messrs. Cutbush & Son for a fine single Dahlia, Watford Beauty, warm pale orange, with a scarlet centre. To Messrs. Dobbie & Co. for one of their fine seedling single Cactus Dahlias, Ivanhoe, bright rosy lilac, and distinct. To Mr. Henry Eckford, Wem, for seedling Sweet Peas, Blanche Burpee, white; Alice Eckford, Little Dorrit, and Carnation. To Messrs. Kelway & Son for seedling Gladioli, Ina, Leukoli, Rienzi, Zoe, and Remus, all very fine and distinct. To Messrs. John Peed & Son, Roupell Park Nurseries, for new Caladiums Assunguy and Racine. To Messrs. Laing & Mather, Kelso, for border Carnation Lady Nina Balfour.

Certificates of merit were also awarded to Messrs. Kelway & Son for *Rubus phoenicolasius* (the Japanese Wineberry, see p. 210). To C. Lee Campbell, Esq., Glewston Court, Ross (gardener Mr. Wright), for six fine bunches of Black Alicante Grapes; and to Mr. Watkins, Pomona Farm, Hereford, for a large collection of Gooseberries and other hardy fruits. Messrs. Dicksons, Chester, and Messrs. Rd. Smith & Co., Worcester, had collections of plants and flowers.

In Messrs. Dobbie's exhibit of flowers there were 136 bunches of Sweet Peas, with a large collection of Violas, striped and African Marigolds, and their new dwarf single Cactus Dahlias. In Mr. Septimus Pye's stand of Violas the following were particularly fine:—Orange Queen, Commodore, Flower of the Day, Blue Gown, and Duchess of Rothesay. In Messrs. Cannell & Sons' collection of Cactus Dahlias, Miss Jessie Cannell, Bertha Mawley, Cannell's Grand, and Mrs. Henry Cannell were amongst the best; there were also some fine Cannas and Begonias in this exhibit. Mr. B. R. Davis' large exhibit of double Begonia blooms was much admired. Duchess of Teck, a fine yellow, was conspicuous, as also was Mrs. Richards, pale salmon, with a deeper salmon margin. In Messrs. Pearson & Sons' fine exhibit of Zonal Pelargoniums, Mrs. D'Ombraim, Mrs. Tranter Rothera, both shades of salmon, but distinct, Dr. Ernest Rawson, glowing crimson scarlet, were all very fine, as were some unnamed seedlings. Amongst Messrs. Keynes, Williams & Co.'s Cactus Dahlias, Ivanhoe, Althea, Earl Ravenswood, deep orange; and Novar, shaded rosy crimson, were very fine.

FRUIT.

The schedule provided no less than twenty-six classes for fruit, which resulted in one of the grandest displays that has ever possibly been brought together. The prizes throughout being good the leading fruit exhibitors staged in the majority of the classes that were open to them. Many of the competitors that were not successful in securing a position in the prize lists need not be discouraged, for the majority of the exhibits were good enough to win at many of the exhibitions of a less pretentious character. It is certainly a great honour to win in the fruit classes at this exhibition, and no disgrace to lose. The fruit was arranged in the large tent—the largest tent for horticultural exhibits that it has been our pleasure to see. The position of the varied exhibits were all numbered in readiness for the competitors, so that staging could be carried out without the least confusion. After judging all the fruit exhibits were carefully wired off so that they could not be touched or interfered with by the public—a very necessary safeguard for the protection of the fruit from the many thousands of persons who visit this show.

Collections.—In the open class for twelve dishes of fruit, to include two bunches of white and black Grapes, one Pine, and one Melon, three collections were staged for the four prizes offered—namely, £10, £7 10s., £5, and £2 10s. respectively. Mr. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby, was awarded the premier posi-

tion for a most excellent collection, every dish being of the highest quality and perfect in every way. Mr. W. Gleeson, gardener to Chas. Keyer, Esq., Stanmore, Middlesex, gained second honours with a grand collection, being only a few points behind the first prize exhibit. Mr. Goodacre's Grapes were heavier, which gave him the coveted position. Mr. Gleeson was a formidable rival to meet, as he has been successful in every other instance where he has staged a collection. The first collection contained two large well finished bunches of Gros Guillaume, two very large Trebbianos, good berries and finish; two Muscat of Alexandria, good berries, clean, even, and well coloured for the season; and two large well finished Black Hamburgs, one good Queen Pine, two large well coloured dishes of Elruge Nectarines, Barrington Peaches, large and much better coloured than generally seen; Moorpark Apricots, large and ripe; Kirke's Plums, a grand Countess Melon, and a dish of splendid Morello Cherries. The second collection contained Cannon Hall Muscats, with fine berries grandly finished, also highly finished bunches with large berries of Muscat of Alexandria, Madresfield Court, a good Hero of Lockinge Melon, excellent Lord Napier Nectarines, and a dish of the largest Brown Turkey Figs we have seen staged; the other dishes were also good. Mr. J. Bannerman, gardener to Lord Bagot, Rugeley, was placed in the third position with a most creditable collection, Peaches and Nectarines being especially fine.

In the corresponding class for nine dishes, open to the county of Salop only, no less than seven collections were staged, and all well worthy of awards. Four prizes were offered—namely, £4, and the other three being £1 less each respectively. Mr. C. Bellis, gardener to Sir C. H. Rouse Broughton, Bart., with, as will readily be supposed, a splendid collection. The Grapes comprised Buckland Sweetwater—good bunches and large berries well finished. The bunches of Madresfield Court were large and more massive than generally seen, with bold berries slightly short of finish; a very fine dish of Morello Cherries, a good Best of All Melon, Jargonelle Pears (good), splendid examples of Transparent Gage Plums, large Barrington Peaches, a fair Pine, and capital Moorpark Apricots. Mr. C. Roberts was a close second, having perfect examples of Gros Maroc Grapes, Lord Napier Nectarines, and Alexandra Noblesse Peaches. Mr. J. Langley, gardener to the Rev. T. M. Bulkeley Owen, was third, and had very fine Kirke's Plums and Gros Colman Grapes. Mr. S. Bremmell secured the remaining award. For six dishes of hardy fruits seven or eight collections were staged—Peaches, Nectarines, Apricots, and Plums were excluded; open to the county of Salop only. Thos. Meares, Esq., Clive Hall, secured the premier position, and staged dishes of Pears, Apples, Gooseberries, Strawberries, Cherries, and Black Currants. Mr. S. Postings, gardener to Mrs. L. Wright Boycott, second; and Mr. G. Pearson, gardener to Lord Berwick, third.

Grapes.—These formed a strong feature, as will be gathered from the fact that no fewer than 400 bunches were expected in the twelve classes devoted to these fruits. It will be perceived that it is useless to bring poor examples to a show of this description hoping for success. We should not be overstepping the mark in saying that the winning examples were as near perfection as it is possible to stage them. In the class for six bunches of blacks, two bunches each of three varieties, forty-two bunches of splendid Grapes were staged for the four prizes offered, which are exactly the same in amount as given for the open collection of fruit. Mr. J. Craven, gardener to J. Grant Morris, Esq., Allerton Priory, Liverpool, was given the premier position, which many competitors declared he richly deserved. He staged large bunches, with even berries and splendidly finished of Alicante; Alnwick Seedling, grand, very fine berries, and good Madresfield Court. Mr. J. Lambert was a good second, and staged beautiful examples of Gros Maroc, Alicante, and Madresfield Court, the last very large and massive, but slightly wanting in colour. Mr. W. Elphinstone, gardener to E. Miller Mundy, Esq., Shipley Hall, Derby, followed with smaller bunches superbly finished of Madresfield Court, Alicante, and splendid Black Hamburg.

For three bunches of Black Hamburg Grapes no less than six or seven competitors staged for the prizes offered. Mr. R. Brownbill, gardener to J. C. Sinclair, Esq., Rock Ferry, took the lead with large, well finished bunches. Mr. G. Middleton, gardener to R. Pilkington, Esq., Rainford, was second with smaller bunches, grandly finished and large berries. Mr. J. Wilkes, gardener to Mrs. Meakin, was third with even bunches, well finished but smaller in the berry than the two preceding collections. The other collections staged were slightly rubbed and a little deficient in colour. For three bunches of black, any other variety, no less than forty-two bunches were staged, and the exhibits throughout were praiseworthy to all. Mr. J. Craven took the lead with large, well finished examples of Madresfield Court. Mr. Lawley secured the second position with the same kind, and Mr. J. Wilks third, staging also the same; the bunches were very good, but slightly uneven compared with those of the first and second collections.

Eight collections were staged in the class for four bunches of whites, two bunches each of two varieties. Mr. J. Craven again took the lead with examples of Buckland Sweetwater and Muscat of Alexandria, which were as superb in every respect as his other exhibits in the Grape classes. Mr. W. Elphinstone was placed second with large bunches of Trebbiano and good Muscat of Alexandria, but the berries were not quite all even in size. Mr. C. Froud, gardener to Rev. Canon Coventry, Worcester, third with large bunches of Buckland Sweetwater, berries uneven, and Muscat of Alexandria very good, but a little spotted. For two bunches of Muscats twelve exhibitors staged Muscat of Alexandria. Mr. A. Hall, gardener to J. Daintry, Esq., Congleton,

Cheshire, was placed first with large bunches, well finished, but not quite so large in the berry as some others that were less ripe. Mr. G. Middleton was placed next, having one splendid bunch, the other tapering off rather too much towards the point. Mr. C. Froud gained the remaining award with fairly ripe examples just a little spotted. For three bunches, any other white, only three lots were staged. Mrs. Meakin was first with very good Foster's Seedling; Mr. J. Crawford, gardener to Jas. Thorpe, Esq., Newark, second; and Mr. W. Chick, gardener to P. Thellusson, Esq., Doncaster, third, both showing the same variety as the first prizewinner.

For two bunches of Black Hamburgs, open to the county of Salop, as were also the next three classes, Mr. J. Langley was deservedly placed first with well-finished bunches, good berries, slightly uneven. Mr. W. Sutton, Hawkstone, was a good second, and Mr. A. Jones, gardener to G. Burr, Esq., third with good bunches short of colour. Seven collections were staged. In the corresponding class for any other black, no less than eight exhibitors staged for the prizes offered. Mr. Thos. Lambert was well first with perhaps the two finest bunches of Madresfield Court that have ever been staged. Mr. S. Bremmell was second with large well finished Alicantes, and Mr. C. Roberts third with Gros Colman, large bunches, well finished, and good berries. For two bunches of Muscats, the same exhibitor was again to the front with Muscat of Alexandria, superb, well finished examples. Mr. Wm. Weeks, gardener to Mrs. Donaldson Hudson, Market Drayton, was second with good fruit in every respect, but not quite ripe. Mr. C. Bellis was third with bunches just a little smaller. The competition was spirited, eight exhibits being staged.

For two bunches any other variety of white four collections were staged. Mr. W. Weeks was first with two large examples of Dr. Hogg. Mr. W. Sutton was second with capital bunches of Duke of Buccleuch, and Mr. A. Grant third with Buckland Sweetwater. Two classes were devoted to amateurs. For two bunches of black varieties five exhibits were staged, S. N. Hall, Esq., Rock Ferry, being first, while G. B. Brown, Esq., took the lead for two bunches of white.

Peaches and Nectarines.—The competition in the two classes devoted to these was equally as spirited as in the Grape classes. For one dish of the former no less than eighteen exhibits were staged. Mr. Gilman, gardener to the Earl of Shrewsbury, Ingestre, Staffs, was first with exceedingly large fruits of Barrington. Mr. J. Bates, gardener to J. T. Harris, Esq., second, with good fruits of Princess of Wales; and Mr. J. Wallis, gardener to R. Sneyd, Esq., Keele Hall, Newcastle, Staffs, third, with good Walburton Admirable. For six Nectarines no less than twenty dishes were staged. Mr. J. Wallis took the lead with large well coloured fruits of Stanwick; Mr. Rt. Lawley, gardener to Mrs. R. Darby, second with good examples of Pine Apple; and Mr. W. Finch third with Elruge.

Apricots.—Twenty-five dishes were exhibited in the class for six fruits, which taken as a whole were highly creditable. Mr. J. Tindall, gardener to C. Williams Wynn, Esq., Welshpool, was first with large fruits of Moorpark; Mr. S. Bremmell being second, and Mrs. J. Davis, third.

Plums.—Two classes were devoted to these, and the competition was keen. Twelve and thirteen dishes were staged in each of the two classes respectively. For twelve green or yellow fruits the Hon. W. P. Talbot was first with good Jeffersons; Mr. S. Bremmell second with ripe fruits of Washington; and Mr. A. Grant, gardener to Jas. Watson, Esq., third with Transparent Gage. For twelve red or purple Mr. Goodacre was well first with fine fruit of Kirke's; the Hon. W. P. Talbot being second with the same kind, slightly rubbed; third, Mr. Langley, with smaller examples of the same variety.

Cherries.—One class was provided for these, and the dishes throughout the twelve exhibits were good, the majority staging Morellos. Mr. A. Grant was first; Mr. J. Bannerman, second; and Mr. J. Pye, gardener to Thos. Meares, Esq., Clive Hall, third.

Melons.—Some twenty-five fruits were staged in the two classes provided for these, and, judging from their appearance, the whole of the fruits were much better than what are generally seen. For one green-fleshed variety Mr. J. Gay, gardener to Sir G. Meyrick, Bart., Anglesea, was first with a fine fruit of Hero of Lockinge; Mr. C. Bellis second with Best of All; and Mr. Ed. Gilman third. For one scarlet flesh Mr. C. Markinay, gardener to Sir E. C. Isham, Bart., Northampton, was first with Sutton's Scarlet Flesh. Mr. J. Birch, gardener to Mrs. Watkins, Shotton Hall, second with Blenheim Orange; and Mr. G. Pearson third.

Classes for Apples and Pears were also provided for amateurs, and the prizes offered were well competed for in each case.

VEGETABLES.

These are always a great feature at this show, and this year they made a magnificent display. This is not to be wondered at, seeing how liberal a schedule of prizes has for years been arranged, which brings out the full strength of the foremost growers from all parts of the country, and when these meet then comes the "tug of war."

Prizes of £5, £3, and £2 were offered for a collection of twelve varieties, a space of 4 feet by 6 feet being allotted to each collection. This was well won by Mr. T. Wilkins, gardener to Lady Theodore Guest, Henstridge House, Blandford, who staged splendid examples of high culture. The varieties were Ailsa Craig Onion, very large and clean; grand Lyon Leeks, fine Early Rose Celery, and Autumn Mammoth Cauliflower; large and beautifully shaped specimens of New Red Intermediate Carrot, and Student Parsnips, fine Perfection Tomato,

and Pragnell's Exhibition Beet, good Green Globe Artichokes, Ne Plus Ultra Beans, and Duke of Albany Pea, and a beautiful dish of Windsor Castle Potatoes. The second prize fell to Mr. R. Milner, gardener to Miss Talbot, Penrice Castle, Swansea, who staged a uniformly good collection but little inferior to that of his victorious opponent. Prize-taker Leck, Autumn Mammoth Cauliflower, Lockie's Perfection Cucumber, Duke of Albany Pea, and Perfection Tomato were in this instance deserving of special notice. Mr. W. Pope, gardener to the Earl of Carnarvon, Highclere Castle, Newbury, was an extremely close third, his Onions, Carrots, Tomatoes, and Beet being extra good. For the best collection of six varieties of vegetables, open to the county of Salop only, Mr. S. Bremmell, gardener to H. H. France Hayhurst, Esq., Overley, Wellington, secured the premier award. He showed fine Autumn Mammoth Cauliflowers, grand Onions, a good brace of Sutton's Peerless Cucumber, and fine Sulham Prize Celery, Perfection Tomato, and Satisfaction Potatoes; Mr. J. Abbot, gardener to Mr. Guise, Hadnall, being second, and Mr. R. G. Tomersell, Aston Hall, Oswestry, third. Six exhibits were staged in this class.

Potatoes were shown in grand form, the competition being also very keen. Twelve collections were tabled in the class for six distinct varieties. Here Mr. J. Hathaway, gardener to the Earl of Latham, Ormskirk, scored a notable victory with large, even, and particularly clean tubers. The varieties were Satisfaction, Fuller's Colossal, Chancellor, Windsor Castle, Vicar of Laleham, and Sutton's Seedling. Mr. G. W. Shorting, Broxley, was second, and Mr. C. Bellis, gardener to Sir C. H. Broughton, Bart., Downton Hall, Ludlow, third, each staging splendid produce. For three varieties Mr. Hathaway was again successful, beating the twelve other exhibitors who staged in the class. Perfection, Reading Basset, and Scarisbrick Favourite were the varieties shown.

In the single dish class twenty fine exhibits were staged, Mr. S. Grant, gardener to J. Watson, Esq., Berwick, was deservedly placed first with a grand dish of Satisfaction; Mr. G. Chaunt, gardener to Sir Colley Scotland, Shrewsbury, coming in second with International; and Mr. F. Edmet, gardener to W. St. J. Hazeldine, Esq., Abbey Foregate, third with Vicar of Laleham. Against eleven other competitors, Mr. Gilmour, gardener to the Earl of Shrewsbury, Ingestre Hall, Staffordshire, secured the premier award with even and fresh examples of Sensation; Mr. C. J. Waite, gardener to the Hon. W. P. Talbot, Glenhurst, Esher, being an extremely close second; and Mr. D. Sheppard, Winchcombe, third. Mr. Hathaway was first for single dish of Peas, with Sutton's Matchless; and Mr. F. Dobson, Keele, Staffordshire, second with same variety. Eighteen single dishes of French Beans were tabled, here Mr. Waite won well with Canadian Wonder; Mr. Wilkins being second with the same variety; and Mr. J. Rutledge, Chester, Staffs, third. For a brace of Cucumbers the competition was also good, eleven pairs being put up, Mr. H. Hall winning with a superb pair of Lockie's Perfection; Mr. Pope, with Peerless, was second, and Mr. J. Rutledge, Chester, third. Mr. Townsend was first for three heads of Cauliflowers, with Autumn Mammoth, also for Celery with Sutton White (fourteen exhibits staged); Mr. Birch occupying a like position for six Parsnips with The Student (ten lots put up). Both Carrots and Turnips were remarkably well shown, Mr. Waite securing against eleven other competitors for the former with Red Intermediate; and Mr. R. C. Townsend for the latter with Snowball (twenty-two exhibits shown). Onions were staged in grand form; for nine spring sown, Mr. Wilkins was invincible with superb examples of Inwood Favourite; Mr. Grant, gardener to J. Watson, Esq., Berwick, second with Ailsa Craig; and Mr. Bellis third with the same variety. Fourteen exhibitors strove to win one of the prizes offered for autumn-sown Onions, but Mr. Wilkins again came off victorious, showing in this instance immense examples of Record; Mr. Grant was second, and Mr. Waite third. The last-named exhibitor was first for Runner Beans, beating fourteen opponents; S. Jackson, Esq., Shrewsbury, being second, and Mr. J. Birds third.

Messrs. Webb & Sons, Wordsley, Stourbridge, offered prizes of £5, £3, £2, £1, and 10s. for the best collections of eight distinct kinds, to include two of that firm's varieties. Mr. Wilkins here followed up his previous successes by winning with a superb collection, consisting of Ailsa Craig Onion, large and handsome; Celery Webb's Perfection, of wonderful size; Cauliflower Autumn Giant, also large, yet compact; Tomato Ponderosa, extra large; Webb's Defiance Carrot, Ne Plus Ultra Bean, and splendid Duke of Albany Pea. Second, Mr. Pope, who was exceptionally strong with Carrots, Parsnips, Beet, Potatoes, and Peas, but the absence of Celery and Cauliflowers was noticeable. Mr. Waite was third, Mr. Hathaway fourth, and Mr. Townsend fifth. The same firm offered good prizes for a dish of Tomatoes, either Webb's Regina Sensation, or Jubilee. Mr. D. Sheppard, Toddington, Winchcombe, was first with Sensation, Mr. Waite being second with Jubilee, Mr. Wilkins third with Sensation, the Rev. T. M. Berkeley, Jesmond Hall, fourth.

For a collection of nine distinct varieties, to include at least two sorts bearing Messrs. Suttons' name in their "Amateur's Guide," that firm offered prizes of £5, £3, £2 10s., £2, £1 10s., £1. Ten splendid collections were staged in this class, making a truly grand display; and Mr. Waite, who proved the victor, has reason to be proud of the achievement. He showed Autumn Mammoth Cauliflower, not particularly large, but perfect in every other way; New Red Intermediate Carrot, as shapely as if they had been turned out of a mould; Sulham Prize Celery and Snowball Turnips, both extra good; fine Onions Ailsa Craig, Perfection Tomato, Scarlet Runner Beans, and Duke of Albany Peas, and particularly handsome Satisfaction Potatoes. Mr. Wilkins was a close second, his Ailsa Craig Onions, Perfection Tomatoes, and seedling Potatoes were grand. Mr. Hathaway was third, Mr. Pope

fourth, Mr. Milner fifth, and Mr. Leith, gardener to J. R. Greator, Esq., Myton Hall, sixth.

Messrs. Carter & Sons, High Holborn, offered four prizes in the class for a dish of their "Jubilee" or Elephant Runner Beans, eight dishes were staged, the first prize going to Mr. A. Lowe, Donnington Wood, who showed Jubilee in very fine condition; Mr. Pope was second, and Mr. Waite third. The same firm offered prizes for single dishes of Tomatoes, the variety to be either Blenheim Orange, Market Favourite or Duke of York, Mr. Waite won with Duke of York in superb condition; Mr. Sheppard, Toddington, being second with same variety, and Mr. Wilks third.

For the best collection of vegetable novelties, Messrs. Johnson and Wheeler of Chesterfield offer two prizes. Only two exhibits were put up, the prizes going to Mr. T. Jones, Ruabon, and Mr. T. Ellis in the order named. For the best dish of Cliban's Tomato, Mr. T. Rice won with fine examples. The same firm offered prizes for a brace of their Cucumbers. Only one pair was staged, for which the first prize was awarded to Mr. A. Lowe, Donnington Wood.

MISCELLANEOUS EXHIBITS.

These were numerous, and the following awards were made:—Gold medals to Messrs. James Veitch & Sons, Royal Exotic Nurseries, Chelsea, for a group of magnificent new Caladiums and Nepenthes, and other new plants; also to Messrs. Pritchard & Sons, nurserymen, Shrewsbury, for a wonderfully fine display of Lilliums, Begonias, plants and flowers. Silver medals were awarded to Messrs. John Laing and Sons, Forest Hill Nurseries, London, for Begonias and Caladiums; Messrs. Kelway & Son, Langport, for a collection of choice Gladioli; Messrs. Hy. Cannell & Sons, Swanley, Kent, for a collection of Cactus Dahlias; Messrs. J. Peck & Sons, Norwood Nurseries, London, for a group of Caladiums and Sarracenias; Messrs. W. Cutbush & Sons, Highgate Nurseries, London, for hardy border flowers; Messrs. Dobbie and Co., Rothesay, for Violas and Sweet Peas; Messrs. B. S. Williams and Son, Victoria Nurseries, Holloway, for new and rare plants; Messrs. W. & J. Birkenhead, Sale, Manchester, for a collection of Ferns; Messrs. Hewitt & Co., Solihull Nurseries, Birmingham, for hardy border flowers; Mr. B. R. Davis, nurseryman, Yeovil, for double and single Begonias. Bronze medals were awarded to Mr. E. Murrell, nurseryman, Shrewsbury, for a group of Begonias; Mr. A. Myers, nurseryman, Shrewsbury, for Zonal Pelargoniums and other plants; Mr. Septimus Pye, florist, Catterall, Lancashire, for Violas and Pansies; Mr. Henry Eckford, Wem, Salop, for a collection of Sweet Peas; and Messrs. Pearson & Sons, Chilwell Nurseries, Nottingham, for new Zonal Pelargoniums.

BRIGHTON.—AUGUST 28TH AND 29TH.

FAVoured with brilliant weather the Brighton and Sussex "New" Horticultural Society opened its third annual show on Tuesday last. For the staging of the exhibits the Dome, Corn Exchange, and two tents in the Pavilion Gardens were found requisite, and certainly none too much space was then provided. It was gratifying to see that, combined with the excellent quality which characterises this exhibition, there was a very appreciable increase in the number of exhibits. The show was one of the best that has been held in Brighton, the groups, tables of plants, fruits, and specimen plants being of the highest order of merit. In the two classes confined to the first named there were ten competitors, while in that for tables the exhibitors numbered eleven. The number of entries was large in almost the whole of the eighty classes provided in the schedule, and the way the produce was staged and the show managed reflected the highest credit on the Managing Committee and Mr. M. Longhurst, the able and indefatigable Secretary. We append below the prizewinners in the principal classes only, space precluding our giving a complete list.

The principal class was for a group of miscellaneous foliage and flowering plants arranged for effect in a space not exceeding 120 square feet brought six competitors. A silver cup was given with the premier award in this class. Mr. E. Wills, nurseryman, Winchester Road, Shirley, Southampton, was a capital first. His arrangement consisted of Cattleyas, Zonal Pelargoniums, Celosias, Caladium argyrites, Crotons, Palms and others tastefully displayed on a groundwork of Maidenhair Ferns. Mr. G. Miles, Victoria Nursery, Dyke Road, Brighton, was a good second with a somewhat dull arrangement, in which Fuchsias, Lilliums, Dracenas and Palms were conspicuous. Messrs. J. McBean & Sons, Cooksbridge Nurseries, near Lewes, were placed third, their group containing large plants of Crotons, Lilliums and Ferns and other plants.

For a smaller group arranged in a space not to exceed 80 square feet, Mr. J. Turner, gardener to Sir Greville Smyth, Wick Hall, Furze Hill, Brighton, was deservedly placed first with charmingly staged plants. Amongst those represented Palms, Lilliums, Ferns, Asparagus plumosus, and Celosias were particularly noticeable as being clean and admirably grown. Mr. L. Budworth, gardener to Charles Hill, Esq., Rockhurst, West Hoathley, was a fair second; and Mr. G. Lines, gardener to C. J. Inwood, Esq., The Retreat, Dyke Road, third.

In the class for a group of Ferns there were four competitors, and highly creditable exhibits were staged in each case. Mr. J. Adams, gardener to the Rev. Sir G. Shiffner, Bart., Coombe Place, Hawsey, Lewes, was first with a beautiful exhibit, in which grandly grown plants were numerous; Messrs. W. Miles & Co., West Brighton Nurseries, being second, and Mr. Geo. Miles third. The plants in these latter groups were well grown, but lacked the taste in staging displayed in the first prize group. Specimen foliage and flowering plants were admirably shown and in fairly large numbers. For a specimen foliage plant Mr.

Offer, gardener to J. Warren, Esq., Handcross Park, Crawley, was first with a handsome example of Croton princeps; Mr. Meachen, gardener to Mrs. Armstrong, Woodslee, Withdeane, being second; and Mr. Peel, gardener to Miss Todd, Sidford Lodge, Shirley, Southampton, third. A superb Bougainvillea gained the premier position for Mr. E. Wills in the class for a specimen flowering plant; Mr. E. Meachen being second, and Mr. W. Peel third. For four flowering and four foliage plants Mr. Offer was first with superb specimens. Mr. E. Meachen was a highly creditable second; and Mr. W. Peel a fair third. In the class for six Ferns Mr. Offer was again first, Messrs. W. Miles & Co. second, and Mr. W. Peel third.

Probably the keenest competition in the plant and flower classes was found in the one for a table 8 feet by 4 feet, arranged for effect, and in which eleven growers competed. Messrs. J. McBean, Cooksbridge Nurseries, Lewes, was placed first with a table comprised of Lillium lancifolium album, Crotons, Palms, Caladium argyrites, and others. Mr. Geo. Miles was a good second with a well-arranged exhibit; and Mr. H. Garnett, gardener to R. G. Fletcher, Esq., Mount Harry, Preston, third.

There was a class provided for a table 4 feet square of Begonias, any varieties, arranged for effect, and five competitors were forthcoming. Mr. T. Fairs was a capital first with a good arrangement composed of well-grown plants; Mr. C. Murrell, gardener to Mrs. McDonald, Manor House, Preston, being second, and Mr. H. Head, nurseryman, The Drive, Hove, third. Zonal Pelargoniums, Crotons, Dracenas, and other foliage and flowering plants were remarkably well shown, and in every way worthy of the substantial prizes offered.

Cut flowers were very largely shown, and in fine condition. Dahlias perhaps made the finest display, but Asters amongst other flowers were splendid. In the class for a box of twenty-four bunches of stove or greenhouse flowers Mr. W. Archer, gardener to Miss Gibson, Hill House, Saffron Walden, was the only competitor, and was deservedly accorded the premier award. The exhibit comprised Allamanda Hendersoni, Cattleya crispa, Lapagerias alba and rosea amongst others, all in creditable form. For a box of twelve bunches of stove and greenhouse flowers Mr. Offer, gardener to J. Warren, Esq., Handcross Park, Crawley, was a good first with Dipladenia amabilis, Allamanda Hendersoni, Erica Exquisita, Rondeletia ignea, and others. Mr. W. L. Bastin, gardener to Captain Pringle, Digswell, Welwyn, Herts, was a fair second; and Mr. S. Horscroft, gardener to T. Potter, Esq., Hapstead House, Ardingly, a creditable third.

There were only two entries in the class for forty-eight Show or Fancy Dahlias, Mr. Mortimer, Farnham, who was adjudged the first prize, and Mr. Seale, Sevenoaks, who took the second place. The blooms in the winning stand were remarkably fresh and well finished, and comprised many of the new and leading varieties in cultivation. Other Dahlia classes were for twenty-four Show and Fancy, distinct, in which Messrs. Cheal & Sons were first; twelve Pompons, Messrs. J. Burrell & Co., Howe House Nurseries, Cambridge, being first; twenty-four distinct singles and twelve distinct Cactus varieties, in each of which Messrs. J. Cheal & Sons were the most successful competitors.

Hardy flowers were remarkably well shown by numerous competitors, amongst whom Messrs. G. H. Sage, W. Murton, B. Ladham, E. Tickner, and J. Burrell & Co. were prominent as prizewinners. Bouquets, wreaths, and epergnes were a charming feature of this exhibition, exquisite taste having been displayed by the numerous exhibitors. Considering the season Roses were well staged, though not in very large numbers. Messrs. Perkins & Sons, Coventry; D. Young, Eastbourne; W. Tayler, Hampton; A. Ayling, H. Harris, E. Lawrence, and J. Burrell and Co. were the most successful competitors.

As is usual at this show fruits were staged in the greatest abundance and the best quality. Grapes, Pears, Peaches, Melons, and in fact all others, were splendidly represented in the various classes devoted to them. In the class for a collection of eight dishes fit for table, Pines excluded, Mr. J. Bury, gardener to C. Bayer, Esq., Forest Hill, S.E., was a fine first with good Madresfield Court and Muscat of Alexandria Grapes, Bellegarde Peaches, grand Figs, Green Gage Plums, Hero of Lockinge Melon, Victoria Nectarines, and a fine dish of Pears. Mr. Budworth was a fair second, Plums, Pears, and Figs being the best; Mr. J. Gore, florist, Polegate, third, and Mr. G. Helman, gardener to Viscount Gage, Fittle Park, Lewes, fourth.

Mr. Bury was first for three bunches of Black Hamburg Grapes with a fine exhibit; Mr. T. Fairs, gardener to R. Clowes, Esq., Clayton Wickham, Hassocks, being second; and Mr. J. Hill, gardener to Marriage Wallis, Esq., J.P., Springfield, Withdeane, third. There were sixteen competitors in this class. For three bunches of any other black Grape Mr. Bury repeated his previous successes with Black Alicante in grand condition, Mr. J. Turner being second with the same variety, and Mr. J. Gore third with Gros Maroc. Muscat of Alexandria gained for Mr. Bury the first prize for three bunches of white Grapes, Mr. T. Fairs being second, and Mr. G. Duncan, gardener to — Lucas, Esq., Warnham Court, Horsham, third. Other successful competitors in the fruit classes were Messrs. J. Ambrose, L. Budworth, G. H. Sage, W. Jupp, J. Offer, A. Kemp, and W. Maskell.

Vegetables were not so extensively staged as might have been expected, but on the whole the quality was remarkably good. For a collection of nine varieties, Mr. W. Manton, gardener to Mrs. Clifford Barrer, Pickwell, Bolney, was first with Snowball Turnips, Giant Lemon Onion, Autumn Giant Cauliflower, Intermediate Carrot, Sutton's White Gem Celery, Ne Plus Ultra Runner Beans, Maincrop Tomatoes, Autocrat

Peas, and Sutton's Satisfaction Potatoes. W. Collins, Esq., Burgess Hill, was second; and Mr. A. Ayling, gardener to Rev. Gerald Moor, Lyminster Vicarage, Arundel, third. For a collection of six varieties there were ten entries, amongst which Mr. J. Mitchell, gardener to Major Maberley, Mytten, Cuckfield, was a good first, Mr. E. Laurence, gardener to T. Oliver, Esq., Tonbridge, Horsham, being second, and Mr. F. Godby, gardener to Dr. Withers Moore, Burgess Hill, third.

The first prize in the class for a collection of six varieties of Potatoes went to Mr. W. Manton, who staged even, clean samples of Pink Perfection, Reading Giant, Schoolmaster, Sutton's Satisfaction, Snowdrop, and Sutton's Seedling. Messrs. W. Miles & Co. were second, and Mr. A. Kemp, gardener to C. R. Scrase-Dickens, Esq., Coolhurst, Horsham, third. Amongst the other vegetables shown were Celery, Carrots, Turnips, Beans, Runner and Dwarf French, Beet, Tomatoes, and Cucumbers, all of which were staged in creditable condition but not in very large numbers, many of those who had entered not staging their produce.

Miscellaneous exhibits were numerous and greatly diversified. Messrs. Balchin & Sons, Hassocks Nurseries, Sussex, occupied one end of the Corn Exchange with an exhibit comprising Dutch bulbs of sorts, Lilliums, and Gladioli, splendidly arranged, and very effective. Mr. B. Ladhams, Shirley, Southampton, showed hardy flowers in good form, while Mr. H. C. Prinsep, The Gardens, Buxted Park, sent a superb collection of Caladiums in which many fine varieties were noticeable. Mr. Charles Kilminster, Steyning, arranged hardy flowers, and Mr. B. R. Davis, Yeovil, was represented by some magnificent double Begonias. Messrs. Tilley Bros., Brighton, had a stand of seeds and Dutch bulbs which was very interesting. Messrs. T. Rivers & Son, Sawbridgeworth, Herts, sent fruit trees in pots grown in their usual perfect style, and also Grapes, while Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, arranged a collection of fruit composed of excellent examples, and also a small stand of hardy flowers in great variety.

READING.—AUGUST 29TH.

THE summer exhibition of the Reading Horticultural Society was held yesterday (Wednesday) in the Forbury Gardens, by permission of the Mayor and Corporation of Reading. As usual the show was an excellent one, the produce staged being on the whole remarkably good. A huge marquee was required to stage the exhibits, these being tastefully arranged. In most of the classes the entries were numerous, particularly in the amateurs' section. Groups and specimen plants were noteworthy in the open classes, in some instances the competition being quite keen. Cut flowers formed a feature of the exhibition, while fruit and vegetables were strongly represented. The arrangements were admirably carried out by the courteous Secretary, Mr. W. L. Walker of Auricula fame, assisted by an efficient Committee. We append the names of the prizewinners in the leading classes, pressure on our space precluding a detailed report.

Groups of plants were not very numerous, but those shown were most effective. In the open class for a group not exceeding 200 square feet there were three competitors, the first prize being taken by Mr. Pope, gardener to J. P. White, Esq., Wargrave. Like the rest this group was arranged on a grass bank, and presented a charming appearance. The back consisted of Palms, in front of which Lilliums were arranged. The main portion of the group comprised a base of Maiden-hair Ferns, from which rose small Crotons, Dracænas, Palms, Caladiums and *Francoa ramosa*, with various other plants. A rather formal edging of *Panicum variegatum* completed the arrangement. Mr. Woolford, gardener to Alfred Palmer, Esq., East Thorpe, was second with a charming group, less formal in appearance than the first prize exhibit. The third prize went to Mr. Abery, Tilehurst, who had a creditable group. Mr. Coates was first in the class for a smaller group of plants, showing a choice arrangement. Mr. Goddard, gardener to J. W. Hounslow, Esq., Down's House, Reading, being second.

There were three entries in the class for six variegated or fine-foliage plants open to all exhibitors. Mr. W. Finch, Coventry, was awarded the first prize for a grand specimen of *Croton angustifolium*, *Asparagus plumosus*, and *Latania borbonica* amongst others. Mr. J. F. Mould, Pewsey, was a close second, showing very fine Crotons with other plants. Mr. Pope was awarded the third prize for much smaller specimens. For six flowering plants in the open class, Mr. Mould, Pewsey, was first with *Bougainvillea glabra*, *Ixora Dixiana*, *Ericas*, and *Statice Gilberti* amongst others. Mr. Finch was second with good specimens. There were no other exhibitors in this class.

Mr. Finch was first in the class for a specimen stove or greenhouse plant, showing *Erica Marnockiana*. Mr. Mould was second with *Bougainvillea glabra*, Mr. Chamberlain being third with an Ivy-leaf Pelargonium. Ferns were good, the best half dozen coming from Mr. Willis, Caversham, whose contribution included a very fine plant of *Davallia Mooreana*. Mr. Knowles was awarded the third prize for small plants, no second being adjudged. Mr. Coles won in the amateurs' class for four stove and greenhouse Ferns, Mr. Marshall being second, and Mr. Chamberlain third. Mr. Dockerill was the only exhibitor of six Lycopodiums, and the first prize was awarded.

In the class for six Lilliums there were only two exhibitors, these being Mr. Dockerill, gardener to J. W. Palmer, Esq., M.P., Elmhurst, and Mr. Knowles, gardener to F. Crisp, Esq., Friar Park, to whom the first and second prizes were awarded. For four Coleuses in pots there were four entries, and some fine plants were staged. Mr. T. Turton, gardener to J. Hargraves, Esq., was first with grand pyramidal specimens. Mr. Willis, gardener to H. J. Simonds, Esq., Caversham,

was second with bushy plants, the third prize going to Mr. Chamberlain. For the best new or rare plant Mr. Ross, gardener to Colonel Archer Houblen, Welford Park, Newbury, was first with *Tillandsia tessellata*. Mr. Woolford was second with *Cypripedium Charlesworthi*, Mr. Finch being third with *Dracæna australis variegata*. Tuberous Begonias were well flowered. Mr. Woolford was first with half a dozen plants, showing fine specimens. Mr. Dockerill was second, and Mr. Abery was third.

Fuchsias were much better than can be usually seen at provincial shows, and the competition was very keen. Mr. Turton secured the premier honour in the class for half-dozen plants, showing grand specimens. Mr. J. Bright was second and Mr. Hewton third. Zonal Pelargoniums were best shown by Messrs. Chamberlain, Woolford, and Booker, to whom the prizes were awarded. Mr. Johnson won in the class for six table plants, the second prize going to Mr. Pope, Wargrave, and the third to Mr. Bowerman. Mr. Woolford was awarded the first prize for three Orchids, and Mr. Waite, gardener to J. Lawrence, Esq., Stanley House, Reading, was first for three Fuchsias in a restricted class, Mr. Booker being second. For four foliage plants, Mr. Coates, gardener to Robert Hewett, Esq., St. Mary's Hill, Reading, was first, showing good specimens, Mr. Willis being second.

Cut flowers were numerous, Mr. W. Finch and Mrs. Phippen showing well in the class for eighteen bunches of greenhouse and hardy blooms. Mr. Turton and Mr. Booker had fine bunches of hardy flowers. Asters and Dahlias were also extensively staged, some grand blooms being noticeable. Messrs. J. Cheal & Sons, Crawley, and Eric Such, Maidenhead, were the exhibitors in the class for twelve bunches of single Dahlias. Bouquets were well shown by Messrs. Perkins & Co., Coventry, and Mrs. Phippen, Reading. Bouquets and baskets of flowers in the classes open to ladies only also made a beautiful display.

As mentioned above, fruit and vegetables were extensively shown, the quality also being good. With their customary generosity on such occasions Messrs. Sutton & Sons gave the whole of the prizes, amounting to £26, in a division set apart for fruit and vegetables, and open to all exhibitors. The principal class in this division was for a collection of fruit, to consist of eight dishes of distinct kinds. There were four competitors here, all staging well. Mr. Smith, gardener to Richard Ovey, Esq., Badgemore, Henley, was, however, awarded the first prize. This exhibitor had grand Muscat of Alexandria and Black Alicante Grapes, Barrington Peaches, Best of All Melon, Kirke's Plum, Williams' Bon Chretien Pear, and Worcester Pearmain Apples. Mr. Goodman, gardener to Miss Hemmersley, Bourne End, was a close second, the third prize going to Mr. Howard, gardener to Mrs. Myers, Benham Park. Mr. Mowbray, gardener to Major Hon. H. C. Legge, Fulmer, Slough, secured the first prize for a collection of six dishes, showing good Plums, Apples, Muscat Grapes, Nectarines, and Peaches. The second prize was won by Mr. Johnson, gardener to A. Gilliart, Esq., Duffield, Slough, this exhibitor having grand bunches of Muscat of Alexandria Grapes. Mr. Cole, gardener to Sir G. Russell Bart., Swallowfield Park, was third, with fine fruit.

Grapes made a fine display in the division where the prizes were given by the well known Reading seed firm. Mr. Howard, gardener to Mrs. Myers, Benham Park, was first with good Black Hamburgs, Mr. Wilson, Lower Redlands, being second, and Mr. Bowerman, Hackwood, third. Mr. Wilson was also first with three bunches of black Grapes, showing Alicantes in good condition. Mr. Smith was second, with Mr. Pound being third, and Mr. Bowerman was awarded an extra prize. Muscat of Alexandria Grapes were splendid, particularly those shown by Mr. Smith, to whom the first prize was awarded. Mr. W. Lane, King's Ride, Ascot, was second, and Mr. Mowbray third.

Nectarines were well coloured, and in the class for one dish there were nine entries. Mr. Howard was first, showing Pineapple in good condition; the second prize going to Mr. Ashman, gardener to C. T. D. Crews, Esq., Billingham; Mr. Mowbray being third. Mr. Bowerman, Hackwood, had the best dish of Peaches, showing beautifully coloured Barringtons. Mr. Finch, Coventry, was second with the same variety. Plums, Apples, and Melons were extensively shown, the leading prizes being taken by Messrs. Goodman, Turton, and Osman, the latter gaining the first award for a Melon with Suttons' Scarlet, out of a large number of competitors. Mr. S. Mortimer, Farnham, won with a brace of Cucumbers, staging a handsome pair of Suttons' Al—a splendid variety that will in due course be extensively grown.

Miscellaneous exhibits included a group of plants from Messrs. Standish & Co., Ascot. Roses and Dahlias were also shown by Mr. C. Turner, Slough. Messrs. J. Veitch & Sons had an extensive display of hardy flowers, and Mr. F. Bright sent Tomatoes in pots. Grapes and Tomatoes were exhibited by Mr. Churchman, Wokingham, and Messrs. S. Spooner & Sons, Hounslow, had a collection of Apples and Plums. Messrs. J. Cheal & Sons had Dahlias and cut hardy flowers; while Mrs. Phippen, Broad Street, Reading, made a good display with plants and floral decorations.

Vegetables occupied another position of the grounds, and were well represented in the special classes. Messrs. Webb & Sons, Carter and Co., and John Sharpe & Son offered prizes for collections of vegetables grown from seeds supplied by the respective firms. On the whole the produce was of excellent quality, and it was noticed that Mr. Pope, Highclere Castle; Mr. Lyc, Sydmonton Court Gardens, Newbury; Mr. C. J. Waite, Esher; Mr. Bowerman, Hackwood, and Mr. Kneller, Malshanger Park, were the chief exhibitors, but in order to go to press our reporter was compelled to leave the exhibition before the awards were made in this section.

THE JAPANESE WINEBERRY.

THE illustration (fig. 30) represents a spray of the Japanese Wineberry, botanically known as *Rubus phoenicolasius*. Branches of this plant were exhibited by Messrs. Kelway & Son, Langport, at the Drill Hall, Westminster, on the 14th inst., on which occasion the Royal Horticultural Society awarded them a first class certificate. The plant was introduced from Japan some years ago, but has not found its way into many gardens. It is useful for growing in semi-wild positions and



FIG. 30.—THE JAPANESE WINEBERRY (*RUBUS PHOENICOLASIVS*).

is very effective when in bloom, the flowers being pale pink and produced in terminal racemes. A profusion of red fruit follows, the character of the berries being depicted in the engraving.

TRADE CATALOGUES RECEIVED.

- J. Carter & Co., High Holborn, W.C.—*Bulb Catalogue*.
 W. Clibran & Son, Oldfield Nurseries, Altrincham.—*Bulb Catalogue*.
 W. Cutbush & Sons, Highgate.—*Hyacinths and Other Bulbs*.
 E. P. Dixon & Sons, Hull.—*Bulbs and Roots*.
 Dickson & Robinson, Manchester.—*Bulbs and Roses*.
 Dicksons, Limited, Chester.—*Dutch and Other Bulbs*.
 J. Douglas, Great Bookham, Surrey.—*Carnations and Picotees*.
 W. Fromow & Son, Chiswick.—*Bulb Catalogue*.
 Hurst & Sons, Burbage Nursery, Hinckley.—*Strawberries*.
 J. Laing & Sons.—*Bulbs and Flower Roots*.
 W. Paul & Son, Waltham Cross, Herts.—*Bulbs and Winter Flowers*.
 J. R. Pearson & Sons, The Nurseries, Chilwell, Notts.—*Bulbous Flowering Roots*.
 J. Peed & Sons, Roupell Park Nurseries, West Norwood.—*Bulb Catalogue*.
 R. Veitch & Son, Exeter.—*Dutch Bulbs*.



HARDY FRUIT GARDEN.

The Fruit Room.—The present is a good opportunity to overhaul and cleanse the fruit room, as a structure devoted to storing choice fruit for several months in the year should be free from the possibility of taints of any kind. After being thoroughly brushed, and superfluous matter removed, the walls ought to be limewashed, using fresh, hot lime, and working it into every crevice. The shelves should then be scrubbed over with hot water, soft soap, and soda. All crevices and corners of the woodwork that cannot be conveniently reached in this manner must be carefully wiped over with a hot damp cloth, cobwebs and insects occupying unseen corners thus being cleared away. The floor of the structure must lastly receive special attention, every effort being employed to make it as free from dirt as possible. Ventilate freely afterwards, so that the drying and purification may be complete ere the storing of fruit becomes general.

Gathering Early Pears.—The early Pears are somewhat late this year owing to the lack of sunshine. With Pears it is highly desirable that the most forward fruits should be gathered as soon as practicable, not only to secure them in the best condition, but as a means of relieving the trees and aiding the maturation of the remainder, especially where heavy crops are hanging. Birds, too, soon peck at and spoil the appearance of the best fruits. Therefore, any that are attacked even slightly by them are fit to be gathered, and do for immediate consumption. Any which part readily from the trees when the fruit is lifted may be gathered. As a rule the early varieties are best eaten direct from the trees, keeping them, even for a short time only, resulting in their becoming mealy, but some admit of being placed a few days in a warm, dry temperature to complete the full development of flavour. With careful attention to these details the supply of fruit from even a limited number of varieties may be prolonged, and yet secured in the best condition.

Apples.—Gather the earlier varieties as they become ready, and before they fall from the trees. The same tests of ripening apply as to Pears. Later varieties will be much improved in size, quality, and appearance if the fruit is freely thinned to satisfy the demand for culinary purposes.

Delay no longer the summer pruning if the trees have not previously been attended to. The shortening of the summer shoots to five or six leaves admits much light to pyramids, espaliers, and trained bush and wall trees, benefiting not only the fruit by allowing a circulation of light and air, but plumping up the lower buds.

Plums.—Plums are plentiful, the fruit swelling to a large size in most cases, but the ripening is irregular. The trees should be examined frequently, and the forwardest fruits picked. On walls every effort must be made to expose the fruit to light and air by tying in the summer shoots close to the wall if room can be found, shortening in the rest of the shoots to a length of 3 inches now, pruning back to half that distance in winter. Draw the leaves on one side if they shade the fruit too much, and thin out some of the smallest and most backward of the latter, especially with the later varieties of Plums, which ripen late in September or early October. Standard Plums require little pruning but the removal of dead wood and a little judicious thinning of the branches occasionally, these operations being best done after the fruit is gathered.

Cherries.—Trees on walls may have the young wood gradually nailed in where room is available to accommodate vigorous shoots, but avoid overcrowding. Some shoots might be tied over old bare wood of the larger branches. It is better to cut out the superfluous shoots entirely than permit them to spoil one another, but foreright shoots and others not wanted are capable of forming spurs at the base if shortened to several good leaves. Such, however, ought not to crowd the natural spurs which develop freely on young shoots the second year. Morello Cherries on walls have made clean, free growth which may now be laid in, cutting out the old bearing wood to make room. The latter often make good shoots from their extremities while the lower parts are bare. It may be necessary to utilise some of these in the absence of better, but, if possible, secure a good selection of shoots issuing from the base of the principal and secondary branches.

Peaches and Nectarines.—Liberal attention should be given now to the trees. Fruits ripening will need all the available light which they can have, and leaves shading them must be drawn on one side to afford it freely. Trees from which the fruit has been gathered must have the old bearing wood pruned out and strong sappy growths removed. Much benefit accrues from this. The trees are cleared of useless growths, ample room being left for training in the succession shoots. It is important that these be well ripened, and from now onwards throughout the autumn the sun should be able to shine on every leaf, the important work the foliage performs ripening and plumping up the buds in the axils of each leaf.

Cleaning Strawberry Beds.—If Strawberry beds have been neglected since the crops have been gathered, runners and weeds will have produced a dense mass of luxuriant growth which appropriates the virtues of the soil and robs the permanent plants of support.

Clear all this away at once with some of the old foliage, but do not denude the plants too freely of leaves. Previously trimmed beds will also need some attention in cutting away the fresh growth of runners, and hoeing up weeds both among old plants and those recently planted. Concentration of growth is essential in securing well-matured, plump crowns.

FRUIT FORCING.

Peaches.—*Late Houses.*—Though the season has been normal, the crops of Peaches are not by any means large in many places, and they are somewhat backward in late districts. In these artificial heat may be necessary, affording a night temperature of 60° to 65° and 70° to 75° by day, and 80° to 85° or 90° from sun heat. Admit air freely, increasing it with the advancing temperature from 75°, keeping through the day at 80° to 85°, and closing sufficiently early to continue the temperature at a good heat until late in the afternoon, when a little air should be admitted to allow the pent-up moisture to escape, and no more heat need be employed than necessary to prevent the temperature falling below 60° to 65°. In favourable localities fire heat will not be necessary. Syringe the trees as expedient to keep the foliage clean, and always so as to have the leaves dry or nearly so before night. This will allow evaporation to go on, ensuring the assimilation and the solidification in a better manner than when the trees are wet or the atmosphere humid. Stop laterals; this is better than removing many shoots, which induces stagnation of the sap, causing other and soft growths to be made, and is prolific of gumming.

Unheated Houses.—Keep the inside borders, also outside where necessary, duly watered, but avoid a superabundance of either water or liquid manure, and syringe no more than is necessary to keep the foliage clean. Cut out any gross growths, so as to equalise the flow of the sap, having the growths sufficiently thin to admit the full action of light and air. Let the fruit be exposed with its apex to the light. Leave a little air on at night, and by moderate and judicious early opening of the ventilators, careful ventilation in the daytime, husbanding the sun heat in the afternoon, and otherwise good management, fruit may be had of large size and excellent quality in most districts up to early October. Indeed, the late Peaches are so noble in appearance as to bring better prices than the fruits of early and midseason varieties, which ripen at a time when other outdoor fresh, soft fruits are abundant.

Pines.—*Suckers from Summer Fruiting Plants.*—These will soon be ready to be repotted, which should be done when they are well rooted. It is well to divide the plants in two sections, the strongest and best rooted being shifted into larger pots as soon as ready, employing 10 or 11-inch pots according to kind, affording them a position near the glass in a light airy house, keeping them gradually growing during the winter. The plants so treated will be readily excited into fruit next May or June, and will afford a good supply of ripe fruit in late summer or early autumn. The other plants, suckers from the summer fruiters, not large enough to shift into full-sized pots, winter in the 7 or 8-inch pots, transferring them to the fruiting pots as soon as ready in the spring, which, with suckers of Smooth-leaved Cayenne and Black Jamaica that were started last March, will provide a successional supply of fruit during the winter months.

Re-arranging Plants.—This should be done in order to separate the fruiting from the non-fruiting plants, as many of those that were started from suckers of the preceding summer fruiters will have fruit swelling off. Those plants not fruiting will have completed the growth, and should have air liberally for the next six weeks when the temperature exceeds 80°, maintaining the bottom heat steadily at 80°, and all plants well rooted should have a bottom heat of 80° to 85°; but recently potted plants, or those not having roots well established in the fresh compost, maintain at 90°.

Plants Swelling their Fruit.—Moderate atmospheric moisture is required for these, admitting a little air at the top of the house early in the morning, so as to allow of any superfluous moisture escaping before the sun's rays act powerfully upon the fruit. Any fruit it is desired to retard should be moved to a rather cool and airy, also somewhat shady house.

Figs.—*Earliest Fig House.*—Where it is desired to have Figs very early, trees in pots and a house with means of affording bottom heat by fermenting material, also plenty of top heat and abundance of light and air, is imperative. The trees must be well established, have stout and well-ripened wood, fruit not having been borne on the extremity growths or a very moderate crop of second Figs taken on the base of the current growths. The small fruited varieties, Early Violet and St. John's, may be grown for a few early dishes; but such sorts as White Marseilles and Brown Turkey are best for affording full supplies of fruit. The trees may be placed outdoors if the wood be ripe, otherwise they must be kept under glass, and be given all the light and air possible, so as to insure its thorough maturation.

Planted-out trees started at the new year, which is quite soon enough to start such trees, will now be ripening their wood, and watering may be discontinued, air being admitted liberally. If, however, the second crop is not yet ripened, moderate moisture in the soil will be necessary, with a rather free circulation of warm air to insure high quality in the fruit. When the crop is gathered, the worn-out extension growths should be cut away in favour of the successional shoots; this will give them more light, and admit of the trees being readily cleansed of red spider and scale by means of forcible syringings, and the application of a softsoapy solution with a brush for the scale. The growths should be kept with their points as much to the light as practicable.

Unsatisfactory Fig Trees.—Planted-out trees in Fig houses not unfrequently grow rampantly, and consequently produce none or thin

crops of fruit. In that case root-pruning may be resorted to, and the roots be confined to a border from 3 to 4 feet in width. If the drainage be defective it will be necessary to lift the trees in autumn as soon as the wood is mature and the leaves commence falling, replanting in fresh soil. Providing a drain with proper fall and outlet to carry off superfluous water, place in 9 to 12 inches of rough stones or brickbats, and over them a covering of rather rough lime rubbish, using the finer parts for mixing with the soil in the proportion of one-sixth to the bulk of turfy loam, and a twentieth of wood ashes or charred refuse. In replanting ram the soil well about the roots, for short-jointed fruitful wood cannot be so well secured by other means than by a solidified rooting medium. The border need not exceed 24 inches in depth. Should the drainage be good it will only be necessary to confine the roots to the narrow border, removing some of the old soil from amongst them, and supplying fresh loam, with an admixture of lime rubbish and charred refuse, as above stated. If the loam be light add a sixth of clayey marl, dried and pounded, or in as finely divided portions as possible; if heavy, a sixth of road scrapings. The proper time to operate in the manner indicated is as soon in late summer or autumn as the foliage gives indications of maturing.

Cucumbers.—Where there is but one house it is usual to make a sowing in August for raising plants to place out early in September to yield a supply of fruits by December and onwards through the winter. Where there is convenience it is preferable to rely on the autumn fruiters for a supply up to and over Christmas, when plants from a sowing made at the beginning of September will be in good bearing, and continue the supply from the early part of the year and through the spring months. One of the best Cucumbers for fruiting all through the year is a true stock of the old Telegraph. It is of a fine deep green colour; so also is Cardiff Castle, which, though smaller, has a shorter neck, and is one of the heaviest fruits. This is a point of some consequence when Cucumbers are sold by the stone—a better plan for everybody than by the fruit. Every grower has a sort of his own which is appreciated, but there is very little difference in many Cucumbers except for sale, when they must be good in appearance and colour, straight, heavy, and crisp.

The work of clearing out the house intended for the plants, the seeds of which have been or are about to be sown, should be pushed forward, and attend to any repairs that may be necessary or painting of the house, otherwise thoroughly cleanse the woodwork with soap and water, limewash the walls, adding a handful of flowers of sulphur to a pailful of limewash. Clear out the old soil and manure, this portion being disinfected by employing one of the advertised disinfectants, avoiding those of a vegetable-poisonous nature. If fermenting materials are used for bottom heat they must be well prepared, throwing the stable litter into a heap, moistening and turning over two or three times. This effectually works destruction on any micro-organisms present. Tan should be treated similarly, but not wetted, and it is a good material, as it retains its heat for a long time. Hot-water pipes in addition to the fermenting bed will be necessary in or beneath it to maintain the required bottom heat after that of the materials is spent.

Late Summer and Autumn Fruiting Plants.—Assist these to make strong growth, cutting out exhausted wood from the late summer fruiters, training in young growths and stopping them one or two joints beyond the show of fruit as space admits, avoiding overcrowding and overcropping. Young growth is the best preventive of knobby-ended fruits, with the removal of the staminate flowers and tendrils. Autumn fruiters must neither be overcropped nor overcrowded. Less moisture will now be necessary unless the weather is very bright, but lightly syringe the plants at closing time, not later than 3 P.M., and sprinkle the walls and paths in the evening. The night temperature should be maintained at 65°, 70° to 75° by day artificially, 80° to 85° or 90° from sun heat, ventilating moderately in the early part of the day so as to secure thoroughly solidified growth, and close sufficiently early to run up to 90° or more.

In pits and frames linings of sweetened fermenting materials will be necessary to maintain the plants in a free bearing state; keep the foliage thinly disposed, and stop the growths one or two joints beyond the show for fruit. Discontinue sprinkling the plants except on sunny afternoons. Admit a little air early in the day, and close early in the afternoon so as to husband the sun's heat. It is also advisable to admit a little air on dull days for an hour or two, so as to insure a change of air, as pent-up moisture is the forerunner of mouldiness and of gumming and canker in the stems. With linings, and the protection of mats over the lights, Cucumbers will be produced for a lengthened period.



APIARIAN NOTES.

AT THE MOORS.

Up till August 21st the weather was very unpropitious. On the morning of the 20th the cold was intense, more so than has ever been experienced by old shepherds during the month of August. The 21st brought a welcome change, however, and the bees had a good beginning. I never heard a sound so loud nor a sight like it, so busy were they. The full strength hives were grand, and with ten days fine weather will be weighty.

I find at least 15 per cent. of my queens have been deposed by queens of swarms entering the hives. This compels us to make a thorough examination of all stock hives at the end of the season. The isolation of my Carniolan queens has been an entire success, all being purely fertilised. I am confident that hill ground is favourable to them, fertilisation taking place near the apiary, and no queens are lost, as is often the case on low ground.

KILLING DRONES.

This is a subject on which opinions vary. The bees of several weighty hives which swarmed, but lost their laying queen, returned after a few days when piping had commenced. I excised all queen cells less one, yet these hives not only drew their drone blood, but killed all adult drones. Then on the other hand there are many hives which have had a young fertile queen for upwards of two months, and which have not killed a single drone. I have frequently mentioned the above, but it is important for young bee-keepers to be impressed with facts, and not to judge the condition of their hives by the attitude of the bees towards the drones, it not being a criterion that all is well although drones are expelled. It is near the rule, however, that all is right when young bees are hatching, these being the progeny of a youthful queen to see drones expelled the hive. It appears to be the young bees that take the initiative in that.

Another important thing to remember is that a hive the right size, neither too large nor too small, is the one bees do not swarm readily from, but that can scarcely be properly ascertained. A large hive having a defective queen will swarm although not half full, while a small hive with a prolific one also swarms readily but not till full. Thus a too large a hive, as is one too small, is the cause of swarming.—A LANARKSHIRE BEE-KEEPER.



All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Plants and Flowers for Church Decoration (B. J.).—Your letter arrived just as this page was being prepared for press, and too late to deal with the question exhaustively here. We will endeavour to publish particulars on the subject next week.

Carpet Bed Designs (Subscriber).—The designs to which you refer are necessarily worked out according to a plan on paper. The diagrams you have may be worked out, adopting a scale according to the size of your beds. Of course the designs must be geometrically marked on the ground, the usual method being to fill in the lines with white sand or sawdust prior to commencing to plant.

Insect Found in Orchid House (G. J.).—The insect belongs to the order Orthoptera, straight-winged, and is either a fine form of the Oriental cockroach (*Blatta orientalis*), or a poor specimen of the American kind (*B. americana*), but it was so crushed as to be extremely difficult of certain identification. Its size accords more with the common cockroach than the American species. The cockroaches are not often seen on the wing. The specimen must have been a fine female before it was smashed.

Tomato Plants Diseased (A. Y.).—The leaf is badly infested with the minute Tomato leaf fungus (*Cladosporium fulvum*, Cooke), the spores of which no doubt live from year to year in the house. As a preventive we advise the thorough cleansing and disinfecting of the house, removing every particle of old soil, thoroughly washing the woodwork with soap and a brush, limewashing the walls, and making everything as clean and sweet as possible. As a preventive another season dust the plants early in July with anti-blight powder, or preferably spray them with a half strength Bordeaux mixture, taking care to wrap any fruit in tissue paper prior to the application, and remove it afterwards, as the copper sulphate is poisonous. Condy's fluid (the red permanganate of potash) is nearly as efficacious, and it is non-poisonous. It may be used for spraying in a 50 per cent. solution (diluted with an equal amount of water). We use anti-blight, and have not had any mishaps with it, though we use it on all kinds of fruits affected with fungoid diseases.

Yellow Thrips on Chrysanthemums (T. W.).—The foliage does not give any particular indications of thrips infestation; indeed, we cannot find any on the leaves or buds sent, but the growths appear to have been eaten by earwigs. The buds are very small, and we are afraid the flowers from them will be poor. We should certainly continue the use of tobacco powder for the thrips; also try some inverted flower pots on stakes for the earwigs, or hollow stems, such as beanstalks cut in lengths, placing near the plants. The gas liquor will answer as well or better than carbolic acid for eelworm, as it is a good manure, taking care not to apply it too strong.

Inferior Celery (T. W. B.).—The chief point in judging vegetables is to keep in view the amount of edible products of the best quality. This seems to have been acted on in the case you mention, as heads that have "run" or pushed the heart or stem 4 inches represents so much useless part or waste, and this is had at the expense of the other parts of the plants, so that they are deteriorated in value proportionately. Running or "bolting" is a great defect in Celery, and the awarding of the prize to heads that were not so large as yours, but not run, is justifiable under the circumstances, as the winning heads had more relative value, though smaller in size. Celery must be shown with the centre of the heads close, solid, and unrun, then bulk will tell, not otherwise.

Cucumber Plants Attacked by Eelworm (J. S. M.).—The small portion of root is infested by the root-knob eelworm (*Heterodera radicola*), which appropriates the nitrogenous substances of the plants, and causes their impoverishment and destruction. You may try watering the plants with a solution of kainit, 2 ozs. to a gallon of water, pouring that amount through a rose watering pot over a square yard of bed, and in the course of three or four days follow with nitrate of soda at a similar strength. If the plants are not too far gone you may have the satisfaction of seeing the fruit swell and new growth be freely produced. There is no preventive other than disinfecting the soil and manure, which is best effected by subjecting to a temperature of 212° or more, but not charring or burning it, as that wastes the nitrogenous matter.

Chrysanthemum Plants Diseased (H. T.).—The plants are affected with eelworm (*Tylenchus obtusus*), the decayed stems swarming with fertilised females, but there are few cysts, so that by destroying all plants affected in a similar manner by burning you will probably destroy the disease. The soil in which the affected plants are growing should be subjected to the action of fire. It is difficult to account for some plants, and of certain varieties, being attacked while others escape, but it is certain that the parasites have gained access to the tissues of the plants when they were tender, and have continued to spread on them through the season. Possibly the pests may have been introduced with the potting compost, and only in that part used for this particular variety. We have had similar experience with other varieties, and were assured that it was because the plants were in the condition essential for their breeding purposes, but it was falsified by the pests attacking other varieties.

Black Hamburgh and Buckland Sweetwater Grapes Cracking (E. B.).—The chief cause of the Grapes cracking is lack of nourishment or support in the early stages of swelling, which causes the skin to become thick and hard, and, though such Grapes usually colour well, and are of excellent quality, they are liable to crack on a period of moist weather ensuing, especially if the border becomes saturated and the house is kept at all moist, and the Vines are disposed to make little or no lateral growth so as to utilise the excess of sap. The only thing likely to be of use is to admit air freely so as to prevent the deposition of moisture on the berries, and the cracking may be prevented by generous treatment during the swelling and early ripening period. The slight attacks of mildew are sufficient to account for the Grapes cracking, as the effect of the fungus is to harden the skin and prevent its proper expansion, especially when the Grapes are commencing to ripen or well advanced therein.

Making a Vine Border (Idem).—The border must have a drain with proper fall and outlet to carry off superfluous water, unless the ground is naturally well drained. The bottom of the border should incline from all points to the drain or drains. Then place in a foot depth of rubble or brickbats, roughest at bottom and finest (about the size of road metal) on top. Either cover that with a thin layer of sods, or preferably with a couple of inches thickness of old mortar rubbish freed from pieces of wood. The compost may consist of good turfy loam, the top 2 inches of an old pasture; of that ten cartloads, two cartloads of old mortar rubbish, one of wood ashes, and another of fresh horse droppings, 2 cwt. of horn and hoof shavings, and 4 cwt. of crushed half-inch bones. Incorporate all thoroughly, the turf being chopped moderately small, and place in 2 feet deep rather firmly, but not treading, only beating with a fork. About 6 inches more depth of soil should be put on to allow for settling.

Mildew, Preventing and Curing (Idem).—The best preventive is thorough cleanliness and careful management. Nothing will destroy the perithecia or conceptacles of the fungus, and the spores they set free will germinate on Vines they fall on if the atmospheric conditions are favourable. The safest cure is to dust the affected parts with flowers of sulphur, but it is not nearly so effective as copper sulphate mixed with lime, but the latter is poisonous while the former is not. It does not injure the Vine to cut a portion of the lateral with each bunch, only leave two or three or more leaves on the lateral above the pruning buds. Indeed, it is beneficial rather than otherwise, as it tends to plump the basal buds.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*E. T.*)—*Rhus cotinus*. (*A. A. A.*)—1, *Escallonia macrantha*; 2, *Kerria japonica*; 3, *Lonicera tartarica*. (*F. N.*)—1, *Rhus cotinus*; 2, *Illicium floridanum*; 3, *Lonicera tartarica*; 4, Specimen too withered to identify; 5, *Spiraea callosa*. (*W. H.*)—*Staphylea pinnata*.

COVENT GARDEN MARKET.—AUGUST 29TH.

MARKET steady; no alteration.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, per half sieve	1 6	to 2 6	Peaches, per doz. ..	1 0	to 6 0
Grapes, per lb.	0 6	1 6	Plums, half sieve ..	1 6	3 0
Filberts per 100 lbs.	20 0	25 0	St. Michael Pines, each ..	2 0	6 0
Lemons, case ..	10 0	15 0	Strawberries per lb. ..	0 0	0 0

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Beans, Kidney, per lb. ..	0 2	to 0 3	Mushrooms, punnet ..	0 9	to 1 0
Beet, Red, dozen ..	1 0	0 0	Mustard and Cress, punnet	0 2	0 0
Carrots, bunch ..	0 3	0 4	Onions, bushel ..	3 6	4 0
" new, bunch ..	0 9	1 0	Parsley, dozen bunches ..	2 0	3 0
Cauliflowers, dozen ..	1 6	3 0	Parsnips, dozen ..	1 0	0 0
Celery, bundle ..	1 0	1 3	Potatoes, per cwt. ..	2 0	4 6
Coleworts, dozen bunches	2 0	4 0	Salsafy, bundle ..	1 0	1 5
Cucumbers, dozen ..	1 6	3 0	Scorzouera, bundle ..	1 6	0 0
Endive, dozen ..	1 3	1 6	Shallots, per lb. ..	0 3	0 0
Herbs, bunch ..	0 3	0 0	Spinach, bushel ..	1 6	3 0
Leeks, bunch ..	0 2	0 0	Tomatoes, per lb. ..	0 2	0 4
Lettuce, dozen ..	0 9	1 0	Turnips, bunch ..	0 3	0 4

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blooms ..	1 6	to 3 0	Orchids, per dozen blooms	3 0	to 12 0
Asparagus Fern, per bunch	1 0	2 6	Pansies, dozen bunches ..	1 0	2 0
Asters (English) doz. bunch	3 0	6 0	Pelargoniums, 12 bunches	4 0	6 0
" (French) per bunch	0 6	1 0	Pelargoniums, scarlet, doz.		
Bouvardias, bunch ..	0 6	1 0	bunches ..	2 0	4 0
Carnations, 12 blooms ..	0 6	1 6	Pinks, various, doz. bnchs.	1 0	3 0
" doz. bunches ..	2 0	4 0	Poppies, various, dozen		
Chrysanthemums ..	3 0	9 0	bunches ..	0 6	1 0
" doz. blooms	0 6	1 0	Primula (double), dozen		
Cornflowers, doz. bunches	1 0	2 0	sprays ..	0 6	1 0
Dahlias ..	2 0	4 0	Pyrethrum, dozen bunches	2 0	4 0
Eucharis, dozen ..	1 6	3 0	Roses (indoor), dozen ..	0 6	1 0
Gaillardia, dozen bunches	1 0	2 0	" (outdoor), doz. bnchs.	3 0	8 0
Gardenias, per dozen ..	1 0	4 0	" Tea, white, dozen ..	0 6	1 6
Gladiolus, dozen sprays ..	0 9	1 6	" Yellow, dozen ..	1 0	1 6
Lilium longiflorum, per			" Safrano (English), doz.	1 0	2 0
dozen ..	2 0	4 0	" Maréchal Niel, doz. ..	1 6	4 0
Maidenhair Fern, dozen			Smilax, per bunch ..	1 6	3 0
bunches ..	4 0	6 0	Stephanotis, dozen sprays	1 0	2 0
Marguerites, 12 bunches ..	1 6	3 0	Stocks, dozen bunches ..	2 0	4 0
Mignonette, 12 bunches ..	1 0	3 0	Sweet Peas, dozen bunches	1 0	2 0
Myosotis or Forget-me-			Tuberose, 12 blooms ..	0 4	0 6
nots, dozen bunches ..	1 6	2 0			

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ (golden) dozen	6 0	to 12 0	Hydrangea, per dozen ..	9 0	to 18 0
Aspidistra, per dozen ..	18 0	36 0	Ivy Geraniums ..	4 0	6 0
Aspidistra, specimen plant	5 0	10 6	Lilium auratum, doz. pots	12 0	18 0
Balsams per dozen ..	3 0	6 0	" Harrisii, per dozen	12 0	24 0
Calceolarias, dozen pots ..	3 0	6 0	" lancifolium, dozen		
Cockscombs, per dozen ..	3 0	4 0	pots ..	9 0	15 0
Coleus, per dozen ..	2 0	4 0	Lycopodiums, per dozen ..	3 0	4 0
Dracæna terminalis, dozen	18 0	42 0	Marguerite Daisy, dozen ..	6 0	12 0
Dracæna viridis, dozen ..	9 0	24 0	" yellow, doz. pots	6 0	10 0
Eucalyptus, var., dozen ..	6 0	18 0	Mignonette, per doz. ..	3 0	6 0
Evergreens, in var., dozen	6 0	24 0	Myrtles, dozen ..	6 0	9 0
Ferns, in variety, dozen ..	4 0	18 0	Nasturtiums, per dozen ..	1 6	4 0
" (small) per hundred	4 0	6 0	Palms, in var., each ..	1 0	15 0
Ficus elastica, each ..	1 0	7 6	" (specimens) ..	21 0	63 0
Foliage plants, var., each	2 0	10 0	Pelargoniums, per dozen ..	6 0	12 0
Fuchsia, per dozen ..	3 0	6 0	" scarlet, per doz.	2 0	4 0
Heliotrope, per dozen ..	3 0	6 0			



MIXED FARMING.

THIS is an aspect of farm management—perhaps the only one—which may be regarded as safe, as calculated to answer, because under its influence extremes are avoided, due balance and proportion in cropping have attention, judicious changes are made with due caution, under the influence of market requirements of the growing wants of an ever-increasing population, and we may well add under the stress of foreign competition. It avoids sweeping reform, yet is prompt to adopt any sound method which offers reasonable promise of a fair profit from something which it is possible to produce at a

moderate cost, and without a material change in the general cropping of the farm. An initial difficulty in all such changes, in the introduction of any novel features, is the avoidance of mistakes, and of the vexatious loss of time and money which they involve. The wise injunction to consider a field before buying it is certainly applicable to all such changes. Mature consideration, deliberate change there must be, but if then there is a want of practical experience, success full and entire from the outset is hardly possible.

The recent inspection of a farm where an attempt was being made to turn some of the land to account in the cultivation of vegetables and fruit for market gave rise to a train of thought of which this article is an outcome. Help was evidently wanted there in the guise of direct information, much of the work being of a speculative character, which clearly denoted uncertainty and the possibility of some practical hints being useful. The farm was in the Midlands, and the tenant complained that the Strawberry market was controlled by southern growers, and the fruit ripened so late that the market was then glutted with Kent, Hampshire, or Cornish Strawberries. This is only true in some degree. We have known quite sensational prices made with Midland grown fruit of that early Strawberry Noble, but we advised our friend, whose farm is on the southern border of Yorkshire, to plant only such very late sorts as Latest of All and Waterloo, or such large sorts as Cockscomb and Marguerite, the two latter for sale in punnets. We have had Latest of All on trial in Derbyshire and Leicestershire, and it proves to be a heavy cropper, which this year came into bloom so late that it sustained no injury from the severe frost on May 19th-20th, which destroyed the blossom of so many other sorts. The fruit is large, of fine flavour, and such firm texture that it is not bruised so easily as the more tender sorts are.

Of fruit only Strawberries and Raspberries had been tried. A common mistake had been made in planting the Raspberries too near each other. The proper distance for field Raspberries is 18 inches apart in the rows, and the rows 5 feet apart. The best sort is Carter's Prolific with its stout canes and heavy crops of large red fruit, which makes excellent jam of fine bright colour and flavour. This is worth knowing in connection with the culture of field Raspberries. We know another sort of which the jam becomes so dull in colour soon after it is made that an enterprising fruit farmer who makes and sells his own jam has discarded it. No Gooseberries had been planted, and we advised the planting of Whinham's Industry for the value of its fruit while green, as it is ready for picking very early. Crown Bob, Lancashire Lad, Whitesmith, and Keepsake are also good market sorts. For early ripe fruit Early Sulphur is usually planted, and Red Warrington for its late ripe fruit.

Vegetables were satisfactory and otherwise. Asparagus was growing so freely that we strongly urged its extension by the acre. We have long held that this wholesome and delicious spring vegetable should be cultivated much more extensively in this country than it is. It commands a price that will bear a considerable reduction, and then still afford a handsome profit. Mixed soil rich in fertility suits it to perfection. Wet, heavy land does not suit it, and must be avoided for this crop. We hear occasionally of a glut of Peas and Beans of all kinds, of other green vegetables consigned to salesmen which do not realise enough money to cover expenses, but never hear of enough Asparagus to induce even the costers to offer it at popular prices. There are two ways of commencing the culture of Asparagus. One to procure two-year-old plants from a nursery in spring just when growth begins, the other to sow seed, thinning the plants subsequently to 18 inches apart. It is just a question of ways and means, of quick returns or of waiting.

A fine crop of Early Puritan Potato, without a trace of disease, was being sent direct from field to market. This was right as regards the sort, but it is well always to have the Potato crop cleared in time for some such crop as autumn Onions, Celery, Colewort, or spring Cabbages

WORK ON THE HOME FARM.

Persistent wet weather has not only continued to hinder the corn harvest and the late haymaking, but has caused much anxiety about the risk of sprouting corn. A little corn has been put into stack, and as we write there are indications of a change to finer weather. Much of the corn has been so beaten down by heavy rain that reaping has been difficult, and young layers have suffered severely. Some are so bare of plant that they must be broken up. Save the corn is now the cry, and with fine weather most of it will be in stack in the course of another week, as most of it is in shock, and all we have to do is to get it thoroughly dry before carting. There will be difficulty with some where weed growth is very strong. The dripping weather has been favourable to weed growth, and there is much land very foul. The Barley crop is a good one, some of Webb's Chevalier being a fine bright malting sample which should go well on market if it can now be saved. White and black Oats from the same firm are excellent, but the Black Tartarian had stouter straw and kept erect, while the white Oats were beaten down so badly that binding in sheafs could not be done, as there would have been as many ears at bottom as at top. The only thing to do was to use an old reaper, to turn the heaps once or twice, and to cart to the stack like hay. The grain is large and heavy, and it was decided that for a crop so badly laid mowing with scythes would not answer, more especially as the corn was fully ripe before the reaping could be done, the scythes would have knocked out much of the corn.

Heavy arrears of work are an outcome of the wet weather. Upon an estate where all straw has to be used on the farms, and very much of it is trodden down in yards, we have seen the manure so made last winter still lying in the yards. The yards must be cleared of it very soon, and it should be carted directly to the land and ploughed in for Wheat, unless any of it is wanted for roots next April. We fear this points to late Wheat sowing, and is an instance of the force of custom. If it is now put into a heap there should be a bed of soil in readiness for it, and it should be covered at once.

HARVEST TIME.

ALL through the long hot hours and far into evening a great calm has overspread the village—a calm only broken by the occasional cry of a child or the hoarse voice of an itinerant vendor of plums. The clock in the old church has struck the hours unheeded, the very birds are asleep, the school deserted, and the signs of active life are few. The cat basking on a wall in the sun, the dog on the mat inside the open door fitfully start, then settle again to dream of a land where mice abound and back yards are fairly paved with good "meaty" bones. A stranger passing through would wonder at this lack of movement, would hazard guesses as to the whereabouts of the inhabitants, young and old. Surely the village is not as Goldsmith's "Sweet Auburn." No, the homes all look too prosperous, the gardens too well kept to bespeak desertion.

Apparently no plague or evil has come nigh; the calm peacefulness of the scene is broken by no passing bell—death is not busy at any rate. Ah! Then how unwittingly we are near the solution of this enigma. "The sickle keen," or its modern equivalent, has been busy for hours, possibly long before you, kind reader, thought of leaving your comfortable bed. By early dawn this morning all was life and activity. From the farmstead comes a heavy, lumbering, creaking sound, a long, flat-bodied sideless cart with a strange load comes round the corner and down the steep descent into the village street, on it is a tumbril (do you know what that is?) some bags of cut meat and a heap of cool, succulent tares fresh cut, curious three-tined rakes, baskets and "basses" of food, tin drinking cans, and what room is left is taken up by men and children, all eager and anxious for the day's work. The children were only let loose from lessons yesterday, some of them are "old hands," and can make bands as well or better than their fathers; for others it is their first season, and in their ignorance the poor bairns think their work will be one long play, with the extra satisfaction of the shillings which will be added to the home revenue.

After the "long cart" comes a low oblong iron box, a new and most convenient form of water cart, for to-day promises great heat, and the field to be cut is up on the top among the woods far away from stream or spring. Then comes the rattle of the machines, two of them, one of a smaller build calculated to "open out," just to take the first breadth round the field and so prepare the way for its larger, stronger brother. It is no child's play reaping. Take your strongest and best horses, and even then they can only go for a limited time. How pleasant is this outdoor stable under the Chestnut tree!

Now a start is made. See each man fall into his place with his little band maker beside him. There is music even in the whirl of machinery, and it is a pleasure to see such clear, clean cutting. The dew has been heavy this morning, and the barley would clog. Seeds have not failed this year, and the Clover is long and abundant. If wind comes, and there are signs of it, there will be necked Barley again, causing much loss and damage to the farmer, who can ill sustain it; but, however, till there is a little more dryness "fifty-acre" Wheat must be cut; then, as the day brightens and the dews disperse that Barley in "Captain's Moor" must be at least begun. Last year there was no need to wait,

no drying then necessary, all was like tinder; no "seeds," or at most so few as to be almost invisible.

Look at these sons of toil. Do they appear down-trodden and oppressed? You will not find better examples in the whole of Old England. We have not many changes. You see pretty much the same faces as you would have done ten years ago. The names are all familiar to you; possibly the holders are not the men you knew in bygone days. Some of these little ones are the grandchildren of your old playmates. See, we have them all ages, from that old man whose eyes begin to see the "land that is very far off," to young Rufus, whose first year it is making bands for his father Matt.

Notice how easily the machine gives off the proper quantity of corn requisite for a sheaf—how deftly that little lad twists a band. How quickly the corn is laid on it, knotted, and put aside, and so on and on till every ear has fallen. When a few rounds have been made, and the ground cumbered with sheaves, the foreman and another begin to stack, for the order here is never to let a sheaf lie a moment longer than necessary. It has to be done some time, so why not at once? and order is one of Heaven's first laws.

Now for the swathe rake. Gather what you can between stooks. Fetch the scythe and mow out this corner. It is an awkward turn, and time is lost at it. What, is there a stop? machine broken, eh! No, only stuffed up a bit. Whoa there, Daisy, stand still. Now, men, all right again. Do you admire those powerful limbs—those sleek coats? Yes, waggoner is proud of those two mares, and they do him credit. Take 'em out now and give them a bit of meat, and we'll have our drinkins. Neither man nor beast can work without food, and more especially drink. Not much beer goes up to the field—principally cold tea or oatmeal water; but the food is more diverse—slices of bacon laid between "light cake" (*i.e.*, cake made of bread dough), pies, cheesecakes, and no end of solid food. Now to work again.

Here comes the master, gun in hand, terrier at foot, and young son not far off. "Well foreman how do you get on?" "Why pretty middlin', there's a sight o' stuff, and it's very fit. Wind seems to have settled a bit, and I think we'd almost as well get done here first. Barley 'll tak' no hurt till to-morrow, I think we shall have a fine day or two now. What does paaper say, sir?" Finally it is decided that Barley may wait. There is possibly a lurking wish that the Wheat may be finished straight off, you can't guess why, that little lad knows tho'. "Oh! father, may I fetch my tea up here and stay till the finish? you know how many rabbits you got here the last time this was Wheat, and there is sure to be some good fun." The men know that. Watch the piles of corn as it slowly lessens, there is a whirl of wings, up fly pheasants and partridges, numberless; away darts a rabbit with his life in his hand; alas! poor bunny you were seen. With a roar and a shout he is followed and run down ere he reaches the friendly shelter of the plantation, another and then another, men flying in all directions, the bang bang of a gun; only the boy or the reaper pursues his way unmoved. There is too much of value confided to his care, and he is above the vulgar excitement of rabbit catching.

There, the last sheaf is tied, the last stook set fair, the rabbits divided, the master remembering the older men, and perhaps saving some for sundry sick folk at home, to whom the idea of broth is most soothing. Are the little ones tired? there is a seat for them on the wagon and a good supper at home. The day has been dry, they are not hampered with clayey boots and sodden clothes, and a night's good rest will fit them for to-morrow's toil. Are there no difficulties with men here. Not often. You see they know us, and we know them, and our confidence is mutual. A farmer is not the man to grudge a fair day's wage for a fair day's work, and the men know it. They know, too, they work for a master who appreciates honest effort, and they give him of their best.—A FARMER'S WIFE.

METEOROLOGICAL OBSERVATIONS.

OAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet

DATE.		9 A.M.				IN THE DAY.				Rain.	
1894. August.		Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.		On Grass.
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday .. 19		30.068	58.8	55.0	N.W.	58.8	65.8	59.2	97.7	48.2	0.018
Monday .. 20		29.874	57.3	50.9	N.W.	59.9	66.3	53.8	116.1	49.8	—
Tuesday .. 21		29.900	57.9	51.6	N.	58.6	63.1	44.3	98.0	41.9	0.010
Wednesday .. 22		29.819	59.1	55.1	N.W.	58.2	71.4	49.3	110.1	45.0	0.090
Thursday .. 23		29.345	58.1	57.8	E.	59.2	60.2	53.3	72.0	48.3	0.901
Friday .. 24		30.042	59.3	57.9	N.	58.9	65.3	56.1	88.6	57.1	0.528
Saturday .. 25		30.117	57.2	56.7	N.	59.9	65.4	55.4	75.6	54.9	0.144
		29.952	58.2	55.0		58.8	65.5	51.8	94.0	49.3	1.691

REMARKS.

19th.—Overcast throughout, with frequent slight showers.

20th.—Brilliant sunshine till 10 A.M., and generally sunny after.

21st.—Sunny early; overcast after 11 A.M., with frequent spots of rain and drizzle.

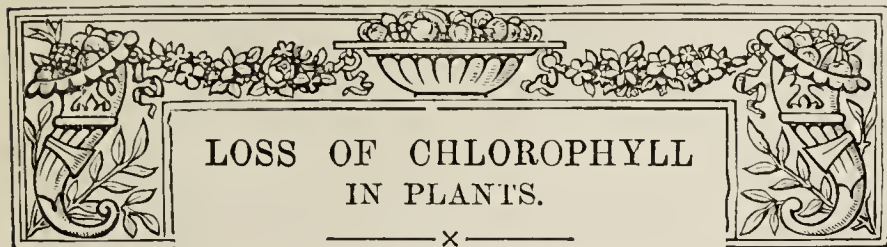
22nd.—Sunny day; overcast evening.

23rd.—Steady heavy rain from 7.30 A.M. to 2 P.M.; gloomy, with frequent showers and drizzle after.

24th.—Dull and overcast throughout; drizzle early and a shower at 8 P.M.

25th.—Heavy rain from 5 A.M. to 6.30 A.M., and from 7.30 A.M. to 10 A.M.; overcast, damp, and dull all day; slight shower at night.

A wet, cloudy, and cold week.—G. J. SYMONS.



THE loss of chlorophyll in plants is generally attributed by scientists to a deficiency of iron in the soil, but the facts are few soils are defective in that respect, and the form in which it is generally advised to be employed—namely, the sulphate, is a clear indication that the sulphur is the exciting cause of the activity of the chlorophyll granules, and not the iron. Of course, in the sulphate form the iron is available, but it is certain that without the sulphur iron has practically no effect on the increased or otherwise manufacture of the essential pigment—chlorophyll. Indeed, iron alone has the result of turning Hydrangeas blue, even giving a violet tint to pink, rose, and red Roses—that is, it heightens their colour and in anything but green. The green Rose does not put on a deep shade when treated with iron oxide, but assumes a lilac tint, though it behaves differently when supplied with sulphate of iron, becoming hardier in plant and the flowers decisively larger and yellowish green in colour. Thus xanthophyll is promoted by the iron as well as chlorophyll by the sulphur in the leaves. Sulphur, as a separate application, will not do anything of this kind, in fact it is as bad or worse in the soil as an excess of iron, therefore we must have recourse to the sulphate, which in any form—the base having manurial or essential soil constituent value—increases the growth of crops, according to Professor A. Müntz, 13.54 per cent. An increase of 30.2 per cent. is claimed for applications of iron sulphate, but the increase of chlorophyll or leaf-green is not more than 9.6 per cent. where there is an ascertained deficiency of available iron in the soil.

The component elements of a sulphate are the base—potash, magnesia, soda, lime, iron, sulphur, and oxygen, and the point to be determined is, of what the active manurial ingredient in these respective compounds consists. Oxygen may do something, but it does very little in oxide of iron; in fact, both are so locked up that only a supply of ammonia can separate them to beneficial influence on crops.

Lime is a great liberator of nitrogenous matter; in fact, it seems to have consumed it all in the case Mr. Molyneux (page 170) refers to. With the sulphur added, or as gypsum, it causes a great increase of chlorophyll, even in leguminous plants, which abstract free nitrogen from the atmosphere, therefore the active principle lies in the sulphur, not in the lime.

In soda sulphate (Glauber salt) there is more than half water, though crystals rapidly lose their water when exposed to the air, and yield the anhydrous salt as a white powder. The effect of its application is to produce a sturdier plant, there being no perceptible increase of chlorophyll, but of xanthophyll, the yellow colouring matter of leaves, flowers, and fruits, and the soda certainly nullifies the nitrogen, hence the value of salt or soda as hardening the tissues of plants, especially the epidermal, as they place such substances as soda, silica, iron, magnesia, and lime mainly as accumulations on the aged cell walls—those of the bark and wood. Any good, therefore, obtained from sulphate of soda is due to the sulphur and the antiseptic properties of the soda.

Sulphate of magnesia has a marked effect on the production of chlorophyll in leguminous plants. Indeed, it is needful to the formation of chlorophyll granules, which are admittedly the seat of those operations that first construct organic substance from inorganic. The sulphur may energise the protoplasm—no more,

yet the magnesia is utilised, worked up into chlorophyll granules, which is proved by magnesia being a constant ingredient of chlorophyllan, a crystallised derivative of chlorophyll. Magnesia and lime are believed to be concerned in the transport of protein bodies, as they occur in the aleurone (organised albuminoid granules) of seeds, and investigations in this direction may possibly lead to discoveries as regards shanking in Grapes and canker (not caused by fungi) in Apple trees.

Potash sulphate—the “high-grade” used for manurial purposes—contains only 28 to 35 per cent. of potash. Consequently there is abundance of sulphur (or other substances), and the effect of its application is decisively invigorating to all plants that make much growth, as Beans, Peas, Clover, and Potatoes; and is an essential of all plants grown for their sugar—Sugar Beets, Sugar-cane, and Grapes. M. Ville was the first to demonstrate that without potash Vines could neither grow nor produce Grapes, and it is a notable fact that his formula contains the essential sulphate, not in the manufactured, but in the natural state. The formula—Calcic superphosphate (dissolved bones), 528 lbs.; potassic nitrate (saltpetre), 440 lbs.; calcic sulphate (gypsum), 352 lbs., mixed, per acre, or 8½ lbs. per rod, or about 5 ozs. per square yard, is admirable for soils deficient in lime, and I may say sulphur. This is the great point—M. Ville knew its value, hence the gypsum, and it is a natural, not a sulphate formed by an acid, such as carbonate of potash dissolved in diluted sulphuric acid. This sulphate is just the thing to take chlorophyll out of leaves, and the same may be said of all acid sulphates. Natural sulphates supply sulphur as well as the base, and when that is present in any soil enough sulphuric acid will be produced without need of more—indeed, it may add expediency to manures, but there is danger of an excess.

In the case cited by Mr. Molyneux there would be at least 18 per cent. of sulphate of lime present in the chalk soil, while the phosphoric acid in such usually shows a higher percentage (0.15) than a Kent Hop soil (0.10). I have held, and still do, that phosphoric acid is the main factor in the direction of chlorophyll formation along with sulphur in certain cases, which to some extent compensates for deficiencies of phosphoric acid. This is verified by soils low in the latter often containing 0.34 per cent. of sulphate of lime, and the growth is free through the energising action of the sulphur on the protoplasm, which really causes a higher utilisation of the phosphoric acid than where this substance is more abundant but the sulphur less.

Potash also in the chalk would be less than in an ordinary loamy soil, which is about 0.30 per cent., but more of that is utilised by plants than in a clay soil containing 0.76 per cent., and the reason is the loam contains more sulphur and not acid, like the 0.10 per cent. of the clay. This leads up to Mr. Molyneux's experience with bones for Chrysanthemums. The application of bonemeal caused the leaves to assume a pale hue, that is, the phosphoric acid and the nitrogen come too slowly; when dissolved bone is used the phosphoric acid and the nitrogen are at once taken up by the plants. Possibly the sulphuric acid may so act on the lime of the bones as to give something analogous to and having the properties of a sulphate, or so act on the carbonate of lime forming the substratum as to form sulphate of lime, for I suppose it is soil from the same formation that is used for the Chrysanthemums as that used for the Vines.

The question is, What prompted the change? the sulphatic, phosphatic, or the nitrogenic. I have placed them in the order in which they stand for influence on the protoplasm, which in itself is a nitrogenous carbon compound consisting of five elements, which chemists inform us has an average composition of 52.55 per cent. carbon, 21.23 oxygen, 15.17 nitrogen, 6.7 hydrogen, 1.2 sulphur. Mechanically the cultivator can aid the supply of oxygen and it and hydrogen by moisture provision, carbon being derived from the atmosphere and is accelerated in appropriation by cleanly culture

and essential conditions of growth, but from a manurial point of view sulphur and nitrogen only can be supplied to the protoplasm, and upon the activity of this or its preservation (as it is in the seed through dryness) the health of the plant depends. Only a little sulphur is needed, that quantity is essential, and it was there—in the lime or chalk—before the nitrogen was supplied that put colour into colourless Vine leaves.

This is a very important subject. Another proof conclusive has been given of the importance of supplying nitrogenous food to plants, for it is a constant constituent, and without it there can be no growth; but nitrogen alone is not enough, for without due supplies of potash, lime, magnesia, phosphoric acid, and other substances, it can do little beyond intensify the colour and favour the development of foliage at the expense of fruit or seed. Nitrates, like ammonia salts, not only heighten the colour of the foliage of plants, but increase absolutely and relatively the quantity of nitrogen of the plant to which they are supplied, and without some compound of nitrogen in the soil vegetation cannot attain any considerable development, notwithstanding all requisite ash ingredients are present in abundance. The case mentioned by Mr. Molyneux confirms this, also that nitrate of soda is the nitrogenous manure to use on a chalky soil, for sulphate of ammonia takes to itself wings and is lost in the air, as in light soils it is rapidly washed out unless given in small quantities at frequent intervals in the early stages of the crops' growth.—G. ABBEY.

AUTUMN FLOWERS IN SCOTLAND.

IN England many plants that have finished flowering in the end of summer or the beginning of autumn are then only in full beauty in Scotland, and owing to the cooler climate they continue blooming for many weeks after growth has come to an end in the south. This explanation is necessary because note will be made of plants that cannot be termed autumn flowers the whole country over. The border Carnation affords a good example of what is meant. It is generally the middle of August, sometimes even later, before Carnations here are in full beauty; but it is also to be noted that they continue in flower for a much longer period than in the south of England. Moreover, where the collection is well chosen, and early flowering varieties as well as late sorts are planted, the season in Scotland can be lengthened considerably. I have had a few kinds flowering since the middle of July, the earliest being William Perrin, a variety not unlike Ketton Rose, which, however, is much later. Countess of Paris follows closely, and then a rose-coloured flower named Delambre comes into bloom about much the same time as the charming white Niphetos, Mrs. Reynolds Hole, and Oriflamme. August opens with a number of good sorts, foremost among these being the border varieties that have been raised by Mr. Martin R. Smith. Alene Newman is known for its good qualities; but even more brilliant than this is Lady Audrey Buller, which in a mass glows like a fire. I have grown these two years now. Even finer than either is The Port Light, a new sort that, along with the good qualities of the above, is a better and much brighter flower. Iona is an older variety, pure white, with small flowers, but wonderfully floriferous. Following these we have Border Maid, Mrs. Muir, Ketton Rose, White Lady, a good German sort; Lady Nina Balfour, a blush flower having a suspicion of salmon tinting it; Jessica, Theodore, King of Crimson, Raby Castle, Germania, white Cloves in variety, crimson Clove, and many others. A feature in the newer Carnations that commends them for an extended cultivation is the habit they possess of continuing to produce one set after another of flowering stems, so that their period of flowering is stopped only by frost.

Next in importance to Carnations we place Sweet Peas. Unless the flowers are very closely cut it is necessary to remove the seed pods once or twice, so as to enable the plants to continue flowering till the winter sets in. The tops of the plants also must be cut off when they reach the limit of the stick. This also causes the plants to flower a longer time. Like Carnations they are being rapidly improved, some of the latest seedlings being most charming. Of those that are in commerce the following are quite indispensable for vase-decorating:—Countess of York, Blushing Beauty, Venus, a most charming sort; Peach Blossom, Mrs. Eckford, and Countess of Radnor among the light coloured sorts; Captain of the Blues, Emily Eckford, Stanley, Meteor, Lady Penzance, Her Majesty, and Cardinal among the dark coloured. I find Mignonette, too, of great service. This

year the seed seems to have germinated badly, and there is a consequent want of this fragrant flower in many gardens. It, however, the plants are allowed space to grow a limited number will suffice to provide bloom for most establishments. White flowered Mignonette is gaining in favour with ladies. The sort I am growing this year is Sutton's White. Cloth of Gold is also good, and Queen Victoria is a fine dark form. Machel is large and fine, and New Perfection is particularly valuable on account of its lengthy stems.

Montbretias have attained an important position among autumn flowers. They are good alike for massing and for cutting. The earliest, and one of the best, is Etoile de Feu, Gerbe d'Or being also early and fine. Rayon d'Or is late and good, Crocosmæflora is still one of the best, sulphurea is noteworthy on account of its being late in flowering. For vase-furnishing Montbretias are indispensable. I have, while they are in season, always one or more glasses filled with these alone. Cut to the ground, foliage and flower together, they are from 3 to 4 feet in height, and arranged as cut, they are effective. The foliage and blooms also group well with other flowers. It is worth noting that a mulch of good manure placed over the plants at the beginning of the winter is beneficial not only in preserving the roots from frost, but also in causing a more luxuriant growth.

The Pentstemon is a most important plant for autumnal decorative effects. The improvement noticeable on new varieties during the past few years is very marked, the individual blooms being much increased in size, and the spikes longer. When grown in rich soil, and no spikes left to go to seed, the plants bloom continuously. Cuttings are taken in the earlier part of October, and dibbled in a bed of light soil in a cold frame, protection being afforded during frosty weather. There is sometimes a difficulty in obtaining cuttings of the newer kinds, as they are less free in producing growths than the older varieties. Strong and long shoots are to be preferred to weakly ones for propagating. The under-mentioned comprise some of the very best sorts, and these will be found suitable for filling a vase occasionally, though it must be noted that special care is necessary with Pentstemons for this purpose, the flowers drooping quickly if the shoots are not put in water as soon as cut. When cutting I take a vessel filled with water along with me, and the spikes are placed in this as cut, and are not taken out until they are transferred to a vase. Sorts that are white, or nearly so, are Mont Blanc, La Perle, Olivier des Serres, and Petrarque. Light sorts, and all extra fine, are Mdle. A. Schaufellé, Sylphe, and Gulliver. Varieties more or less rosy in tint comprise Bolivar, Chinoiserie, Prestige, Hofgärtner Stodtler, Aspasie, and Quintessence. Scarlet shades are found in La Foudre, General Championnet, Etendard, Le Superbe, Franklin, and Charles Dickens. All these are most beautiful, and equally so are those with various shades of maroon or carmine, as Flambeau, Emile Augier, Renommée, Sesostriis, Pythagore, and Leonidas. The following are purplish blue—Tradition, Pythonesse, Dr. Planchon, and Victor Hugo. A variety of great beauty but of an indescribable shade of shining purple is Le Borda.

A selection of varieties of Phlox decussata is invaluable. I grow along with a few clumps of mixed flowers a large number as a background to two long borders. The sorts are all old except a very few that have been lately introduced. Phloxes are of the greatest value when cut for furnishing large glasses. Care, however, must be taken not to take for this purpose flowers of a purplish or lilac shade, which as a rule are among the worst flowers for decorating. Eclairer is one of the best varieties I have seen. It is bright in colouring and the flowers are large. It blooms early and continues late.

Gladioli in themselves form quite a feature in autumnal gardening. But few flowers are so valuable for decorative purposes when cut, and when in season I have several vases continually filled with them. For church decoration again they hold a premier position. If the spikes are cut when the earliest flowers are opening they last for several weeks, merely requiring fresh water two or three times weekly, and the decaying flowers removed as they fade. Very useful are Snapdragons or Antirrhinums. I grow along with striped and spotted flowers a number of white and self-coloured kinds. They are raised from seeds. The most useful are those with flowers of one colour. Some of these are very dark and effective. The most distinctly dark coloured flowers are some I secured from seeds kindly supplied by Mr. Oliver, Esslington Park Gardens. These are the darkest I have yet seen. One variety is named The Lawyer, and another Kelso Ker. These are common flowers, and easy to cultivate, but few are more beautiful when a really good strain is grown. A goodly number of Hyacinthus candicans, grown here and there in clumps, provide a feature of much beauty. For the furnishing of extra large flower receptacles these are indispensable, a few long spikes making

an otherwise lumpy arrangement exceedingly graceful. The bulbs are unfortunately not quite hardy, and therefore a mulch must be provided when they are not lifted. A large stock is easy to raise from seeds, the plants flowering for the first time three years from the time of sowing.

A few of the Michaelmas Daisies are valuable, and none more so than *Aster Amellus bes-arabicus*. I cultivate many more of this than of any other sort. Some of the new forms of *Aster novæ-belgæ* and of *A. novæ-anglæ* are also fine, and like the first named are indispensable for room decoration. In Cactus Dahlias we have now a range of most attractive varieties. Indeed, one can hardly go wrong in cultivating all the sorts distributed during the last few years, still the original Juarezi as yet holds its ground. In Chrysanthemums also we are provided with quite a large number of charming sorts, but I have found none to eclipse the very old *Précocité*, which has been a blaze of yellow for some weeks past. Then with all its faults *Madame Desgranges* and its sports have yet to be surpassed.

Other good flowers for autumn comprise Sweet Sultan, White Mallow, *Godetias*, single Sunflowers (Common, Oscar Wyld, and Primrose), and *Begonias*, which I find are best allowed to start naturally. Where *Pyrethrums* were cut down after blooming a supply of these will be forthcoming. Annual Asters are good. *Nicotiana affinis* (a valuable autumn flower), *Tritomas* (which I grow extensively), and *Rudbeckia Newmanii*, are indispensable for vase-furnishing.—R. P. BROTHERSTON.

PLANTS AND FLOWERS FOR CHURCH DECORATION.

THIS subject is one of general interest, and there is such a wealth of plants and flowers to select from that it is absolutely necessary to devote considerable space to the matter to do it justice. I will first touch upon the most suitable plants for the purpose. The majority of these will be required for the beauty of their foliage alone, as it is always easy to add flowers in a cut state to produce the desired effect.

Palms rank among the best for the purpose. Some of the most suitable are *Kentia Fosteriana*, *Areca lutescens*, *Seaforthia elegans*, *Latania borbonica*, and *Cocos Weddelliana*, the latter requiring more heat than that given to an ordinary greenhouse. *Dracænas congesta*, *rubra*, and *Veitchii*, all greenhouse varieties, have sterling qualities to recommend them for decoration. Other good green-leaved plants are *Aralia Sieboldi*, *Grevillea robusta*, and *Curculigo recurvata*; the latter requires the heat of a forcing house. Among flowering plants available for use from the beginning of June till the end of September but few are better than *Campanula pyramidalis alba*, tuberous *Begonias*, *Fuchsias*, Zonal *Pelargoniums*, and White *Marguerites*.

From October to Christmas Chrysanthemums, *Marguerites*, and forced White Roman Hyacinths should form the chief feature. The early flowering varieties of Chrysanthemums, such as *Madame Desgranges*, *Sœur Melaine*, and *Lady Selborne*, will be in full beauty throughout October, after which time there is no lack in varieties which supply flowers till Christmas. At that time Roman Hyacinths, *Arum Lilies*, and Christmas Roses may be had in abundance where a forcing house is at command. During the two following months forced plants of *Deutzia gracilis*, *Spiræa japonica* and *S. astilboides*, as well as Hyacinths and Tulips will be useful.

From March till May, the greatest number of flowering plants in pots will be available. Many beautiful varieties of Indian Azaleas, and *Azalea mollis* may then be easily brought into flower by introducing them into heat at various periods. *Deutzia gracilis* and *Spiræa japonica* will also grow quickly, and *Lilium Harrisii*, Callas, *Narcissus Poeticus ornatus*, *Primulas* and *Cyclamens*, if grown gradually in a greenhouse, should be in full beauty at Easter.

Turning to cut flowers I will, at the outset, point out that although the majority of flowers required for church decorations should be white, yet in consequence of the growing custom of occasionally using coloured blooms also I shall include some of the best of these among my list. From May till September plenty of flowers may usually be obtained from the open air without drawing up in the inmates of glass houses, except for such choice ones as *Eucharis amazonica* and *Stephanotis floribunda*. Some of the best that may be grown in the open and during that period are *Magnolia conspicua* (grown against a south wall), *Guelder Reses*, *Rhododendrons*, *Marguerites*, *Doronicums*, *Phloxes*, *Liliums candidum* and *chalcedonicum*, *Pyrethrum Aphrodite*, *Roses*, *Asters*, *Gypsophila paniculata*, *Sunflowers*, *Pæonies*, and *Anemone japonica*.

From September till Christmas, as in the case of plants in pots,

Chrysanthemums will supply the bulk of suitable cut flowers, and it would be difficult at any season of the year to find flowers more thoroughly adapted for the purpose. Good white varieties to grow are—Early, *Madame Desgranges*, *Mrs. Cullingford*, *Souvenir d'un Ami*, and *Lady Selborne*; midseason, *Stanstead White*, *Madame Thérèse Rey*, *Elaine*, *Avalanche*, *Beauty of Exmouth*, and *Mrs. J. Carter*; for late use *Lady L. Lawrence* and *Mrs. E. Beckett*. These may be supplemented with *Eucharis amazonica* and Roman Hyacinths from the forcing house.

At Christmas Callas which have been kept in pots throughout the summer should be sending up a few flowers. Christmas Roses lifted and placed in the greenhouse six weeks previously will also be in full beauty. Scarlet *Pelargonium Rasphail Improved*, grown on shelves near the glass in forcing house, Roman Hyacinths, and *Poinsettias* from the same structure will give the best flowers obtainable at that festive season. From January till May Callas, *Camellias*, and Roman Hyacinths will give a rather fluctuating supply, but if plants of *Deutzia gracilis*, *Spiræa japonica*, Indian Azaleas, and *Narcissi* are taken in at regular intervals the supply may be made steady and continuous. To keep up this constant supply during the winter and spring months a considerable amount will have to be expended on bulbs.—H. D.

ENTOMOLOGICAL NOTES.

PROBABLY the influences of different seasons—that is to say, as regards their heat and cold, their moisture and dryness, exert less effect upon the beetle tribes than upon many other species of insects. The fact that certain beetles are more abundant some years than others has not so much to do with the weather as with the number of their bird enemies and insect parasites, or their opportunities of obtaining abundant food. One circumstance notable in the life of some tribes is that the larval state continues two or three years, the consequence being that there is always a much larger number of larvæ or grubs feeding than in the species where the changes are passed through within one year.

Unpropitious weather and various unfavourable influences during any year, naturally take less effect upon a species of slow growth in the larval state than upon a brood that runs its course quickly. The cockchafer affords a good example of a vigorous and, for an insect, a long-lived enemy to our crops. Others of the chafer tribe are very active in the destruction of roots and leaves, some also do injury to flowers. The meaning of the name is debateable, though most think it comes from an Anglo-Saxon word, which alludes to the beetle's habit of chafing, frittling, or gnawing vegetable substances, but it may be a reference to the sound produced by the wings of some of them. In her annual report on the injurious insects of gardens and farms Miss Ormerod states that one of these beetles which came prominently into notice during 1893 was the small but prolific species *Phyllopertha horticola*, which has several English names, such as the May (or June) bug, the Bracken clock, and the Rose chafer; the last of these, however, has been more generally applied to the larger species *Cetonia aurata*, which is conspicuous as a haunter of Roses, owing to its size, but the little chafer is far the worse enemy of this favourite flower. It has yet one name besides, the Welsh coch-y-bondhu, known by that to some anglers, and it can claim that to them, at least, it is of use as an occasional bait. The complaints regarding it last season were, that it was a devourer of Rose petals, and that the larvæ or grubs seriously damaged the turf on lawns or in parks, sometimes in meadows. Of all Roses, this beetle prefers the white Scotch, but it infests many varieties, and eats also the blossoms of other garden flowers.

There is no doubt it occasionally gnaws the leaves of fruit trees, and some accuse it of attacking the fruit when just forming, but this was not reported last summer, though the species seemed so abundant in the south. This Rose chafer is nearly half an inch long, head and thorax bright green, the wing-cases brown, within these are broad wings, and the insect flies in the daytime, becoming quiescent at night. Each female lays about a hundred eggs on the ground, the young grubs work down to the roots of grasses, or perhaps other plants, and, feeding through summer and autumn, are adult by the end of the year. After a pupation of some months they emerge as beetles in early summer; the round of life therefore occupies but a year. In appearance the grub is exceedingly like that of the cockchafer, of course much smaller; its head is brownish, the body yellow, except the extremity, which is, as in the cockchafer, dark, and swelled out; the legs are long, six in number, and the jaws are powerful for its size.

As a result of October digging, observers state that the Rose chafer grubs reside generally at the depth of 7 or 8 inches, twenty of them were often found in a square foot of the soil. These, and the beetles that follow, might do us serious mischief were it not

the fact that several species of birds greatly reduce their numbers ; but, of course, the temporary effect of the explorations they carry on does not improve the appearance of any lawn or field. Starlings are described as hunting for the grubs in hundreds, or even in thousands, rooks prey upon them, also the missel thrush, and other birds. Poultry, if turned out where they abound, will clear off some of them, and, as Miss Ormerod remarks, even pigs might be of use, were it not that their mode of ploughing up the ground with their noses would do damage to the turf worse than that caused by birds. But the most reliable method of keeping the insects under, next to encouraging its bird foes, is, Miss Ormerod thinks, the capture of the beetles by shaking them off the plants or trees they visit. This can be done in the daytime, better still at night, when they have settled down to their repose. Lime and other alkalis, scattered over the land in autumn or winter, may be of some service, also diluted gas liquor, but an objection to that, and to other strong smelling applications, is that they may drive away birds without extirpating the grubs.

The Rose chafer, called by entomologists *Cetonia aurata*, is a much larger insect, and, from its golden tints, looks very metallic when it is flying in the sunshine. It has the peculiarity of extending its wings without at the same time spreading out the elytra or cases, which are only raised a little. Many years ago I noticed this beetle flying by hundreds along a Privet hedge in one of the market gardens then existing at Fulham, and felt convinced that the larva or grub could not feed upon wood solely, as was commonly supposed then, but that it was probably a devourer of roots, or the beetle would not have occurred thereabout in such profusion, though there were orchards near in which some decayed trees might have been found, no doubt. Recent observations prove that the larva is frequently subterranean in its habits, perhaps preferring the larger roots of trees for its food when these are decaying, and occurring upon them sometimes in parties. Their growth is slow, the larval life continuing for three years, after which they construct a strong cocoon in which they become pupæ. Should they feed in gardens upon various roots the grubs, it is presumable, are seldom distinguished from those of the cockchafer. Like that species, they are stout and fleshy, but have shorter feet, and upon the body rows of reddish hairs. The beetle, as a visitor to flowers, has been noticed to favour those that are white ; it often visits Roses, Honeysuckles, Candytuft, the Elder and Privet bloom, as already remarked, and occasionally, at least, gnaws the nectaries, and the lower part of the petals. I am not aware of any recent instances of damage arising therefrom, but this insect is known to visit Strawberries while in flower, and it is said to have a fancy for Turnips that are grown for seed, when it bites the anthers off the flowers. The sound produced by this chafer is a rather musical hum or buzz, quite different to the droning noise of the dor, and the shrill chirp of the musk and other beetles.—ENTOMOLOGIST.

THE NUTRITION OF ROOTS.

As Mr. Bishop in his last communication (page 168) states that he considers I have wilfully "perverted a great deal of his articles," I think it is time this controversy was brought to a close. It is quite bad enough to have to try to make sense and to puzzle out the meaning of Mr. Bishop's communications, without being told that I have "perverted his articles." Those readers who have followed this discussion must judge between us on this point. They have the whole matter before them. Under these circumstances I do not propose to reply to Mr. Bishop further than is necessary to terminate the controversy as quickly as possible, but I wish to explain to my readers my reasons for taking this step. Firstly, when once an opponent begins to charge his adversary with wilfully "perverting his articles" he will continue to do so whenever he is driven into a corner. Secondly, if I am to go on replying to Mr. Bishop's statements, and he alters them as fast as I reply to them, where is the matter to end? What I mean is this, after I have gone to the trouble of replying to Mr. Bishop on a certain point, and have shown him that he is talking nonsense, he wriggles out of it by saying that "what he ought to have said was something different." Is it right ; is it fair that he should be allowed to do this?

To illustrate my meaning more clearly I will give a few examples. Mr. Bishop states that "air assimilates food." When the absurdity of this is pointed out to him he passes it off by saying his MS. was wrong, and he ought to have said something different. Not a word of regret, not a word of apology. Again, Mr. Bishop enters into an elaborate explanation to show what he really did mean when he said that "when water passes off from the surface of the soil by evaporation it leaves all its *solid* impurities behind." Now, when I read Mr. Bishop's original

paragraph I was astonished. Here was a man stating that *rarefied* water contained *solid* impurities in solution. How can anything which is dissolved be solid? This is quite as absurd as stating that air assimilates food. I sent the paragraph to a scientific friend of mine, and asked him what he thought Mr. Bishop meant. He replied, "I do not think Mr. Bishop himself knows what he means." I mention this to show the trouble I have taken to try to understand Mr. Bishop's statements. My impression is that when Mr. Bishop wrote the paragraph he meant that the water passed off in vapour, and left everything behind on the surface of the soil, and that is the meaning I have put upon it.

As regards Mr. Bishop's explanation of what he means when he speaks of "rarefied" water (page 169, paragraph 3), is there any man in England who can see either sense or meaning in it? First he says it is normal water in a bucket ; then he speaks of water at a very high temperature (boiling water he means, possibly) ; then he speaks of it as vapour.

In the next paragraph (page 169) he makes mincemeat of his former statement that water exists in an intermediate state between water and vapour (page 100), as he says "that water remains liquid until it turns into steam or vapour."

Mr. Bishop (page 100) says "that the roots imbibe moisture as it is in process of evaporation, and he defies contradiction." I will not contradict him ; he shall do it himself. On page 169, paragraph 6, I find him saying, "My impression has always been that the roots being cooler than the soil and cooler than the air the roots *condense* this moisture or vapour into water, and assimilate it. Here we have him stating that (1) roots imbibe moisture, not water ; (2) that roots imbibe water, not moisture. Wonderful, Mr. Bishop ! Space will not permit me to go any farther ; but in concluding my reasons for wishing to close the discussion I will say I never came across anybody who contradicted himself so much or so often as Mr. Bishop does.

I may be drawing too largely on the credulity of my long-suffering readers. Be that as it may, I ask them to believe me when I tell them that if I do not reply more fully to Mr. Bishop it is not for want of matter or facts for the purpose. Now I suppose Mr. Bishop, when he reads as far as here, thinks he has nothing to do but step forward and claim the victory. Alas ! "There is many a slip 'twixt the cup and the lip." Before I finally leave this question I will compel my opponent either to prove himself to be right, or to prove me to be wrong. This, of course, with the Editor's permission.

So here I challenge Mr. Bishop to produce any authority, accepted as such by the scientific world, in support of the following statements which he has put forward, the greater number of which are in his own words, and which form the basis on which his theory rests.

1. That roots of plants do not absorb their food in actual liquid water (page 100, paragraphs 2 and 4).
2. That roots of plants absorb their food by means of moisture which is not actually liquid, but in process of evaporation (page 100, paragraphs 2 and 4).
3. That roots of plants condense moisture into water and assimilate it (page 169, paragraph 6).
4. That moisture in the soil, not in a liquid form, can and does contain all the elements of plant food (page 100, paragraph 2).
5. That vapour can and does hold in solution elements of plant food, gaseous or otherwise (page 169, paragraph 3).
6. That moisture, not being actual liquid water, can rise in the soil by capillary attraction (page 100, paragraph 2 ; page 169, paragraph 5).
7. That oxide of hydrogen exists in an intermediate state between vapour and water (page 100, paragraphs 2 and 6).
8. That when the surface of the soil becomes dry by excessive heat, that the moisture which exists low down in the soil is not a liquid nor yet vapour (page 100, paragraph 2).

As I am most anxious that there should be no misunderstanding regarding these statements, and as Mr. Bishop has never said in plain English "that roots of plants do *not* absorb their food in actual liquid water," I wish to repeat here the paragraph in which I think it will be generally admitted that Mr. Bishop very fully and plainly infers that such is the case. Here it is (page 100, paragraph 2) : "Moisture which exists low down in the soil, when the surface becomes dry by excessive heat or drought, becomes rarefied, and is diffused, carried by capillary attraction to the surface. Can this moisture be called water? Can it be called vapour, while one is a liquid and the other an invisible compound? I say, No. It is a condition between the two capable of dissolving—more so than actual water—soluble elements and compounds which can be assimilated by the plants. Do not understand me to say water applied, or which falls in rain, or is forced up as in springs, is not water ; nor that the roots cannot make use of it in

that form; nor yet that it will not dissolve soluble and insoluble plant food in the soil."

Had Mr. Bishop not written the last sentence here quoted he might fairly contend that he was simply referring to the rising of moisture in the soil. But he did not stop at that, he went on to say that he did not deny that roots *could* absorb actual water. Why this denial if he was not contending that roots absorb something else, which he states is not actual water?

Mr. Bishop's quotations from standard authorities in support of the numbered statements I have put before him will, I am sure, be most interesting.—D. GILMOUR.

I HAVE read with keen interest the correspondence in connection with the nutrition of roots in the *Journal of Horticulture*, and hoped to profit by the same without penning any remarks. As Mr. Bishop, however, makes statements on page 169 which are a little at variance with my meagre knowledge of both science and practice, I feel almost compelled to ask him a few questions in order that that knowledge may be augmented and my mind set at rest.

Your correspondent makes bold to assert that inorganic substances are raised from a lower stratum to the surface of the soil by the means of water vapour. Can Mr. Bishop give us any proof that this is so beyond a mere assertion? Unfortunately I have found nothing in science to bear out his teaching, and in practice the proofs have always been in an opposite direction. For instance, put an ounce of salt into a quantity of water, place the same in a vessel, put it on a fire, and we will evaporate all the water, but the salt remains. Again, trench a plot of sandy loam 2 feet deep, placing 6 inches of good farmyard manure in the bottom, plant this ground with Cabbage, and the result will be slow growth, small leaves of a pale green colour, tough in texture, and few of the plants will form hearts.

These examples of practice are from the book of experience, and if the teaching of Mr. Bishop does not coincide with them it will be for him to explain the reason why. When doing this perhaps he will kindly mention his authority for the statement that a molecule of water vapour will hold (by affinity) mineral substances? Gaseous compounds of something like the same specific gravity may mingle with water vapour; but how mineral elements, at ordinary temperatures, are to be made to do so will be for your learned correspondent to tell your readers.—R. C. H.

A WHITE WATSONIA.

A CORRESPONDENT sends flowers of *Watsonia iridifolia* var. *O'Brieni* which remind us that this charming Irid is not so extensively grown as it should be. Several varieties have been known in English gardens for the greater portion of the present century, and *W. iridifolia* var. *fulgens* is a brilliant companion for the beautiful *W. rosea*; but the variety now depicted (fig. 31) is not generally known. Like the rest it is of easy culture and may be grown in pots for greenhouse decoration.

CAMPANULA G. F. WILSON.

It is well recognised that the nomenclature of the dwarf Campanulas is in a very confused condition, and that the task of clearing up doubtful points is by no means an easy one. The hybrid Campanulas bearing this name have given rise to considerable private correspondence, besides what has taken place through the medium of the horticultural press. I say Campanulas advisedly, because there are at least two, and there are probably more all entitled to the name. It is unfortunate that this is so, but until this is recognised the confusion will continue, to the bewilderment of growers. Considerable inquiry has placed me in possession of some information regarding the plant or plants which may be worthy of record, and may tend to disperse some of the difficulty which has arisen.

Several years ago a number of seedlings were raised by the late Mr. Anderson Henry of Hay Lodge, near Edinburgh. These were the result of a cross between *C. pulla* and *C. turbinata*. The seedlings varied in habit, and it is through this that the confusion has arisen, the same name having been given to the various forms. Nor is this the only unfortunate circumstance connected with the matter, as the plants were first named by the raiser *C. Regeli*, next *C. Balfouri*, and then *C. G. F. Wilson*. I am not aware if Mr. Anderson Henry distributed any under the name of *C. Regeli*, but he seems to have sent some out as *C. Balfouri*, as I have seen his name in catalogues, and this summer I saw in the garden of the late Mr. Jenner of Easter Duddingston Lodge a plant of a yellow-leaved Campanula labelled *C. Balfouri aurea*, which is

identical with one of the varieties of *C. G. F. Wilson* in the Edinburgh Botanic Garden, and with the plant named *C. G. F. Wilson* at Kew. The Easter Duddingston plant is understood to have come direct from Mr. Anderson Henry's garden. It is as *C. G. F. Wilson*, however, that these Campanulas have been generally distributed, and it is to be hoped that this name may be retained, as although it was not the prior title it is in accordance with the now recognised principle of giving English names to plants of garden origin.

From an inspection of plants grown as *C. G. F. Wilson* in the Botanic Gardens at Kew and Edinburgh, also in many private



FIG. 31.—WATSONIA IRIDIFOLIA VAR. O'BRIENI.

gardens, and from growing several plants from various sources close together in my own garden, I have come to the conclusion that they may be divided into two forms. One of these, which we may call No. 1, has leaves which are yellowish when they are in a young state, but afterwards become a healthy green. This form has deep blue flowers, with the centre almost white. These are neither erect nor drooping, but face to one side. The habit of this form is vigorous, and it grows from a few inches to 1 foot in height, and is one of the best of the dwarf Campanulas for garden purposes. On a recent visit to Kew I saw a small plant of this form labelled "*Campanula* of garden origin," or words of similar import.

The other type, which we may call No. 2, has also leaves yellowish at first, and these are nearly always retained, although in some gardens, my own among the number, the foliage is much greener than in others. The flowers are very similar to those of the other type, but more sparingly produced, and are in some cases a little shorter than those of No. 1. The habit is much dwarfer and less vigorous, and the plant is more difficult to retain in the

garden. A fine mass of this form, beautifully grown, is to be seen in the rock garden at Kew labelled "G. F. Wilson." If it would grow as well everywhere we would hear no complaints of the delicacy of this yellow-leaved form. This plant has been sold as *C. Raineri vera*, which is quite a different plant, with erect and almost stemless flowers.

I hope this note may be of service to some readers. I have to acknowledge my indebtedness to Mr. Lindsay, Curator of the Edinburgh Botanic Gardens, for information regarding the origin of the *Campanula*, and also upon other points.—S. ARNOTT.

FRUIT AT SAWBRIDGEWORTH.

THE fruit crops of this year in some parts of the country are by no means equal to those of 1893, but there are exceptions to the rule. To corroborate this one need go no further afield than to the nurseries of Messrs. T. Rivers & Son, Sawbridgeworth, where ample evidence of successful fruit cultivation is forthcoming. Last year when referring to this well known establishment a writer remarked that the "trees were in excellent condition, auguring well for the future." If such was the case then, and there is sufficient proof of it, it is equally so at present, for notwithstanding the rather unfavourable season the trees are bearing enormous crops of fruit.

PLUMS AND PEARS.

The severe frosts experienced in May last, and which devastated so many fruit gardens, did not apparently do serious damage at Sawbridgeworth, or assuredly the trees would not be so heavily laden as they are this year. This applies more particularly to Plums and Pears, the former being literally breaking down under their burden. The gathering of the Plum crop involves considerable labour, a large number of men, women, and children being employed for the purpose, and the work is actively carried on. It is six weeks since the Plum harvest commenced, and nearly as many will elapse before it is completed, Mr. Rivers having hundreds of trees of his noted Monarch, which comes in so useful when the glut is passed. This is obviously a Plum of the future, and persons who are contemplating fruit culture on an extensive scale will do well to plant several hundred trees of this variety. It was raised at Sawbridgeworth, and like other seedlings of merit which have originated at the same place, is there grown in preference to other kinds. The Monarch is a valuable market Plum the fruit being large and handsome, bluish purple in colour, of excellent quality as a culinary variety, usually ripening towards the end of September. Rivers' Early Prolific is another excellent variety. A large plantation of this kind has produced many tons of fruit this year, the same applying to The Czar, a valuable dessert Plum for commercial purposes. For flavour but few varieties can be compared with Late Transparent. This is a purplish Plum of medium size but deliciously sweet and juicy, and an honour to Sawbridgeworth where it was raised. Everyone who has tasted this delicious fruit will concur with Mr. Rivers in his opinion that it is especially adapted for drying and using as a "sweetmeat." This is an industry as yet hardly in its infancy even, so far as this country is concerned, but we shall, doubtless, hear and see more about it in due course.

Pears are as well represented as Plums. Of fruiting trees Fertility and Conference are most in evidence. The trees of the former variety are bearing prodigious crops—bushes, pyramids, and standards being equally fruitful. In many cases the branches are covered with fruit in a similar manner to the proverbial "ropes of Onions." Those who desire a Pear that is practically certain to produce a crop of fruit annually should bear this variety in mind, for bushes but 3 or 4 feet in height yield an enormous number of fruits, to say nothing of the larger pyramidal and other trees. Conference, too, has proved itself worthy of its "birthplace," and is probably destined to become one of the most popular Pears. This variety is very prolific, bearing heavy crops of large handsome fruit of excellent flavour. Beacon is another Pear possessing extraordinary cropping properties, while the same may be said of other varieties. Apart from the trees now in a fruiting condition, there are, of course, thousands of others of all sizes, and suitable for forming fruit plantations during the ensuing autumn. They are all noteworthy for their remarkably healthy appearance, many of the maiden Pear trees having made 4 and 5 feet of growth, and this on the Quince stock too. Other kinds of fruit trees are in the same condition, and the wood now promises to be as well ripened as last year.

APPLES, CHERRIES, AND VINES.

Questioned as to what fruits were the most profitable to grow Mr. Rivers unhesitatingly replied, "Apples and Plums." Many persons, this year, may not be in accordance with this view, seeing that the Apple crop in some localities is a sparse one, but it is not so at Sawbridgeworth. Here may be seen the "king of fruits" in abundance, some of the trees being loaded with large handsome Apples. All the best varieties in existence are grown, but were it possible Mr. Rivers would make a considerable reduction in this matter, retaining for commercial purposes a limited number of kinds. Duchess of Oldenburg is a favourite Apple for profit, and Bismarck is extensively grown. A fine plantation of Cox's Orange Pippin is also deserving of mention, as are Lane's Prince Albert, Bramley's Seedling, and other popular varieties. In view of the controversy now appearing in these pages *re* the importance of

"Ripened Wood," the writer inquired of Mr. T. F. Rivers his opinion on the question. Smiling, the Sawbridgeworth expert said, "If not the frost in May it was probably the winter moth that caused a failure in the crop, and not the well-ripened wood!" Like many other, indeed one might say all practical fruit growers, Mr. Rivers lays the greatest importance on well-ripened wood, and to this having been so well accomplished last year attributes his enormous crops this season.

Cherries, with a few exceptions, are, of course, over, but the young trees appear to be wonderfully healthy. The trained specimens are a feature here, many thousands of them being grown. Vines in pots, too, are looking at their best, and many large houses are devoted to their culture. From a cursory glance it could be seen that the rods were from 8 to 10 feet in length, nearly as thick as a man's finger, and commencing to put on that rich brown tint so much admired, and with "eyes" as prominent as Hazel Nuts. Other Vines of various kinds are bearing heavy crops of Grapes this year, the large handsome bunches consisting of fine well-coloured berries densely covered with "bloom." In the vineries examples of growing Grapes in miniature borders may be seen. A Vine of the comparatively little known Trentham Black variety is grown in a 10 or 12-inch pot. This is plunged in a border perhaps 2 or 3 feet square, in which space the roots that come through the hole in the pot are confined. In this position the Vine, some twelve years old, grows remarkably well, and at the time of my visit was carrying a dozen or more large bunches of richly coloured Grapes of rich flavour. This is a method that might suggest itself to and be advantageously adopted by those who at present have to grow Vines in heavy, cold, and retentive soils.

FRUIT TREES IN POTS.

As interesting, however, as are the thousands of admirably trained fruit trees in the open quarters at Sawbridgeworth, in some respects they bear no comparison to those cultivated in pots. These alone are worth a visit, and they afford an excellent lesson in judicious management, the value of which cannot be over-estimated. The system of culture is not confined to one kind of fruit, such as perhaps some readers may imagine, but Apples, Apricots, Cherries, Pears, Plums, Peaches, Nectarines, and Oranges are extensively and most successfully grown in pots. It is indeed a pleasant sight to see perfectly formed pyramids of Peaches and Nectarines from 4 to 14 feet in height laden with their luscious fruit. These trees are in pots, ranging from 12 to perhaps 24 inches in diameter, a compost of loam, decayed manure, and chalk being used. During the season they are top-dressed with manure and kiln dust, rising in the form of a basin an inch or two above the rim of the pot. Dwarf standard Peaches are also grown, these being very profitable, as are Apricots and Apples. Many of the latter are now bearing unusually fine fruit, which can compare favourably with any produced on trees in the open air.

The Pears in pots form a particularly interesting sight, and those who desire a good crop of fine fruit annually and wish to avoid the risks and dangers from frost should follow Mr. Rivers' example; this is to cultivate a number of suitable varieties in pots, thereby forming a Pear garden with the certainty of obtaining fruit despite unfavourable climatic influences. This is a hint of which northern growers may with advantage take notice. At the establishment alluded to there are hundreds of Pear trees in pots, each bearing from one to two dozen handsome fruits. The trees are kept under glass until all danger of frost is past, and are then plunged in ashes in a sunny though sheltered position outdoors, where they remained to ripen their fruit and subsequently the wood. This year the birds are troublesome, and this "Pear garden" is consequently enclosed in nets to protect the fruit. Plums, too, are beautiful and useful objects when grown in pots, and it is surprising that this method of fruit culture is not more generally adopted in private gardens.

The foregoing are but a few of the leading features at Sawbridgeworth, there being much more of interest to relate did space permit. As is well known Raspberries and Strawberries, indeed all kinds of fruit, receive attention here, as the soil and situation are admirably adapted for the purpose. With fertile land on a south and south-west aspect Mr. Rivers can produce excellent trees, and so great is his faith in fruit culture in the future that he is anticipating making additions to the already extensive nurseries.—C.

DECORATIVE BRITISH FERNS.

(Concluded from p. 492, last Vol.)

IN the various articles under their specific headings I have given an idea of the habitats affected by the several species, from which may be deduced their individual tastes and needs as regards soil and general treatment. To those readers whose available space embraces similar congenial nooks and dewy dells as Nature affords in her untutored wildness, it is obviously possible for them to accommodate a fine collection with the minimum of expense and trouble, since they have only to remove the luxuriant growth of normal forms and replace them by their kindred varieties, and the latter will take care of themselves in ninety-nine cases out of a hundred.

To many persons, however, the problem will present itself of how to arrive at the desired result under very different and often adverse conditions, and here it is that some advice may be welcome. As we shall have seen, the three main essentials of Fern life are shade, protection from wind, and a congenial soil of open leafy material. We must furthermore bear in mind that the delicate nature of many of

the sports—i.e., delicacy of structure, demands extra protection. Many of the very heavily crested forms, for instance, have such a sponge-like capacity for retaining moisture in their finely comminuted dense crests that protection by glass from hail or rain is quite essential to the preservation of their beauty, and in point of fact Ferns of this class in my own collection never get a drop of water on their fronds, all moisture being carefully supplied to the roots and surrounding soil only. It is not merely that the heavy crests are apt to decay at their centres if constantly wet, but the weight alone of the contained water is apt to break down the fronds. Many, too, of the finely divided plumose forms are so dense as to run the same risk, so that it may be regarded as a general maxim that syringing is a mistake. Nature it is true in the ferniest districts does this lavishly enough, but we must bear in mind that from the evolutionary point of view many of the varietal forms are by no means the "fittest" for survival in the struggle for existence, some of the cultural varieties being quite unsuited to stand the wear and tear of normal climatal conditions. In all private collections of any magnitude we find therefore that this difficulty is met by either cold greenhouses or frames being erected for the accommodation of the special favourites, and also for that of the young broods where propagation is in question.

GENERAL CULTURE.

The natural habitats of nearly all Ferns are characterised by a rugged and broken surface of the soil or rock formation, or failing this by greater or less inclination. To attempt to grow Ferns to perfection in flat level beds as we do flowers is a mistake, while the nearer we approach to a sloping bank of rocks the better. In nature, too, since shade is one of the requisites, we shall find the slopes of northerly aspect to be clothed the thickest, hence a sloping rockwork facing north is a desideratum. This aspect, however, clearly demands some screen from the wind, and tall trees at some distance are desirable. Overhanging trees are objectionable for two reasons—first, Ferns like abundance of top light, and get drawn and weakly in dense shade; and secondly, the roots of trees are far too apt to spread into the leafy soil provided for the Ferns, and thus more or less rob and starve them. In woods we see this everywhere exemplified. It is in the open spaces and clearings that the Ferns are thickest; under the trees they are usually conspicuous by their absence.

In building a rockery all formality of design should be sedulously avoided; the proper way is to throw up a rough earthen bank of the form desired, under which as a foundation and to facilitate drainage a good heap of old brick rubbish may be put. The bank should be made somewhat higher than needed, as it is sure to settle some inches. This done it should stand for some days to permit such settlement before the rockwork proper is added. In places where there is abundance of native porous stone, this may be used in roughest possible pieces, but in the vicinity of brickyards the "burrs" produced by the amalgamation of bricks in the kilns form very good and congenial substitutes, any brick corners being knocked off with a hammer.

Next provide a good open compost, half leaf mould and half turfy loam, with a dash of well-washed road or silver sand; mix this well together. Now, commencing at the bottom of the slope, dig out holes deep enough to half bury the largest burrs or stones, setting these firmly in so that they settle down by their own gravity, and are not liable to topple over. Work some of the compost well in around and behind, and start again higher up, aiming only at making as many diverse nooks and pockets as possible, and inserting irregularly large blocks here and there for effect. If large rough slabs are available, an appearance of stratification can be imparted by inserting these judiciously on the face always at the same low angle, while if they be bedded one on the other with good compost between they afford splendid chinks for small Ferns of the rock and wall species.

Most of the Ferns can be inserted in their places during the process of building, the whole being finally "settled" by a copious watering. If thus constructed there will be no fear of disastrous collapse and down-toppling in frosty weather, whereas if the usual course be taken of making up the bank, building up the rocks and filling in the soil all at one operation, it will be found that the soil will settle down by itself, leaving the rocks or burrs on the top as a kind of loose crust without any coherence at all, while any Ferns which have been simultaneously inserted will be found chaotically buried in their recesses. The best time for such rockwork construction is the early spring, and the next best the autumn, since in summer it is rather a trial to the Ferns if the rockwork be in the open and warm dry weather follow the operation, besides which the plants being in full frondage are sure to be damaged and look unsightly for the rest of the season. In planting, the nature of the Ferns, whether deciduous or evergreen, should be considered, so that in the winter there may be a fairly distributed display of the evergreens; this, however, refers rather to collections under glass, since out of doors the rough weather is sure to batter the fronds down, though they may still remain green.

HARDY FERNS UNDER GLASS.

In glass houses it is not well to have them heated for hardy Ferns, or, at any rate, if there be pipes no heat should be applied until March. In my own fernery there are no heating appliances at all, since I found that even with quite moderate warmth, sufficient only to keep out the frost, the period of winter rest was so shortened that growth began quite two months too soon, the result being weakened constitutions and vermin galore, whereas when kept perfectly cold they did not start until March or even April, and were then as vigorous as could be desired.

Protected from the wintry blasts many of the evergreens retain their beauty until the new fronds arise, and hence if properly distributed the house will look green and fresh all the year round.

Under glass it is, of course, optional whether the Ferns be planted in the soil in rockwork or planted in pots which are masked by the rocks or burrs, or finally kept simply in pots which are staged in the usual manner. In my opinion the middle course is the best. If planted in the soil under glass the Ferns are practically fixtures, and cannot be removed or readjusted without actual transplanting, whereas if placed in rustic pots these can be built in as it were with burrs or stones, and as growth or a desire for variety renders a change advisable they can be shifted at will without detriment. In this case when the deciduous species become shabby, evergreens can be installed in their stead, and so the house is always kept presentable.

In building a glass house for hardy Ferns it is well to erect the walls right up to the spring of the roof, since with a side light they are apt to look their best from the outside, while with a top light only they grow much more symmetrically. The walls, too, can be covered either with Booty's wall tiles, flat-sided rustic pots, cork pockets, or even with blocks of brown fibrous peat kept in place by galvanised wire. As under congenial conditions seedlings speedily make their appearance, a wall may be dotted over with specimens of varieties of *Polypodium vulgare*, *P. dryopteris*, *P. phegopteris*, as a start, and if good forms of *L. dilatata* be anywhere near, a crop of these and others will soon make themselves at home, and form a very beautiful mask for an otherwise bare and unsightly surface.

The fernery should be in such a position as to get as little sun as possible, since coolness is a great desideratum as well as shade, and if the wall or roof were subjected to a baking sun, the plants would suffer severely in the hot summer months, even though shaded with scrim or tiffany. A deep cutting roofed with glass, and shaded by tall trees on the south would form an ideal fernery. I have contrived a cool receptacle for small-growing Ferns in an open sunny garden by digging a trench running east and west, about a foot deep and 2 feet wide, the earth being thrown up on the south to form a bank sloping in that direction, and supported by a brick wall 3 feet high which forms the south side of the pits. Ordinary roof slates keep up the soil on the north of the pits and project some inches above it, while a row of lights hinged to the brick wall and resting on the said slate edges form the whole into a long glazed sunken frame, the bottom of which is covered with red porous tiles. The south or sunny slope of the bank accommodates a number of choice alpine, and the pits a collection of *Blechnums* and other Ferns of smaller growth.

For general purposes the best compost consists of a mixture of two parts of peat or leaf mould, two parts of turfy loam, and one part of sharp road or silver sand. In potting, drainage must be as well looked after as with flowering plants, since with few exceptions Ferns grow in places where the freest possible percolation exists. Crocks must, therefore, be used and covered with some rough material before the soil is put in; the plants should then be potted moderately firmly and well watered. The pots should not stand in saucers, or if they do the saucers must be emptied of accumulated water, otherwise the soil becomes soured with stagnant moisture and the plants suffer.

During the winter they must be kept thoroughly moist. Nature at this period keeps them at their wettest, while under culture the mistaken notion that while they are resting they can be left severely alone leads to many a gap being seen in the ranks when the growing season re-appears. It is my custom to pour a little water over the crowns repeatedly during the winter months, since the actual period of rest is much shorter than it appears, and the crowns will be seen to swell and expand for weeks before the fronds actually rise, a clear sign that the roots are busily at work, and consequently need the moisture afforded.—C. T. DRURY, F.L.S., F.R.H.S.

MELONS AT WOBURN ABBEY.

UNDER the above heading "W. I." writes on Melons in your Journal of the 9th ult. I should not have asked that this reply be inserted had "W. I." simply confined himself to Melons and their culture, without the indirect hitting that I alone can thoroughly understand, having had charge of the gardens for the last twenty-two years. After all, there is nothing new in Mr. Calvert's cultivation of Melons, or anything extraordinary in growing two on each plant, or that he should place "high quality before everything." A high quality Melon, to me, should include appearance, size and flavour, but as the final judgment of the fruit depends on its flavour, all practical gardeners should certainly grow Melons for flavour, sacrificing appearance and size if they cannot otherwise obtain superior flavour.

"Some idea" (says your correspondent) "of the unsuitableness of some of the present houses for Melon culture may be gathered from the fact that the head room is so limited that the plants had to be zig-zagged as many as three times in order to keep them within bounds, and the fruits are hanging so low as to nearly touch the pot." He also says, "There is every likelihood of a large, well planned range of Melon houses being constructed soon, but in the meantime the best has to be done with the low, flat places available."

Outsiders, from the number of letters I have received, evidently believe from the above lines that faulty, improper structures have been erected at Woburn Abbey for Melon growing. The fact is, Melons have not been required at Woburn for the last twenty years, and no house was ever erected for their growth at any time. Those that were grown

were usually confined to brick pits, but no demand was ever made for them until this year.

Now, as to the soil used, "W. I." says "Mr. Calvert has to contend with canker, and he partially blames the light soil for this. He has not been at Woburn Abbey many months, and had no time to look up a heap of what he rightly considers suitable soil. Another season all this will be altered, as they do not appear so shy of cutting soil at Woburn as at far too many other places."

Once more my reply is, for many years up to 1894 no turf was more jealously guarded than at Woburn, and none permitted to be dug except in this light loamy corner, and "W. I." may console Mr. Calvert that I at last, just before leaving, was permitted to select for his use a part of the park where he can cut turf for years to come of a quality that will cure the "canker" next year, if soil alone will do it.

For years the Woburn Abbey Gardens have been known for their all-round work with a stated number of hands. My noble employer once told me, "The gardens were for his experiments and pleasure, and not, as in too many places, for the gardener." Consequently everything was worked to that end. How well that object was attained, after seventeen years' management, speaks for itself in the following memoranda. On presenting a letter with the balance-sheet at the end of the year it came back endorsed, "I beg to thank Mr. McKay for this very satisfactory statement.—BEDFORD."

The following year's note is, "I have received the Woburn Abbey Gardens account, and beg to thank Mr. McKay for his good and economical management.—BEDFORD."

The originals of those memoranda shall be shown to "W. I." at any time if he will call on me.—ALEX. MCKAY (*late of Woburn*), 2, *Stockwood Crescent, Luton, Beds.*

[We insert Mr. McKay's critique on the notes of our correspondent "W. I.," which appear on page 130 of our issue of August 9th, with a request that those of our readers who are interested in the matter, and not prejudiced, will carefully examine and compare them with the present rejoinder, then judge for themselves as to whether Mr. McKay has any such legitimate grounds of complaint as he imagines.

We should be very much surprised if "W. I." had Mr. Calvert's predecessor in mind when he penned his article. Be this as it may, we believe our correspondent to be incapable of "hitting" at a gardener out of a situation. We are convinced he would have far greater pleasure in assisting a competent and worthy brother of the craft into a good one if he could, and as he has many times done. We should not thank any gardener to write to the *Journal of Horticulture* if he would not do this, and we would not knowingly publish an article from anyone who made it the medium of casting reflections of the nature of those indicated by Mr. McKay.

The question of the absence of suitable houses for Melons is completely answered by the statement that "Melons were not required during the last twenty years," therefore neither were the houses. Now that Melons are wanted is it not reasonable to suppose that suitable means for producing them will be forthcoming?

As to soil, evidently Mr. McKay was not satisfied with it, and it was kind of him to obtain permission to procure some of a better staple for his successor; yet we doubt if it will "cure," though we hope it may prevent canker in Melons.

The Duke of Bedford's memoranda could only be dictated by noble instincts, and it was an act of innate courtesy to thank his gardener for his satisfactory statement and good management.

If "W. I." should call at Luton to see the "originals," he will also, we presume, be permitted to see the "number of letters," the writers of which interpret the remarks in the article on "Melons at Woburn" as a reflection on the capacity of the late gardener there. If the number is large we shall take it as a compliment that the *Journal of Horticulture* is so extensively and carefully read; if small, that there was not much to complain about. We trust Mr. McKay will soon obtain a situation which will afford scope for the exercise of his gardening abilities.]

NOTES ON PEAS.

THE instructive notes by Mr. Chinnery (page 173) cannot fail to be of interest, recording as they do a selection and the behaviour of well known Peas in a season which has been scarcely paralleled for severe May frosts, also an almost entire absence of sunshine during the summer. Opinions will always vary as to the best varieties to grow; but there is no doubt that a carefully selected list is of much importance where a succession must be maintained.

How much we are indebted to the firms who have introduced the many useful Peas. I have this season given a trial to May Queen and Al, sown at the same time and on the same border as American Wonder and William Hurst. Although they scarcely possess the dwarf habit of the two latter I must admit that Al was the earlier to gather, being a week in advance of the others, whilst May Queen made a good succession, the pods being long, well filled, with the true Marrowfat flavour so highly prized by connoisseurs of Peas. Three weeks were allowed between the second sowing, when Improved Ringleader, which has taken the place of William I. possessing as it does much better flavour and larger pods, Early Marrowfat, Plentiful, Satisfaction, Sharpe's Queen, and Duke of Albany were sown. With this selection we have had no break in the supply.

This season has quite convinced me that Duke of Albany must be left out another year, for it cannot hold its own with such fine sorts as Plentiful and Satisfaction, their recommendations being dwarf habit,

enormous cropping qualities, nearly three times the weight being picked from each row, and last, but not least, the delicious flavour retained even when the pods seem bursting. As Mr. Chinnery points out, however, Duke of Albany can soon be cleared off the ground. Prodigy, Heroine, Magnum Bonum Marrowfat, and Ne Plus Ultra were the next to follow. Of the former I need add no further praise than what has already been accorded. Heroine has a light coloured pod, but flavour and cropping qualities are excellent. Magnum Bonum Marrowfat possesses grand cropping qualities and superior flavour, leaving nothing to be desired, whilst of Ne Plus Ultra I can only say that it is one of the most useful Peas in existence. Shropshire Hero is the heaviest cropping variety with which I am acquainted, and Fame is almost identical with Ne Plus Ultra, both quite a week earlier than Matchless Marrowfat, which I consider the best Pea in existence for any purpose. Latest of All formed the next sowing, a good succession being the result. For the latest sowing very few varieties could be found to approach Chelsea Gem and Improved Ringleader. From these varieties we are likely to have a fine late crop.

The above notes refer to Peas that do well in the neighbourhood of Liverpool, the varieties being, with the exception of Fame and Ne Plus Ultra, dwarf heavy croppers, and of excellent flavour. The trench system will not do with us, but if the seeds are planted almost on the ground level the crop is abundant. Our garden has not more than 3 feet of soil, a solid bed of clay running throughout. Although the season has been so sunless, we have never been more free from mildew, and that with the rows of Peas planted from 3½ to 4½ feet asunder. It is evident that mildew is not altogether the result of close planting, for I saw on Thursday last two fine long rows of Ne Plus Ultra completely ruined by it, the rows being 10 feet asunder.—R. P. R.

THE MAKING OF GARDENERS.

THE recent articles on this subject which have appeared in the *Journal of Horticulture* will doubtless be read with great interest by gardeners generally. The subject itself to my mind is open to very wide argument, and the most knotty points of the question appear to be—(a) The best mode of training young gardeners; (b) The best method of proving their competence. Many able suggestions have been made towards solving these difficulties, among which have been mentioned "training colleges." Such establishments would doubtless be very useful for teaching the theories and technicalities of what might be called higher grade gardening, but so far as teaching the practical routine of a gardener's occupation is concerned, they would be comparatively useless. This can only be learnt by experience and constant, practical diligence. Again, supposing for a moment it were possible that a few years' study in a training establishment would be sufficient to make a competent gardener, would he be able at the end of that period to command a sufficiently high salary to repay him for the money he must necessarily lay out in his course of training? No, I say; and before such a method can be made feasible for the training of gardeners, gardening itself will have to rise considerably higher as a calling in this country.

I quite concur with "J. S." in his article on page 123 that the best mode of training young gardeners is a thorough experience in all the departments of a well-kept garden, and this training, to my mind, should take the form of an apprenticeship, after which a youth would be able to produce his indentures and prove that at any rate he had gone through a competent course of training. It is a well-known fact that gardening at present is considerably overstocked, and this, to a great extent, has been brought about through there being no limit to the inflow into the ranks. A youth may obtain employment in a gentleman's garden, and without having any particular bent towards horticulture, or any ardent desire to become a gardener, find himself drifted along, and in a few years advertises himself as being a thoroughly competent gardener. He probably fails in the first charge he has, and so employers think the days for good gardeners are gone by, while *bonâ fide* men are greatly hampered in their attempts to succeed by such stumbling-blocks. If gardeners were obliged, on applying for situations, to prove that they had served an apprenticeship to their calling, it would at any rate stop the inflow of so many men who, after perhaps failing at one or more other branches in life, take up gardening as a last resource.

In dealing with the second point—namely, How to prove a gardener's competence, Mr. Dean (page 26) is no doubt right to a certain extent when he says, "By the work of his hands." But before jumping directly to this conclusion let us pause to consider how often even good gardeners are greatly handicapped in their situations, to such an extent that even this method sometimes appears useless. No gardener can produce good results alone. There must be encouragement and help on the part of his employer in the shape of sufficient glass and other accommodation, a competent staff of men to keep the place in order and carry on the work satisfactory. Alas! do we not all know many instances where the gardener is expected to make "bricks without straw?"

Before we condemn a man as being an incompetent gardener, let us try and have a peep behind the scenes, and see under what circumstances and conditions he is expected to carry on the place which he may have charge. None of us, I think, need travel very far to see gardens that are anything but creditable, which, under circumstances fair to the gardener, he would probably be able to defy even the severest critics. All this goes to prove that we have not yet a thoroughly reliable method of proving the capabilities of gardeners.—G. H., *Alton Towers*.



EVENTS OF THE WEEK.—The events of horticultural interest to take place during the ensuing week include the annual exhibition of the National Dahlia Society, which will be held on Friday and Saturday, 7th and 8th, at the Crystal Palace. On Tuesday, the 11th inst., the Committees of the Royal Horticultural Society will meet at the Drill Hall, James Street, Westminster; and on the 12th inst. the exhibition of the Royal Caledonian Horticultural Society opens at Edinburgh, continuing the following day.

— **THE WEATHER IN LONDON.**—Changeable weather has been experienced in the metropolis since publishing our last issue. The temperature was above the average towards the end of the week, also on Sunday, but Monday proved wet and cold. Tuesday opened more favourably, as did Wednesday, the latter day being bright and warm.

— **ROYAL HORTICULTURAL SOCIETY.**—The next meeting of the Society will be held in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday, September 11th. At 3 P.M. Mr. A. Pettigrew will deliver a lecture on "Lord Bute's Vineyards."

— **THE NATURAL HISTORY OF PLANTS.**—We announce with pleasure the appearance of the fifth part of this work, from the press of Messrs. Blackie & Son. Among the questions treated are metabolism, locomotory mechanism, respiration, fermentation, and the reciprocal effects of light, heat, and cold in relation to vegetation and in influencing its distribution. The general consistency and care with which the work is written is as noticeable as ever, and while the abstruse aspects of the subjects receive a most simplified presentation, there are many portions in which even a haphazard reader can become immediately interested.

— **THE IMPROVEMENTS AT KEW GARDENS.**—It is stated on good authority that there is no foundation in the report which has been going the round of the daily papers to the effect that the Board of Works are about to complete the temperate house by adding two wings at the north and south ends, at a cost of about £12,000, and that among other improvements being carried out is the overhauling and re-arranging of the heating apparatus of the Palm house. Only the latter portion of the statement is said to be correct, and no official intimation of any proposed extension of the kind named has been received. The alteration of the heating apparatus was decided upon some time ago.

— **NATIONAL AMATEUR GARDENERS' ASSOCIATION.**—The monthly meeting of this Association was held at the Memorial Hall, Farringdon Street, E.C., on Tuesday evening last, under the presidency of Mr. T. W. Sanders. Mr. Leonard Brown read an excellent paper on "The Amateur Gardeners' Fruit Garden," which was followed by a discussion. Numerous exhibits were shown, many of them being of superior quality in the special classes. Mr. A. J. Rowberry, South Woodford, won a silver medal, given by Messrs. Dobbie & Co., Rothesay, for six distinct seedling Violas, staging charming flowers. Other silver and bronze medals were awarded, and Messrs. C. Toope & Son, Stepney, offered as first prize for a dish of Tomatoes a heating apparatus, which was won by Mr. Bruce Cook, Chingford, who staged splendid examples.

— **POTATOES IN JERSEY.**—An authority says that "the Jersey Potato crop for 1894, as exported, reached the total of 60,605 tons, producing the sum of £462,895 10s. 5d. The shipments commenced on April 30th, and during the week following 456 tons were exported, at an average price of £18 2s. 6d. per ton; this was the highest price realised this season. The lowest rates occurred during the week ending May 26th, when 6668 tons were shipped and realised an average of £6 9s. 2d. per ton. The last shipment, on July 9th-14th, amounted to 585 tons, which realised £6 17s. 6d. per ton. From 1883 to 1894, inclusive, the most prosperous season for the Jersey Potato growers was 1891, when the 66,810 tons exported produced £487,642 1s. 8d.; this was the largest tonnage and the highest value obtained during the years indicated. In 1892, 66,332 tons produced only £376,535 15s. 10d.; in 1883 only 36,468 tons left the island, and this exportation realised £262,472 3s. 4d."

— **GARDENING APPOINTMENT.**—We are informed that Mr. Frank Chamberlain has been appointed head gardener to A. Knowles, Esq., Newent Court, Gloucestershire.

— **LILIUMS IN IRELAND.**—Two beautiful flowers are *Lilium nepalense* and *L. auratum rubro-vittatum*. These were exhibited in an extensive group of plants contributed to the Royal Horticultural Society of Ireland autumn show. Lady visitors were enraptured by *nepalense*. Judging by its growth it appears to be what gardeners would call "miffy," but its unique blending of colour was very striking.—E. K.

— **A NEW INSECTICIDE.**—The American papers recommend gypsin, or arsenate of lead, as a valuable insecticide for spraying fruit trees; 14 ozs. lead acetate and 4 ozs. soda arsenate are mixed in water, to which a little glucose has been added, is the way it is advised to use it. It is lighter than Paris green, and may be used in strong doses without damaging the foliage; 5 lbs. of gypsin to 150 gallons of water is the general strength, but as much as 30 lbs. has been used with safety. It has been used to destroy the gipsy moth by the Department of Agriculture; hence its name, and has been pronounced to be the most satisfactory of all insecticides tried. The glucose assists the adherence to the foliage, and moderate rains do not wash the deposit off.

— **THE PLUM CROP.**—Last year, says a daily contemporary, the glut of stone fruit was so great that many growers in the west of England left it to ripen and decay, as it would not pay for gathering and sending up to London, nor for that matter to any place where railway charges and other disbursements would have to be paid. The fruit farmer now finds himself in exactly the same predicament as in 1893. To give some slight idea of what a ruinous business Plum growing is in this year of grace, there were upwards of 50 tons sold in Covent Garden on Saturday afternoon at a rate which, reduced into easy figures, reads 6 lbs. for 1d.

— **PLUMBAGO CAPENSIS.**—Notwithstanding the many recent additions which have been to our lists of greenhouse climbers, this old and well tried favourite has no rival in its own particular way, its pale blue panicles of flowers are of a delightfully soft and pleasing shade of colour. A few days ago I saw a grand specimen in a lofty conservatory at Barford Hill Gardens, Warwick. The plant was trained up one of the iron pillars supporting the roof, and extended for a considerable distance on either side, the shoots being loosely fastened to an iron bar underneath the roof. It would be difficult to imagine a position in which the beauty of the flowers could be seen to better advantage, as the long slender shoots bearing them hung in graceful clusters and marvellous profusion from base to summit of the pillar, and clothed the roof with depending masses of azure on either side.—H.

— **CONFERENCE ON HARDY TREES AND SHRUBS AT CHISWICK.**—The Council of the Royal Horticultural Society, being anxious to direct greater attention to the ornament and utility of the trees and shrubs which are to be found growing in the British Isles, have decided to hold a Conference on the subject in the Society's Gardens at Chiswick (close to Acton Green, Turnham Green, and Gunnersbury railway stations) on Tuesday, September 25th, 1894. The Council are particularly desirous that specimens in the shape of branches of trees and shrubs not generally known, and remarkable either for their economic value or ornamental aspect, or both, should be sent to Chiswick Gardens, so as to add thereby a greater interest to the Conference. Specimens will be received at Chiswick on the Saturday or Monday before the Conference, and it is desirable that the contributors should give as much information as possible as to age, height, economic or ornamental properties, altitude, and soil. In addition to the exhibition and Conference on hardy trees and shrubs, there will also be a display of Orchids, and hardy, half-hardy, stove or greenhouse plants, as well as fruits and vegetables, such as are usually exhibited at the Society's fortnightly meetings in the Drill Hall, Westminster. The following is the programme of proceedings:—11 A.M., the members of the Fruit, Floral, and Orchid Committees assemble punctually; 12 noon, Council meeting; 12 30 P.M., opening of the Conference on hardy trees and shrubs. Part I.—Mr. W. T. Thiselton-Dyer, C.M.G., C.I.E., M.A., B.Sc., F.R.S., &c., in the chair. Papers to be read:—1, Mr. J. B. Carruthers, F.L.S., on "The Larch Disease." 2, Mr. E. J. Baillie, F.L.S., on "Forest Trees for Commercial Purposes," being treated with reference to soil and aspect. 3 P.M.—3, Mr. J. Simpson, on "The Utilisation of Waste Ground Unsuitable for Agriculture." 4, Mr. A. C. Forbes, on "The General Management of Woods, Planting, Thinning, Nurse Trees, Coppices, and Hedgerows."

— **INDIGOFERA DECORA.**—This plant, which bears spikes of snow-white flowers 3 or 4 inches long, is, says the "Garden and Forest," a most desirable plant for the rockery in midsummer, as it is dwarf and low, the foliage a clear light green, and it keeps flowering for at least a month. It would also be an admirable plant for the front of a shrub border or any other position where a low compact growth is wanted.

— **WASPS.**—Previous to the 26th ult. I had thought we were not going to be troubled much with wasps this year, but on the above mentioned date the sun broke forth after an absence of several days, and with it came multitudes of these insects. These attacked the fruit trees, Plums in particular, with such violence that by midday several people in the neighbourhood with only a limited number of fruit, thought it advisable to gather the crop. With me Green Gages and Apricots on the walls seemed to attract the wasps most, and to-day (the 28th ult.) I find they are very busy at the Grapes in the vineries.—R. M., *Somerset*.

— **ANCHUSA ITALICA.**—Has not "E. K." (page 127) made a mistake in saying that Paxton's Botanical Dictionary gives this as pale yellow? My copy gives *A. ochroleuca italica* as pale yellow. Nicholson's Dictionary of Gardening says *A. italica* and *A. paniculata* are synonymous, but Paxton says *A. paniculata* is "red," and does not give *A. azurea*, which Mr. Nicholson gives as another synonym. I do not think there can be any doubt that the blue plant is correctly named *A. italica*, and it seems to be universally grown under that name. I have seen a finer one (apparently only a variety) grown as *A. italica amoena*. Can this be Paxton's *A. amoena*, which he says is "blue?"—S. ARNOTT.

— **THE JAPANESE QUINCE AS A HEDGE PLANT.**—A Pennsylvania correspondent of the "Rural New Yorker" mentions among the merits of the Japanese Quince as a hedge plant, that it does not naturally grow much taller than the proper height for a hedge, and that it quickly reaches that height. Cattle will not browse it or break it; it does not sucker much; its foliage has a rich colour, which is held all the season through. It blooms every year, and when in flower it is beautiful; it is readily propagated by roots cut into inch lengths from any old plant in the autumn and kept in damp sand until the spring. It has great endurance and longevity; its stems are continually renewed from the collar, and it is easily trimmed and kept into tidy shape.

— **CARNATION THE SPY.**—As a pure white, free, and long continuous flowering Carnation in the open I can thoroughly recommend The Spy. It has been in flower longer than any other kind out of doors in my garden in strong soil, and appears likely to last a long time yet. The plants make but little "grass," which is unfortunate; what little is produced comes from parts of the flowering stems. Propagation will have to be carried on under such circumstances by the aid of cuttings. The growth is quite erect, the flowers standing up boldly, which is just the habit required in border varieties. The flowers are very shapely, with fringed petals and but the slightest suspicion of calyx bursting, but unfortunately the blooms are almost scentless.—E. M.

— **FLAX GROWING.**—Whether Earl Winchilsea will ultimately succeed in his efforts to promote unity of action with the agricultural classes remains to be seen, but whether he does or not his endeavours in that direction and to promote the prosperity of agriculture are commendable. According to a midland contemporary he has been advising the growth of Flax, and has on the "Cable Farm" this year grown 10 acres. The crop has been valued by an expert at £8 10s. per acre for the linseed and £6 10s. for the straw after the seed has been removed, making a total estimated return of £15 an acre. In a leader on the subject he says that at this stage it is sufficient to say that it is of good average quality, not deficient in bulk, and it is being harvested under favourable conditions. "We are, however, aware," he goes on to say, "from letters which frequently reach us that a considerable number of our readers, acting upon our advice, have grown from 6 to 10 acres of Flax, and in some cases more. We feel, therefore, that they follow us with peculiar interest when we enter, as we are now doing, upon the next stage—and a very important one it is—of our experiment. Yet the interest, so far from being confined to them, will, we believe, be shared by British agriculturists; for what we have set ourselves to prove is, that although Flax under the old conditions might not pay to grow, Flax under modern conditions will pay very well, and will turn out to be a valuable substitute for the Wheat crop, which has ceased in many cases to pay its expenses."

— **MESSRS. CUTBUSH & SON.**—We are informed that the employés of Messrs. Cutbush & Son held their annual outing on Saturday last (September 1st), on which occasion they went to Margate. Mr. H. J. Cutbush and Mr. W. H. Cutbush were in attendance, and an enjoyable day was spent.

— **WEATHER IN SUSSEX.**—The total rainfall at Abbot's Leigh, Hayward's Heath, Sussex, for the past month was 2.37 inches, being 0.07 above the average. The heaviest fall was 0.87 inch on 23rd. Rain fell on twenty-one days. The maximum temperature in the shade was 74° on the 31st, the minimum 42° on the 21st and 22nd. Mean maximum, 68.11°; mean minimum, 52.13°. Mean temperature, 60.12°, slightly below the average. First three weeks of the month unsettled showery weather prevailed. The last week all that could be desired, bright, warm, and dry.—R. I.

— **THE WEATHER IN HERTFORDSHIRE.**—Mr. E. Wallis, The Gardens, Hamels Park, Buntingford, Herts, writes:—"The weather during the most of the past month has been of a very unfavourable character for the well doing of most garden crops. There has, on the whole, been little sunshine, and for three consecutive days the sun was not visible, a most unusual event for this time of the year. A most desirable change set in at the close of the month, which it is hoped will continue. Rain has fallen during twenty days of past month; maximum in any twenty-four hours being 0.67 on the 23rd. Total during the whole month 2.36, against 1.64 of 1893."

— **SUMMARY OF METEOROLOGICAL OBSERVATIONS AT HODSOCK PRIORY, WORKSOP, NOTTS, FOR AUGUST.**—Mean temperature of month, 57.8°. Maximum on the 1st, 71.3°; minimum on the 21st, 41.1°. Maximum in sun on the 5th, 129.4°; minimum on the grass on the 21st, 28.5°. Mean temperature of air, 9 A.M., 59.3°; mean temperature of soil 1 foot deep, 59.1°; one night below 32° on grass. Total duration of sunshine in month 104 hours, or 23 per cent. of possible; we had one sunless day. Total rainfall, 2.03 inches; rain fell on seventeen days. Average velocity of wind, 8.4 miles per hour; velocity exceeded 400 miles on one day, fell short of 100 miles on six days. Approximate averages for August:—Mean temperature, 59.7°; sunshine, 149 hours; rainfall, 2.36 inches. A cool and dull month.—J. MALLENDER.

— **THE WEATHER IN WALES.**—Mr. W. Mabbott, The Gardens Gwernllwyn House, Dowlais, S. Wales, writes:—"The following is a summary of the weather here for the last month. Rain fell on twenty-three days, total amount, 5.14 inches; maximum, 0.96 inch on the 25th; minimum, 0.01 on the 10th. A very heavy thunderstorm on the 27th, 0.78 falling in thirty-five minutes. With the exception of the 3rd, 11th, and 16th rain fell every day until the 26th. The last few days of the month were fine and milder. Number of hours of sunshine, 74½; maximum, 9¼ hours on the 30th; minimum, quarter on the 7th. The wind was in the north-west and west until the 22nd, since which time it has been east and south-east. Very cold winds have prevailed throughout the month, leaving vegetation of all kinds in a very backward condition."

— **THE IMPORTATION OF BANANAS.**—Of the numerous southern and tropical fruits which have of late years been finding their way into the northern markets on both sides of the Atlantic, the Banana is the one which seems to have gained most favour in the eyes, and also in the taste, of the general public. The English supplies are drawn almost exclusively from Madeira and the Canary Islands, being the nearest places in which the fruit thrives. In Canada and the United States the trade in West Indian Bananas has increased by leaps and bounds. According to the "Western Press" it is a quarter of a century since a New York dealer made an attempt to introduce the fruit there, the venture being limited to the importation from Baracoa of 4000 bunches, but as it took ten days to dispose of them it does not seem to have been considered a successful operation. Ten years later another attempt was made, 10,000 bunches being brought from Jamaica. The dealer's acquaintances declared him to be crazy, but within four days he had disposed of the whole shipment. The business then developed rapidly, and five years ago New York had as many as fourteen steamers unloading cargoes of Bananas within a week, each landing from 10,000 to 16,000 bunches, and there was no difficulty in disposing of 1,000,000 bunches a month. These statements are supported by figures relating to the exportation of fruit from the West Indian Islands and neighbouring districts, which show that in 1893 as many as 13,000,000 bunches, valued at £4,000,000, were landed at United States ports. In 1880 British Honduras shipped 8958 bunches of Bananas, valued £700; next year the figures rose to 22,229 bunches and £1469; now the annual

value is not less than £40,000. Nicaragua exported 8000 bunches in 1883, and in four years the quantity had increased to 255,332. The fruit trade of Jamaica has been remarkably successful, being now more valuable than the sugar crop, once the staple production of the island. Bananas and Oranges are the principal fruits exported. Less than twenty years ago the annual value of the fruit shipped was £15,000; now it is probably not less than £400,000.

— **WIDDRINGTONIA WHYTEI.**—This is a new Conifer which has lately been introduced from Nyassaland to Kew by means of seeds brought home by Mr. Whyte, who collected specimens of animals and plants in that region in 1891 for the British Museum. The seedlings are 6 inches high, and from their behaviour they are likely to do well under cultivation. The genus, says the "Garden and Forest," is closely related to *Callitris*, also African, and of which several species are in cultivation. *W. Whytei* is, according to Mr. Whyte, a large tree, specimens measured by him being 140 feet long, with a clear straight stem 90 feet long and nearly 6 feet in diameter at the base. The cones are smaller than a chestnut, and of the same shape—longer than broad. The foliage is Juniper-like, and the wood is dull reddish white.

— **ZONAL PELARGONIUMS.**—Truly may it be said of these brilliant flowers at Swanley that "Years may come and years may go, but these go on for ever." Not the same plants, I suppose, although they look like it; but there is to-day in several houses just the same marvellous show of bloom that has been seen at any time during the past twenty years. Summer and winter, no matter what the time of year, it is there. Of course, neither plants or sorts are the same. Perhaps out of those there twenty years since not one sort remains. If the show of singles and doubles is wonderful, so is the advance. The size of truss and pip now excels all earlier expectations. Even still numerous seedlings are coming into bloom, and a few singularly fine and curiously marked flowers have been selected. Nothing, I presume, will satisfy now until even the single *Begonia* has been beaten in size and colouring. —D.

— **TALAUMA HODGSONI.**—This was discovered in the Sikkim Himalaya by Sir Joseph Hooker, and figured by him in his "Himalayan Plants," where he describes it as a small tree, 20 to 40 feet high, with large, handsome, coriaceous evergreen leaves, and fleshy, fragrant, white flowers nearly as large as those of *Magnolia grandiflora*. It is common in the Sikkim forests at 2000 to 4000 feet elevation. A writer in the "Garden and Forest" says there are two large specimens of it in the temperate house at Kew, and one of them recently flowered for the first time in cultivation. Its leaves are 2 feet long by 8 inches in width, and the flowers, which are borne on short lateral branches, have plum-purple sepals and ivory white petals, their odour being powerful and aromatic. *T. Hodgsoni* was named in compliment to B. H. Hodgson, Esq., F.L.S., late of the Bengal service, whose death, at the age of ninety, occurred a few weeks ago.

— **A NOTE ON STRAWBERRIES.**—It seems to be the general opinion of most gardeners in this neighbourhood (Liverpool) that the present season's crop of Strawberries has been one of the poorest on record. Last year after doing all I knew with Sir J. Paxton, Dr. Hogg, and British Queen I was obliged to discard them, purchasing in their place Sharpless, Captain, and Commander. The plants made excellent progress after being planted on ground which had been previously occupied with early Potatoes, the flower stems being stout and strong, but the May frosts played sad havoc amongst those that were open. We had sufficient fruit left to give me hope that Sharpless is likely to be with us superior to Noble, which is one of its parents, both as to constitution, flavour and earliness. Captain proved excellent both indoors and out, giving a supply of large, solid, firm fruit, our heavy land suiting it admirably. Commander is a good robust grower, although the flowers seemed rather more susceptible to the cold, but it is one of much promise. La Grosse Sucrée was fairly good. Pauline, although an unshapely fruit, if the stock is renewed every two years, is a useful sort, proving itself so this season. John Powell, the sweetest Strawberry grown, was in 1892 and 1893 a great cropper, but an entire failure this season, as was Exonian. James Veitch, President, Sir Charles Napier, and Waterloo cannot be surpassed. The crop has not been above half, and soon over, but they never fail in any season; the fruit of the latter has this season been especially fine and firm. A variety highly spoken of by Mr. Craven, of Allerton Priory, is Jubilee. It is a very late sort of fine Pine flavour, moderate foliage, its only objection being that it does not quite ripen out at the end, but worth growing for its lateness.—R. P. R.

— **WAKEFIELD PAXTON SOCIETY.**—The following is the programme of meetings for the third quarter (session 1894), the meetings being held at the Paxton Room, Woolpacks Hotel, Corn Market, Westgate, each Saturday evening at eight o'clock:—September 8th, "A Visit to America Long Ago" (continued), Mr. J. Burton; 15th, "The Dahlia Exhibition," discussion to be introduced by Mr. G. Gill; 22nd, "The Available Plant Food in Soils," Mr. H. Crowther, F.R.M.S., Leeds Museum; 29th, "A Few Hints on Bulbs and their Forcing Qualities," Mr. L. Twigge; October 6th, "Exhibition of Autumn Leaves and Fruits," essay by Mr. G. Bott; 13th, "Hardy Fruits," Mr. J. Campbell; 20th, "The Science of Manuring," Mr. C. E. Pearson, Chilwell Nurseries, Notts; 27th, "North Germany, from Hamburg to the Hartz" (illustrated), Mr. J. Swire; November 3rd, "Some Facts about Roots and the Useful Hints they Afford," Mr. J. Wood, Kirkstall; 10th, "Organic and Vegetable Chemistry," Mr. J. Parkinson; 17th, "Wanderings in Wexford and Waterford" (illustrated), Mr. W. Webster; 24th, "The Chrysanthemum Exhibition," essay by Mr. J. Thomas.

HARDY ANNUALS AT ROATH PARK, CARDIFF.

I HAVE often thought in bedding out too little has been made of some of our best hardy annuals, and a good deal of expense incurred in bedding Pelargoniums, Calceolarias, and other tender half-hardy plants, when as good and even better effects could be obtained with hardy annuals. Certainly they do not remain so long in good condition, nor do they make as early a show as some of the bedding plants employed, but the effect is, I think, such as to make up for these shortcomings.

Annuals to be seen to the best advantage must be grown in large sized beds or borders, as it is only then their full beauty can be seen and appreciated. In the botanic garden of the Roath Park there are about a hundred parallel shaped beds, varying in size from 20 to 30 feet long, by 7 feet wide, which are intended for the cultivation of perennial, herbaceous, and medicinal plants. These beds have been sown this year with a choice selection of hardy annuals, which for the past ten weeks have been a fine sight, and much admired by the numerous visitors frequenting the Park. The seeds were sown in a portion of the beds about the end of March and beginning of April, and the seedlings thinned out during May were transplanted into other beds left vacant for that purpose. With the exception of the Poppies the majority of them transplanted very well, and flowered much earlier than those grown in the beds where they were sown. One of the most attractive beds is that planted with *Nemophila insignis*, which although coming early into bloom, is as charming as ever, and is likely to remain in flower until it is cut off by the frost. Sweet Sultan has proved itself to be admirably adapted for large beds, and the number and brightness of its blooms make it an invaluable plant for decorative purposes.

Chrysanthemum tricolor and some of the newer varieties have given the greatest satisfaction as bedding plants. Their floriferous habit and the abundance of flowers they produce make them striking objects even at a distance, and the larger the bed they occupy the better the effect will be. Some clumps growing in a border, with a shrubbery behind as a background, are seen to good advantage, and much admired by the general public.

Beds of Candytuft and Shirley Poppies were exceedingly showy during the time they were in flower, but their flowering period is of short duration, and unless one has tuberous *Begonias* or something else to take their place when they have done flowering, it is not advisable to devote beds to them; they would be better sown in mixed borders. *Linum grandiflorum* and *Godetia Lady Albemarle* are two good bedding plants; neither of them grows much more than from 12 to 15 inches high, and they remain in bloom for a long time. Several beds in the park have been filled with these, and have been very attractive during the summer. Although some of the beds of *Godetia* are now losing their freshness, the *Linum* is as bright as ever, and looks as if it will continue so till the end of the season.

The beds of mixed Larkspur, though longer in coming into flower than some of the others, have amply repaid all the trouble expended upon them, and proved themselves to be useful as bedding plants when employed in large beds. *Gypsophila elegans*, *Gilia androsacea*, and *Saponaria calabrica* are three good plants for small beds. *Gypsophila*, though perhaps less attractive in a bed than some of the others, is of great value in a cut state for filling glasses and vases in house decoration. The *Gilia* mentioned makes good beds, and from what I have seen of it this year in the park it would make a fine edging or groundwork for beds in which subtropical plants like *Ricinus*, *Aralias*, and *Grevilleas* are employed. I can never forget the scrolls of *Saponaria calabrica* I have seen at Drumlanrig forty years ago.

Nigella damascena, with its light graceful foliage, makes a very attractive bedding plant, although the pale blue flowers are scarcely distinct enough to make it striking, yet it has proved itself to be as worthy of being grown in beds as many plants requiring more attention. The beds of dwarf *Tropæolums*, *Calliopsis coronata*, *Malopes*, *Whitlavia*, and *Clarkias* have all made a good display this year, and the beds of hardy annuals have given greater satisfaction to the visitors than the others filled with half-hardy plants.—A. PETTIGREW, *Castle Gardens, Cardiff*.

SOME CHOICE PLANTS.

THE rapidity with which varieties of plants now used for decorative purposes increase is astonishing, and simultaneously improvements are effected. Such progress is, of course, the outcome of patient hybridising and judicious selection, the best kinds being retained for propagation. That this is necessary is well known to all who are brought in contact with the business, although, other than these, comparatively few persons are able to form an adequate idea as to the magnitude of the work which is thus involved. In these progressive days it is only flowers possessing some distinct or extra good characteristic that generally find favour in the eyes of the public, and of this the raisers are apparently aware; none more so, perhaps, than Messrs. Sutton & Sons of Reading. This firm has long held a high reputation for the production of choice flowers, and during a hurried visit to their nurseries last week it was noticed that further progress is being made. There

rivals in the recently raised varieties of *Begonia semperflorens*. Some of these are really charming, and as serviceable for the embellishment of the flower garden as for the decoration of the greenhouse. In small as well as large gardens these fibrous-rooted *Begonias* will soon find a place if they have not hitherto done, for their utility cannot pass unnoticed. There are several varieties of them now in general cultivation, *Crimson Gem* being one of the best of these. When grown outdoors during the summer this variety is very effective, the foliage being a rich reddish bronze, while the flowers are bright crimson. *Duchess of York*, too, is an attractive variety with carmine flowers, the same applying to *Duchess of Edinburgh*, the flowers of which are large, white, suffused with pink. After *Glow*, a variety extensively used for bedding in the metropolitan parks, is also worthy of notice. A feature with these *Begonias* that should not be overlooked is the fact that if lifted from the beds in the autumn before frosts set in, put in pots, and placed in an ordinary heated greenhouse, they will bloom nearly all the winter. Indeed it is possible by growing a number of plants of the various kinds of *Begonia semperflorens* to have a display of bloom all the year.

What has been said in regard to a continuance of bloom of *Begonia semperflorens* applies with much force to the *Gloxinias*. Most gardeners are aware that by sowing the seeds at intervals, say in January, February, and June, a succession of flowers may be obtained for a greater portion of the year. Considering the large number of *Gloxinias* that are grown, however, but few cultivators make a late sowing, although there is no legitimate reason why such should not be generally adopted. Where this method is practised some of the plants are now in full bloom. As a white *Her Majesty* well holds its own, this being one of the finest *Gloxinias* in existence. The flowers are magnificent, of perfect form, pure colour, and stout texture. *Azure Blue* is a novelty of recent introduction, the blooms being tinted blue on a white ground. *Duke of York* stands out in striking contrast to some of the others with its bright crimson flowers edged with white, and the spotted hybrids show a variety of colour that is practically unsurpassed. *Achimenes*, too, make a grand display, and are of easy culture. There are numerous varieties of different colours, and a few of them at any rate should be given a place in every garden. *Rosy Queen* is a most attractive kind, producing an abundance of rosy pink flowers with a white throat. The plants, moreover, are vigorous growers and exceedingly useful for the decoration of the conservatory. Of older varieties *Alba maxima* and *Scarlet Perfection* are well worth growing, these, as their respective names imply, bearing white and scarlet flowers. The new *Saintpaulia ionantha*, a dwarf-growing Gesneraceous plant, is receiving attention and will be extensively grown in due course. It is raised from seed, and will thrive in a heated greenhouse, flowering freely through the summer and winter.

Turning to plants generally cultivated for the embellishment of the flower garden, one may find a variety of shades among the *Portulacas* to suit all tastes. These are effective flowers when judiciously cultivated, but they are seldom grown so extensively as they might be. For forming edgings to beds or borders the *Portulacas* are exceedingly useful, and as seen at the Reading Nurseries

are really beautiful. There are double and single kinds, including white, yellow, scarlet, and other shades, all deserving of universal cultivation. Considerable improvements, too, have recently been effected in the varieties of *Phlox Drummondii*, these now comprising the most brilliant hues. The plants, moreover, are less straggling in habit, and the flowers are much larger than they formerly were. *Dwarf Compact*, *Snowball*, and *Heynholdii* may be taken as types of the smaller growing kinds, these rarely exceeding 6 inches or so in height, and bearing a profusion of flowers. As regards *Asters* the beauty and utility of these are well known, the same applying to *Carnations*, *Stocks*, and *Zinnias*, of which some choice strains are now in cultivation. The dwarf *Cannas* may also be noted as being plants of great beauty, these being most effective when employed in the flower garden. A number of plants of the striped French *Marigold Legion of Honour* may also be singled out for special mention. This is a choice variety, and one admirably adapted for bedding; the flowers are yellow with dark stripes, and are well displayed. In the nurseries mentioned this *Marigold* is used as an edging plant, long rows of it producing a very fine effect.—VISITOR.



FIG. 32.—HABENARIA SUSANNÆ.

were many plants in bloom, and it may be of interest to briefly mention a few of the choicer kinds.

Begonias are famed for their utility, and much attention has been given them by the above mentioned firm. The tuberous rooted varieties are now flowering profusely, several large houses being devoted to their culture, and while the named sorts, arranged according to their colours, attract the most notice, the others obviously constitute a strain of great excellence. Among the former *Queen of the Whites* may be mentioned as being one of the best single whites in existence. The plants possess a robust though bushy habit, the flowers being large and of great substance. *Meteor* is another superb variety with bright orange coloured blooms, and *Prince of Orange*, with its handsome orange-scarlet flowers stood out conspicuously amongst the rest. Some of the double varieties with a pendent habit of growth, arranged on shelves, made a grand display, the flowers being unusually large and varied in colour. One variety in particular was remarkable for its beauty, the blooms of this being even richer in colour than the popular *W. A. Richardson Rose*. As useful and as popular, though, as are these tuberous rooted plants, they have undoubtedly dangerous



HABENARIA SUSANNÆ.

THIS *Habenaria* is so seldom seen in flower that there is no wonder it attracted some attention at the Drill Hall, Westminster, on the 28th ult., where it was exhibited by Messrs. F. Sander and Co., St. Albans. The plant shown bore one spike carrying two white flowers, such as are depicted in the illustration (fig. 32), and a first-class certificate was awarded for this rare species. This is a charming Orchid, but it is said to be somewhat difficult to grow, which may account for its scarcity in gardens. The flowers are, however, very beautiful, and were it possible to induce *Habenaria Susannæ* to grow and blossom freely it would be a decided acquisition. The engraving portrays the character of the flowers so well that a description of them is superfluous.

CYPRIPEDIUM JAMES H. VEITCH.

MANY hybrid *Cypripediums* have been raised by Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, but few perhaps can surpass that depicted in the illustration (fig. 33). This is a grand novelty, and is the result of a cross between *C. Stonei platytænium* and *C. Curtisi*, the latter being the seed-bearing parent. When exhibited at the Drill Hall, Westminster, on the 28th ult., it was much admired, and a first-class certificate was awarded for it by the Orchid Committee of the Royal Horticultural Society. Compared with the other portions of the flower the dorsal sepal is rather small, but is attractive, being pale green striped chocolate colour. The petals are large and drooping, as shown in the engraving, being broad and about 4 inches in length; they are thickly covered with purplish spots, and have hirsute edges. The lip is a reddish colour and of a moderate size. Altogether it is one of the finest *Cypripediums* that has been raised in recent years.

CYPRIPEDIUM LAWRENCIANUM.

THIS species is worthy of cultivation for the beautifully marked foliage alone; the flowers, moreover, are among the largest and most attractive in the genus. Owing to its vigorous habit and the ease with which it can be propagated it is also one of the cheapest, and should be included in all collections. The blossoms are produced in the summer on very long stems, this making them useful for many kinds of decoration. These are 5 inches across, the dorsal sepal white, with lines of green and purple. The petals are dull green, with a few dark brown hairy protuberances upon the margins, the tips shaded reddish purple. The pouch is large, varying in colour from green to purple, with darker lines running through it. A shady position in the warmest house should be given the plants, and in order to keep the foliage healthy and bright syringing must not be resorted to. *C. Lawrencianum* thrives in a similar compost to that frequently recommended in this column for *Cypripediums*, and requires plenty of water at all times. There are several choice and rare varieties of this species, some of which may be described in a future issue.

LÆLIA PERRINI.

This *Lælia* does not find much favour with growers, but as it flowers at a dull season of the year and is easily managed, it ought not to be altogether neglected. The plant has one serious drawback, and that is the short time the blossoms last in good condition, usually not much more than a week. It is a fairly robust growing kind with stout pseudo-bulbs 8 inches high. The flowers are produced in autumn, and on strong plants as many as six are frequently seen on a spike. The individual flowers are large, rosy purple with a blotch of yellow in the throat, the side lobes of the lip bright crimson. After blooming this species must not be excited, but kept dormant by treating it to a rather lower temperature, and only giving enough water to prevent shrivelling of the pseudo-bulbs. When showing signs of activity in the spring

the plants should be repotted or top-dressed and grown in the cool end of the *Cattleya* house.

PHAIUS MACULATUS.

Most Orchids with variegated foliage—as *Anæctochilus*, *Goodera*, and others—are useless as flowering plants, the blossoms being small and unattractive, and fatal to the well-being of the plants if allowed to arrive at maturity. In *Phaius maculatus* we have, however, an Orchid with fine foliage, densely spotted with yellow, and which also produces beautiful flowers. It is an old plant in collections, and easily managed in an intermediate or *Cattleya* temperature. The flower spikes rise from the base of the pseudo-bulbs to a height of about 18 inches, and bear numerous flowers, each 2½ inches across. The ground colour is yellow, with a few brownish crimson spots on the lip. It thrives in a compost consisting of sound fibry loam, chopped sphagnum, and charcoal, with a little dried cow manure added for strong specimens.



FIG. 33.—CYPRIPEDIUM JAMES H. VEITCH.

During the growing season abundance of water is required at the roots, and in winter the compost should never become very dry, the plants being sufficiently rested by keeping them in a cooler house while the growth is inactive.—H. R. R.

BEGONIAS AND CALADIUMS AT SHREWSBURY.

VISITORS to the horticultural exhibition at Shrewsbury could not fail to be delighted with the extreme beauty of the flowers and foliage plants displayed there. On every side the gaze was met with gems of floriculture of almost every seasonable variety, ranging from the simple *Viola* to the delicately tinted blooms of rare and choice Orchids. Proofs of the perfection to which horticulture has attained was evident on every hand, and as one wandered through this maze of floral beauty expressions of admiration for the splendid specimens were to be heard.

Pleasingly conspicuous amid this profusion of flowers and plants were the tuberous *Begonias* and *Caladiums*. The collection of Messrs. J. Laing & Sons took premier honours. The group consisted of well

grown plants artistically arranged with a groundwork of *Adiantum cuneatum*, the colours ranging from pure white to the deepest scarlet. The blooms of the double varieties were especially fine and conspicuous. I noticed Earl of Warwick, bright scarlet and fine flowers, and Duchess of Teck, lemon yellow. Amongst the singles especially worthy of mention were Marchioness of Salisbury, Mrs. Laing, and Duke of Wellington. The collection of plants shown by Mr. E. Murrell, of Shrewsbury, were also well worthy of mention, and contained many charming varieties, chief amongst which were Princess May, a double white, and Mrs. Francis Fell, delicate shade of pink. Mr. B. R. Davis, Yeovil, exhibited a stand of blooms all exceptionally large and consisting of many shades of colour.

Caladiums were well shown by Messrs. J. Veitch & Sons, and the beauty of the plants elicited approbation from the visitors. The perfect and distinct colouring made many of the varieties worthy of note, principal of which were Ladas, Chelsea Gem, Princess of Teck, Madame Alfred Magne, Duke of York and Mrs. Harry Veitch. Another charming collection was that of Messrs. Peed & Sons, conspicuous amongst other varieties being Paris de Chavannes, a new kind with reddish-brown veins in the leaves and large white spots on a ground of bluish-grey; Baron Adolphe de Rothschild with large leaves and brilliant red carmine centre; Charlemagne with its rosy-red leaves, and Ibis Rouge, an attractive variety. As decorative plants these Caladiums deserve a high position, and with an average amount of care and attention can easily be grown.—G. HOLLINGWORTH, *Alton Towers*.

RIPENED WOOD.

I AM so comfortably disposed of by "Sceptic" on page 195 that it may be in some measure presumption on my part to prolong the controversy. Doubtless there are other fœmen worthy of his steel (pen), so I will but respectfully call his attention to the lessons of the doctrine conveyed by the different teachers in all departments of the *Journal of Horticulture*. To those who read, mark, learn, and inwardly digest the weekly meal of mental food, it will, I venture to say, seldom be found wanting in the menu. For instance, in last week's number, will "Sceptic" kindly note on page 194 "D., Deal," on Roses, Mr. Molyneux on Muscat Vines, same page, and Peaches and Nectarines, page 210?

As "Sceptic" takes the roasting process of last year's sunny summer to illustrate his views, he will perhaps allow me to go to the other extreme and ask him what will be the result of a severe winter, should we have one, on the sappy immature growth of this practically sunless season, especially in the more prominent departments where the gardener's hand may not have afforded that judicious help, timely applied, to counteract and subdue super-luxuriance. I do not take it that either, or any extreme, can form reliable data. Is planting Apple trees in far Ceylon an illustration to the point? No more, I think, than the transferring of Tea plants to our shores would be. Ripened wood—not roasted, please?—means to my mind that perfect rest which enables trees and shrubs to go through the ordeal of winters of Arctic severity unscathed. Hence may be found the cause of failure with us in many examples from colder climates which yet obtain sunny growing conditions we cannot depend on having. But I have trespassed too far, so must fain pass over the sting in the tail of "Sceptic's" argument. Did time and space permit the subject to be thrashed out, "Sceptic" might, I think, be drawn into the fold of orthodoxy.—E. K.

[We will find our correspondent the requisite space if he can find the time for effecting the conversion to which he alludes.]

READING HORTICULTURAL SHOW.

THIS is admirably reported in your last issue (page 209), but you may possibly have room for a few further remarks. Strange to say the day was fine, St. Swithin having just completed his reign here, winding up with an inch and a half of rain and a burned down theatre. Few towns in England have such an exhibition ground as Reading. The outer court of the old abbey, now called the Forbury, contained the hand and a large proportion of the company. The grand old halls of the ruined abbey had the tents with the produce, the roofless chamber—in which three kings held their parliaments—being devoted to huge and bright Tomatoes, perfect Potatoes, and vegetables of all kinds.

The Roses do not call for much comment. There were two bright boxes of Mrs. John Laing, and Mr. C. Turner had a charming box of cluster Roses in which, however, I did not notice his famous Crimson Rambler. Messrs. J. Veitch & Sons had a group of hardy flowers of every possible colour, and making a vast bank up one side of the ruins. The large prizes of the Messrs. Sutton & Sons brought out a most magnificent show of fruit, but the most interesting exhibit of all to my mind was the Dahlia department, the single and the Cactus varieties being shown by Messrs. J. Cheal & Sons and Eric Such in most wonderful perfection. These classes, in my opinion, are infinitely beyond the heavy, formal, faultless, changeless double Dahlias. These are flowers which certainly deserve more extensive employment, and the improvement in them during the last few years is enormous.

I see my friend, "E. M.," the Dahlia Society President, has originated one of the finest singles, Rosebank Cardinal, which is just now in commerce.—A. C.



AMERICAN CHRYSANTHEMUMS.

A FRIEND who has recently gone to America and who has had a wide experience of Chrysanthemums in England writes me as follows:—"Since my arrival in this country I have not had much of an opportunity of inspecting many of the best collections out here, but from the little I have seen I do not think that their blooms will be anything like the best class of the Aquarium blooms. The growers here say that their blooms are much better, but that is what I cannot see. Many of the plants that the exhibition blooms are to come from have been planted since the 23rd June. . . . Very few of the plants are growing in pots, all on benches with about 6 inches of poor soil, and all under glass, and they have adopted the stopping system to a great extent. . . . Time will tell, and then I shall write you in full."

CHRYSANTHEMUMS IN NEW SOUTH WALES.

The colonial growers of Chrysanthemums, but particularly those in New Zealand and the above named colony, seem to be quite as eager in adding the best of the novelties to their collections as we English admirers. Mr. S. B. Levick of Sidney in a lengthy, analytical article on the past season in Australia, which appears in a recent number of the "Australian Agriculturist," gives a list of the new varieties which were exhibited for the first time at the shows there. Those imported were Charles Davis, Robert Owen, Golden Wedding, Mrs. C. Harman Payne, Miss Dorothy Shea, Mrs. R. J. Baylis, Mrs. W. Herbert Fowler, Alice Seward, Mdle. Marie Recoura, Lizzie Cartledge, Cleopatra, International, Felix Casseagneau, William Seward, King's Daughter, Excelsior, G. C. Schwabe, Mrs. Lobbie Allen, Ivory, Walter Hunnewell, Shenandoah, Mrs. John Tyerman, and Miss Mabel Simpkins.

It appears that there were also some new colonial seedlings, but the descriptions are not given. The names of these are Antipodean, Mrs. J. H. Horton, Oceana, Elwood Surprise, Ben Tillet, and Dorothy Turner. It is added that last season there were no fewer than thirty shows held in the country. Altogether there were three shows held in Sidney by the United Horticultural Societies, the first for early varieties on April 10th, the second or principal show (equivalent to our November one) on 19th and 20th April, and the third or late show on May 8th. The total blooms staged numbered 1452, and Mr. Levick comments on the fact that the incurved and reflexed varieties still appear to decrease, only 142 blooms having been shown.

The best six white Japanese, one variety, was Florence Davis; the same number of yellow Col. W. B. Smith; any other colour, Vivian Morel. Only one bloom of Etoile de Lyon was staged, which is commented upon as being the most noticeable change in the season as compared with former ones.—P.

BROCKLESBY PARK.

SINCE the days of agricultural prosperity the glories of many splendid domains have passed away. When farming paid well, crops fetching remunerative prices, these estates were handsomely, in some cases lavishly, maintained, and were a constant source of pleasure and benefit to their owners and dependants. But look at the difference now. Rents have, of necessity, had to be enormously reduced, and even then the most diligent, rational, and up-to-date farmer can only make a fair living. Such being the case landlords must suffer as well as their tenants, and those whose incomes are mainly or entirely derived from land under farm cultivation have found it essential to curtail their expenses to a very large extent indeed. Everyone is looking for this wave of depression to pass away, when all concerned will be enabled to resume the manner and style of living in vogue some years ago. Pessimists say that such can never be the case. Let us trust they are wrong, and that their prophecies may prove as groundless as they are incessant. The prospect, however, is not over-bright. Some farmers are still able to show a fairly good return, but it is those only who treat both land and stock in the most advanced style, and are unremitting in their search for any new idea or practice which is likely to prove of assistance to them in their, at present, most disheartening of avocations.

Unfortunately for gardening and gardeners, when an estate owner commences to "pull in" attention is given to the garden. The staff must be reduced, and expenses of firing and other incidentals lessened in every way that can be devised. This is done, and look at the result. This and that part has perforce to be neglected in turn, and the best made of the inadequate means at command. But the real gardener who is heart and soul in his work never knows when he is beaten. There are hundreds of such cases throughout the country where the gardener perseveres in his endeavours to do his duty to his employer and credit to himself, and in his efforts overcomes what he, in palmier days, would have considered insurmountable difficulties. All honour to them for so well upholding the best traditions of their noble and most ancient of callings. And what does such a man receive for his earnest and assiduous labours? Occasionally he will have the approbation and

encouragement of his employer, and when such is the case it is a treat indeed to see with what renewed energy he goes about his work, fully determined that no effort that can possibly be made by him shall be withheld that will sustain his own reputation as a master of his craft and that of the gardens that are in his charge. He makes himself a slave to his garden. Morning, noon, and night finds him hard at work, solving a knotty problem here, giving a word of instruction there, never seeming to tire, and always willing, nay anxious, to give a word of advice or encouragement to a younger brother in the fraternity.

That there are many employers of gardeners who thoroughly appreciate these efforts is an undoubted fact, and such an one may be found in the Earl of Yarborough, whose revenues have been sadly curtailed from the causes above mentioned. Lincolnshire is, as is well known, essentially a farming county, and it is one in which it is done well. Almost the whole of the thousands of broad acres included in the Yarborough estate are under farm cultivation, and as the landlord is by no means a "hard" man, the rents have been reduced as the exigencies of the times appeared to demand. Universally respected, one might well say beloved by those with whom he comes in contact, the present Earl has retained all the respect which was accorded to him and his predecessors in what people are sometimes wont to designate the "good old times." Those who remember Brocklesby as it was a decade or two ago know with what munificent liberality the place was maintained. Now, alas! things have changed. But let it not be thought that all its glories have departed; such is not by any means the case. There is still much to interest the visitor in the garden, the park, and the nursery. Let us take a glance round and see what is being done now by that most genial and able gardener, Mr. E. F. Hazelton.

The houses shall have first attention as being nearest to the door by which we gained admittance. These are mainly devoted to the cultivation of fruits, including Grapes, Peaches, Nectarines, and if they may be mentioned as such, Tomatoes. The Vines may be said to be looking well, though they, like the structures in which they are growing, are getting old and have passed their meridian of productiveness. The amount of fruit needed is large, and consequently the crops have to be heavy. The shape of the bunches and the size of the berries are generally all that could be wished, the only thing lacking is the finish, and this, under the circumstances, it is beyond the power of man to impart. Perhaps if lighter crops were taken for a few seasons the Vines would become as it were resuscitated; but even this is doubtful, and it would certainly be far more advantageous if young ones were procured and planted in the place of those that have done splendid service in their day. The sorts most relied on are Black Hamburgh and Muscat of Alexandria, and for general use perhaps no better pair could well be found.

Passing from the Vines to the Peaches we find the trees clothed with healthy clean foliage and stout growths, carrying grand crops of fruit. The fruits are of good average size, well coloured, and luscious in flavour. To Nectarines these remarks apply with equal force, and on neither was a vestige of any pests noticed. A very useful span-roofed house has recently been erected in the gardens, and will, no doubt, be made to do good service, especially as it can be kept up to a fairly high temperature. At the present time one half of the structure, which has wisely been divided by a central partition, is devoted to Cucumbers, while the other, just now empty, is to be utilised for the propagation of plants for decorative purposes. Melons are admirably grown, the plants, carrying numbers of fruits, being in a splendid state of health.

Leaving the fruits we pass rapidly through the plant houses, and these, having been originally built for Pine pits, are very ill-adapted to the uses they now have to be put. Almost the whole of the plants grown are such as are likely to be of use for the decoration of the rooms, which, it was understood, is one of the features of the estate. Such being the case foliage plants are found to predominate, and include Crotons, Palms, Ferns, Dracenas, and many others, almost the whole of which, despite the somewhat adverse circumstances under which they are grown, are in excellent health, and well fit for the purpose for which they are required. Amongst the flowering plants particularly noticeable for their excellent health were large numbers of *Campanula pyramidalis* and *Francoa ramosa*, or, as it is more frequently called, the Bridal Wreath plant; while outside in the frames some plants of berried *Solanums*, sturdy and strong as one could wish, are very conspicuous. As might naturally be expected, *Chrysanthemums* receive a fairly large amount of attention, the collection, comprising many of the best kinds, numbering some hundreds of plants. Some are prepared for yielding flowers in profusion, while others are grown in the orthodox style for the production of few, but large, blooms. Extending round one end and part of one side of the walled enclosure in which the houses are situated, a border has very recently been formed for the culture of hardy plants, such as are likely to provide enormous numbers of flowers for cutting. Cactus Dahlias are a great feature here, and are now about at the summit of their beauty, throwing brightly and delicately coloured flowers in charming profusion. As will be imagined, all kinds of flowers suitable for the object in view are planted here, and it would be but waste of space to give lists of names, when it is remembered how well all readers of the *Journal of Horticulture* know what such a collection must comprise.

The kitchen garden is eight acres in extent, five of which are surrounded by capital walls. The crops in this department are excellent, and prove the presence of a master hand. One of the finest beds of Onions anyone could desire was to be seen, in which the bulbs

were even in size, solid, and almost totally free from neck. Asparagus, too, is grown well, while Seakale evidently receives the best attention. Peas and Beans were in abundance, the latter being from a second sowing, as almost the whole of the first were taken by the late frosts during the month of May, and which had evidently worked as much havoc here as was noticeable at many places further south. All other kinds of vegetables as would be required to meet the demands of such an establishment were in excellent condition, and reflected the highest credit on the grower.

The hardy fruit garden forms an important part here, especially bush fruits, of which there are very large numbers. Excellent crops have been forthcoming this season, though some were perhaps rather thin. At the present time a new fruit garden is being formed. Standard Apple, Pear, and Plum trees are planted, while the ground beneath will, for a time at any rate, be utilised by bush fruits, Currants and Gooseberries being noticed in abundance. Some of the standards had been moved this spring, and as they were of good size the greatest care had to be exercised, and with the best results, for they, with scarcely an exception, are now looking remarkably well—in fact, scarcely any the worse for the transplanting. Damson trees were laden with fruits, as also were a few of the Apples. Strawberries are accorded their full share of attention, and the same may be said of all other sorts grown. On the walls Apricots and Pears were generally bearing well, some are quite past bearing; but it was seen that young trees were being prepared ready to displace their seniors as soon as ready and opportunities arose for doing the work.

The flower gardens are not extensive, but they are certainly very beautifully kept, though nothing elaborate in bedding out is practised. The most simple flowers are used, such as Zonal Pelargoniums, Lobelias, Ageratums, Stocks, Asters, and numerous others of a like nature. All are alike clean and well flowered, and the beds look very effective as one crosses the lawns. One bed was so totally distinct from the others that it is worthy of special mention. It was entirely planted with *Nemesia strumosa* Suttoni, for the introduction of which, with many other occupants of our gardens and greenhouses, the horticultural world is indebted to Messrs. Sutton & Sons, Reading. The plants were flowering with the greatest freedom and elicit admiration from the numerous visitors to the gardens. The lawns are of great extent and in first-rate condition, the turf being thick and of a rich green such as cannot fail to be appreciated by all. Another new and interesting feature is the Rose garden, which was practically finished this last spring. Hundreds of trees of various forms and kinds have been planted, and will in the course of time carry enormous numbers of blooms. Teas and Hybrid Perpetuals have been principally planted, and it is to be hoped that the former will prove hard enough to withstand the rigours and variations of the Lincolnshire winters.

One of the last parts of the estate to be visited was that which is known as The Nursery. It is upwards of three-quarters of a mile from the gardens, and is reached by a drive flanked on each side with stately trees, amongst which Chestnuts, Ash, Oaks, and purple-leaved Birch were the most attractive. The nursery is the abode of Conifers of various kinds and in almost all sizes, from the stately *Wellingtonia gigantea*, upwards of 70 feet in height, down to the graceful *Retinosporas*, many of which were only about 4 feet high. Handsome specimens of *Cupressus Lawsoniana* were seen, and the beauty of the Cedars of different sorts was such as is not likely to be quickly obliterated from the mind. Scores of others might be mentioned, but these must suffice, though they convey but a very poor idea of the magnificence of the collection.

From the Nursery we made our way back to the gardens, and then to Mr. Hazelton's pleasantly situated house, where, after having been regaled with a cup of tea, we turned towards the station and made our way homewards, after having spent a most delightful afternoon, which was so replete with instruction and interest as to engender hope that the opportunity for another visit to Brocklesby and Mr. Hazelton might soon arise.—NOMAD.

AUSTRALIAN FERNS.

NOT the least beautiful or characteristic of the many picturesque features of the Australian landscape, especially in the vicinity of the eastern coastal districts, is the enormous wealth of Fern life, from the delicate Maidenhair timidly peeping, like the modest Violet, from among tufts of jealous grass, to the stately Tree Fern, rising to a height of 50 or 60 feet, and even more. Well might sober-minded botanists enthusiastically describe Australia as the Fern-hunter's paradise, for nearly every known kind of Fern is to be found, especially in New South Wales, in wonderful profusion, being as plentiful in some localities as are Buttercups and Daisies in an English meadow. There are places in the vicinity of Sydney Harbour possessing Ferns in sufficient abundance to awaken the envy of a Covent Garden florist. A mass of Maidenhair Ferns, as large as a good-size Cabbage, can be purchased for 6d. from any of the Fern and flower sellers in the Sydney streets; and school children from the shores of the Lane Cove River often carry large bouquets of Fern and blossom with them to town, imparting a somewhat festive appearance to the decks of the river steamers by which they travel.

Immense numbers of Ferns are also sold periodically by auction in Sydney, a large Tree Fern, which would form a noble acquisition to Kew or Chatsworth, being procurable for 3s. or 4s., and even less. How many thousands have thus found their way into the

market during the last few years it is impossible to say, but there appears no sensible diminution in the mass of Fern life in the country around Sydney. Considerable numbers of Ferns are obtained from the neighbourhood of the Hawkesbury, the Manning, and other northern rivers; and occasionally from the Illawarra and other southern districts. Among the favourite kinds of Fern are the Elk-horn and the Stag-horn, both of which are found growing, sometimes in large clusters, on the trunks of forest trees or the surface of moist rocks. They are easily detached, and will grow readily when affixed to a brick wall, a door-post, or almost anything which affords them a means of suction. The Bird-nest Fern is another favourite. It is found growing from a few inches to several feet in height, and forms both an attractive addition to the garden and an ornament to the verandah.

The English Maidenhair is the most in request, not only for the garden or the bush house, but also for bouquets. It is generally sold in pots or wire hanging baskets, the price not exceeding a few pence. Indeed, among the Sydney labouring classes Ferns largely take the place of the Pelargoniums and other plants in pots which find a place on the windowsills of Whitechapel and similar metropolitan working-class districts. Among other well-known Ferns are the common Adder's-tongue, Climbing Snake Fern, Parasol Fern, Hare-foot Fern, Mountain Bracken, Cat-wing Fern, Fan-shaped Spleenwort, Caraway Fern, Bladder Fern, Lady Fern, Blanket Fern, Golden Swamp Fern, and others; while of those known only by their botanical names the number is legion. To see the Australian Ferns in their fullest beauty, they should be sought in the mountain gullies into which the sunlight scarcely penetrates, and where they form exquisite pictures far more enchanting than any that the most fertile imagination is capable of creating.—JOHN PLUMMER, *Sydney*.

COLD STORAGE OF FRUIT.

A SERIES of experiments in the cold storage of fruit were some time since conducted by the fruit expert (Mr. A. H. Benson) for the Department of Agriculture, New South Wales, at the cold storage rooms attached to the Government meat market, at Darling Harbour. Messrs. Hudson Bros., lessees, have kindly placed a chamber of 50 tons' capacity ships measurement at the disposal of the Department free of all charge. The system of cold storage employed was one in which an even temperature combined with a constant influx of cold fresh air was maintained, and this system, or rather principle, is the only satisfactory one for use in the case of fruit, as a merely cold air without the necessary ventilation and influx of fresh air has been proved to be insufficient to keep fruit in good condition for any length of time.

The fruits experimented with consisted of the following varieties—viz., Apples, Pears, Plums, Peaches, Nectarines, Grapes, Mangoes, Pine Apples, Tomatoes, and Passion fruit, and were obtained from fruit growers in various parts of the Colony. Different materials were tried for packing, and the fruit was tested under various conditions, wrapped and unwrapped, in light cases and open well-ventilated cases, and in various states or degrees of ripeness. The average temperature maintained was 41°-74°, and was very evenly maintained. The extreme limit of variation ranged from 37° to 51°, and these extremes were only reached on two or three occasions. The ventilation was at all times satisfactory. The general results of the experiments may be summarised as follows:—

1. Apples, midseason and late variety of Pears, solid-fleshed Plums, and tough-skinned fleshy Grapes may be kept in perfect condition without any appreciable loss for a period of two months, when stored in a cold dry fresh air, maintained at an even average temperature of 41° to 43°, provided that the fruit is carefully gathered, handled, and packed, and that all blemished fruit is discarded. Apples will keep equally as well if the temperature is raised 10°, but the other fruits require the lower temperature. Two months allows for the extreme outside time required to place the fruit on the English market.

2. After being removed from the cold storage, the fruit keeps in good condition for a sufficient time to enable it to be disposed of and consumed with only a small per-centage of loss, provided that previous to its removal from cold storage the temperature of the store is gradually raised to that of the outside air, as any condensation of moisture on the fruit, which would tend to create decay, is thereby prevented.

3. Soft fruit, such as Peaches and Nectarines, may be safely stored without deterioration from one to two weeks, according to variety, thereby preventing to a certain extent the glutting of the markets with these fruits during the height of the season.

4. The cost of cold storage by the method employed is much less than that at present used for the conveyance of fruit to England, and the results are much better. At present the three great drawbacks Australian fruit growers have to compete with in the export of fruit to the English market are: First, the excessive freight; second, the large per-centage of loss arising through the fruit being carried without a proper system of ventilation; and thirdly, through the bad-keeping qualities of the fruit when landed, which necessitates the fruit being disposed of and consumed as rapidly as possible. All these drawbacks would be, to a great extent, prevented if the fruit were carried under similar conditions to those maintained during the experiments, and a cheaper and better carriage would tend to greatly increase our export of fruit to England, which, unless such steps are shortly taken, threatens to become a thing of the past, as the prices received for our fruit in London are entirely prohibitive in the majority of cases. No doubt this is not always the fault of the high freight and bad system of carriage

employed, but is often largely due to the carelessness of the growers or shippers themselves in sending worthless and inferior fruits; and this was shown many times in last year's shipments of Tasmanian Apples. The English market wants one class of fruit only—the best, and that fruit put on the market in the best condition and most attractive manner; and if growers or shippers try to palm off any inferior grades they will get left every time, as the English buyers will not have them, except at very low rates.

The value of these experiments to the New South Wales fruit grower is that by this means the Government have practically shown the conditions that are necessary to maintain in order to successfully keep fruit in cold storage, and also what fruits are most suitable, and what care is necessary to be taken with the grading, wrapping, and packing of the fruits so as to render them suitable for cold storage, especially as adapted to an export trade. It is to an export trade that the fruit growers must eventually look if the industry is to take a prominent place in colonial industries; and by showing how the export of fruit may be most economically and successfully carried out these experiments are likely to be of great value to the fruit growers and to the Colony in general.—("Kew Bulletin.")

CYCAS REVOLUTA—FERTILE OVULES.

I SEND for your notice two fertile ovules of the above Cycas. How it has resulted is this. About the end of May I met a gentleman in Cheadle (T. H. Sykes, Esq.), who owns a number of splendid specimen plants. He remarked to me that he had a *Cycas revoluta* throwing up fruit. As I knew the plant, which is a very fine one, I said his plant was a male, and that we had the female in the same condition, and that if he could let me have some pollen we would see what could be done. The same afternoon he came to look at our plant, and at the same time brought some pollen in a small box from his male *Cycas*. In that afternoon with a downy feather I had the pollen dusted several times, letting the dust fall all over the fruiting crown, and the result now, I think you will say, is that fertile ovules are produced. If you recollect, many years ago I sent you a fruiting leaf and ovules, which you figured, which was from the same plant, but on breaking the ovules you found them to be hollow.—ROBERT MACKELLAR, *The Gardens, Abney Hall, Cheshire*.

[We remember the specimen very well that was sent to us in 1880, and of which we reproduce the illustration (fig. 34). The present specimen is similar in appearance, but only the tip is sent with two ovules. On breaking one of these we did not find it "hollow," but on the contrary the shell closely encompassed a firm nut-like seed, the first that has been sent to us as grown in this country. We trust that those which our correspondent wisely retained will germinate, and that young plants will reward him for his acumen and prompt action which led to their production.]

HORTICULTURAL SHOWS.

VENTNOR AND UNDERCLIFFE.—AUGUST 29TH.

THERE are but few places in this country possessing more natural advantages for landscape adornment than Steephill Castle, near Ventnor, Isle of Wight, the charming seat of H. Sewell, Esq. It is situated at the western end of Ventnor at the commencement of the far famed Undercliffe, on a natural terrace formed at some time from the fallen rocks, and protected on the north side by high rugged cliffs, on which Thorns, Ivy, and other indigenous shrubs and flowers take root and grow, partly clothing the more sombre rocks. From the top of the cliffs rise the lofty downs to the height of from 800 to 900 feet above the level of the sea, these forming a natural protection to the beautiful demesne and its surroundings. The tower of the castle lifts its head above the lofty Elms, Ash, Sycamore and Maples with which it abounds, and serves as a landmark through the length of the undercliff and far out on the English Channel, the shore of which is about a quarter of a mile away.

Underneath the more lofty forest trees winding footpaths and rugged steps lead from grove to grove and terrace to terrace over the undulating pleasure grounds, revealing fresh scenes and choice nooks and corners at every turn. The fallen rocks and boulders peep out from the well-kept turf slopes and lawns, and give excellent situations for some of the choice half-hardy flowering plants and shrubs. The fringes of turf abounded with the flowers of *Cyclamen hederæfolium* of various colours, also *C. Atkinsi* and *C. Coum* follow on, with the various varieties of Daffodils and Narcissi, now resting. To name the many choice trees and shrubs would take up too much space. A large Cork tree is of especial interest to visitors, and a fine specimen of the Manna tree is a very conspicuous object when in bloom. *Benthamia fragifera* is a noble sight with its white flowers in spring, and ripens its large Strawberry-like fruits in the autumn. There is a grand *Pittosporum*, a fine-leaved variety; a very fine *Quercus glabra*, *Podocarpus chilensis*, *Garrya elliptica*, a huge bush; *Pavia macrostachys*, *Abies Smithiana*, *Colletia bicktoniensis*, *Picea Normanniana*, and a *Hicory* amongst many

plants of interest, which also includes fine specimens of Bamboos and Yuccas. Many of these are of large proportions, and nearly outgrown their situations; but the gardener, Mr. A. Scott, with his ability and forethought does not allow a fine specimen to be spoilt before cutting down or removing some of the surroundings to make room for it to develop.

It was in this beautiful spot the Ventnor and Undercliffe Horticultural Society held their fifty-ninth exhibition, the tents being filled to overflowing with fresh and highly meritorious exhibits. The fine-foilage plants, Orchids, Ferns, and fruit of Mr. Hopkins, gardener to J. Snowdon Henery, Esq., Eastdene, Bonchurch, with groups of plants, and the double Begonias of Mr. Sheath, gardener to Miss Mitchell, Ventnor. The Ferns of Miss Cass (gardener, Mr. Attrill), and of Mr. Cosh, Coombe Wood, Bonchurch, with the large and beautiful baskets of cut flowers were very noticeable in the large tent. Mr. Russell, gardener to Colonel Goodchild, also exhibited well in several classes.

In the fruit classes Mr. Hoskins, gardener to G. Hutt, Esq., Appley Towers, showed two bunches of the black Grape that was raised by Mr. Myers, late gardener, and named after that place—Appley Towers. The Grapes were of splendid colour and finish, and easily won first prize. Mr. A. Scott, the gardener at Steephill, also showed some excellent white Grapes and other fruits.

Mr. Cole Norman was the chief prizewinner amongst the amateurs, who, with Mr. Creath and Mr. H. W. Jacobs, exhibited meritorious collections. Prizes were offered by the Technical Education Committee for vegetables to cottagers, and were well contested with splendid clean roots, Messrs. J. & F. Niblett being the chief prizewinners for vegetables, and Mr. J. Attrill for fruit. On a sloping grass bank near the entrance, Mr. C. Orchard, Bembridge Harbour Gardens, exhibited a large collection of flowers and roots, not for competition, in which Veitch's Scarlet Model Carrot, Scarlet Intermediate ditto, and Veitch's Selected and Pragnell's Exhibition Beet, and twenty-five dishes of the leading varieties of Potatoes were conspicuous, showing the fertility of reclaimed land.

The weather was all that could be desired, and the many visitors to this delightful locality took advantage of this opportunity to have a walk round, and enjoyed the beauties of these charming grounds.—C. O.

BATH.—AUGUST 29TH AND 30TH.

THE annual autumn show was held in the Sidney Gardens on August 29th and 30th. In some of the plant classes a falling off was noticeable, but in many other respects the exhibition may be said to have been a horticultural success. It is to be hoped that the show may also be successful from the financial point of view, as on this year's success depends, it is understood, the continuance of these displays.

Fuchsias were, as usual, a feature here, some splendid plants being staged by the Hon. Mrs. Hay and Major Clark, between whom the competition was very close. The plants were in most cases trained in the pyramidal form, and were on an average about 3 feet through at the base, tapering to 10 feet in height, and perfectly clothed in flowers. Mention must be made of the fine specimen stove and greenhouse plants staged by Mr. Jas. Cypher, Crotons being particularly good. Taken all round Grapes were not so fine as is expected at Bath, though in one or two stands black Grapes were excellent, notably the Alicantes shown by the Duke of Beaufort. Collections of wild flowers were also much admired.

In the class for nine Fuchsias the Hon. Mrs. Hay was first, and was, as before hinted, closely followed by Major Clark, Mrs. Counsell being third. Sir Jerom Murch had the best six plants, Mrs. Wilcox being second. Mr. W. Marsh had the best four plants, this not being by any means such a good class as the others. For one light variety the Hon. Mrs. Hay was first, and Major Clark second. In the corresponding class for one dark kind the positions were reversed, both showing grandly.

There were only two competitors in the class for twelve foliage plants and six stove or greenhouse plants in bloom. Mr. Jas. Cypher won somewhat easily with good Palms, and amongst others fine Crotons Sunset, Chelsoni, Angustifolius, Johannis, Thompsoni, Ixora Pilgrimi, I. Williamsi, and Erica Turnbulli. Messrs. Heath & Son being second. For eight foliage plants Messrs. E. S. Cole & Sons, Weston, Bath, were the winners, Mr. J. Holmes being second. Messrs. Cole & Sons were also first for a single specimen, showing a very fine plant of *Encephalartos Hildebrandi*; Mr. Jas. Cypher taking second. Mr. Cypher was awarded the first prize for ten stove or greenhouse plants in flower, showing the following in good condition:—*Statice profusa*, *Phœnocomma prolifera* Barnesi, *Bougainvillea glabra*, *Ixora salicifolia*, *Erica obbata purpurea*, and *E. Eweriana*. Major Clark was second with some good plants. In the class for three plants Messrs. W. Heath & Son were first, Sir Jerom Murch being second. Mr. Jas. Cypher won with *Ixora Prince of Orange* in the class for one stove plant, and also for one greenhouse plant with *Statice Gilberti*.

Mr. Cypher also won with six Orchids, showing *Oncidium incurvum*, *Dendrobium phalænopsis Shröderiana*, *D. formosum giganteum*, *Cattleya Dowiana aurea*, and *chrysotoxa*. Mr. J. T. Holmes was second. For six Heaths Mr. Cypher was the only competitor, showing well flowered plants, the same exhibitor having the best single specimen, followed by Major Clark. Mr. Cypher was likewise successful in the new plant class with *Cypripedium Charlesworthi*, Mr. H. Harris being second with *Cattleya Victoria Regina*.

Fern classes, though not producing a very strong competition,

included some large healthy plants and some good varieties. Major Clark was first in the class for twelve plants, followed by Mr. Harris and Mr. E. Hall in the order named. Mr. Thos. Carr was first for six plants, Sir Jerom Murch taking second prize. Major Clark had the best Gloxinias, and also the best plants in the classes for double and single tuberous Begonias. Pelargoniums made a good display, and there were also some well grown plants of *Coleus* staged.

Groups were not considered as good as in some former years, Mr. Jas. Cypher taking first prize with a fine display, the second prize group of

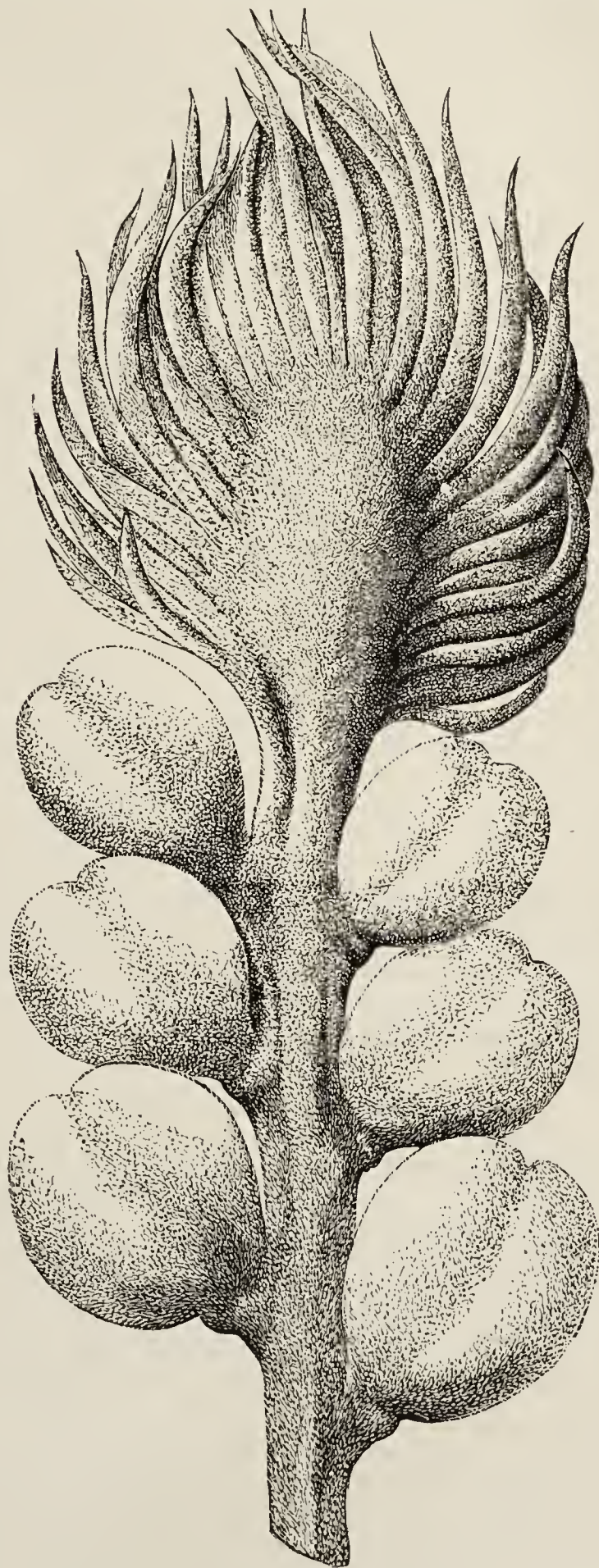


FIG. 34.—OVULIFEROUS FROND OF *CYCAS REVOLUTA*. (Natural size.)

Mr. Harris being in the back part very thin and almost meagre in the front. Mr. R. B. Cater was third, his group being much too heavy.

Cut flower classes were fairly well filled, the quality of the exhibits in several instances being excellent. Roses were good for the time of year, Mr. A. H. Gray being awarded a certificate of merit for a collection of Teas. For thirty-six spikes of Gladioli Messrs. G. Cooling & Sons were first, Mr. Cole being first with twelve. For twenty-four Dahlias, Mr. Walker, Thame, was first with splendid flowers, Messrs. Keynes, Williams & Co., being second. Messrs. Cray & Sons won in the class for

twelve. For twelve varieties, single, in trusses of six each, Mr. A. A. Walters was awarded first prize. In the class for twenty-four Roses, Dr. Budd was first, having good A. Colomb, Charles Lefebvre, Mrs. J. Laing, Duchess of Bedford, Chas. Darwin, Madame C. Crapet, and Madame V. Verdier. Messrs. Keynes, Williams & Co. were second. Dr. Budd also took the first prize for twelve blooms. For twelve Teas Messrs. Keynes, Williams & Co. were first, Mr. A. H. Gray second. Major Clark was awarded first prize for twenty-four bunches of stove and greenhouse cut flowers, having a good stand, Mr. J. L. Holmes, who also staged well, being second. Mr. G. Humphries had the best Pelargoniums; Mr. Jones showing the best Asters. Mr. J. Burgess had good Hollyhocks, and Mr. Hooper took the first prize in the class for twelve bunches of hardy annuals. Mr. A. A. Walters won in fine style with twenty-four bunches of hardy perennials; Messrs. Case Bros., Cardiff, took the first prize with a splendid bouquet; and Mr. Jas. Cypher was first with a vase of cut flowers.

Collections of fruit were very good, black Grapes forming a strong class, Plums and culinary Apples also being shown in numbers. The Duke of Beaufort (gardener, Mr. W. Nash) was first with a fine collection of twelve dishes of fruit, having excellent Alicante Grapes, good Violette Hâtive and Grosse Mignonne Peaches, and Cherries. Mr. H. W. Ward, Longford Castle, was second, having good Peaches and Grapes; Mrs. Gouldsmith third. In the class for eight bunches of Grapes Earl Cowley (gardener, Mr. J. Gibson) was easily first, showing Gros Maroc, fine Black Hamburgh, Muscat of Alexandria, and splendid Madresfield Court. Rev. Canon Coventry, Worcester, was second, and Mr. James Fortt third. The three bunches of Black Hamburgh class produced a numerous competition, Earl Cowley again winning with ease; Mr. J. Dole second, and Mr. J. R. Brain third. Muscats were deficient in colour, Mr. Jas. Fortt winning the first prize for three bunches, the Rev. Canon Coventry second, and Mr. J. B. Brain third. In the class for any other variety, white, Mr. J. Dole was first with some fine Buckland Sweetwater, Mr. J. Webber and Mr. Brain being second and third respectively with the same variety. The Duke of Beaufort was first with very fine Alicantes in the class for any other black variety. Mr. Jas. Fortt was first for two bunches grown in the district. For a green-fleshed Melon Mr. J. A. Martin was first; and Lady Theodora Guest was first for any other variety.

In the class for nine Peaches Mr. H. Progers was first with splendid Alexandra Noblesse; Mr. H. Harris winning first prize for six with good but rather pale examples of the same variety. Mr. W. H. Long was awarded first for nine Nectarines, showing good Pineapple; Sir Jerom Murch taking first in the class for six. In the class for dessert not Green Gage Mr. T. W. Dunn was the winner of the first prize. Mr. C. Osborne was first for culinary with very fine Black Diamond, Mr. Moore having the best Green Gages. Messrs. Gray & Sons were first with good Brunswick Figs. Mr. J. Webber had the best Cherries. For three dishes of Pears Earl Cowley was the chief winner, and for twelve fruits, dessert, Mr. Hall was first with Prince Imperial. Mr. G. Manning had the best three dishes of dessert Apples, and Mr. Hall the best single dish, Miss Maitland being awarded first prize for three dishes of culinary Apples.

Vegetables were shown in fine condition by Mr. Wilkins and Mr. Geo. Garaway, the former taking first prize for twelve varieties. Good produce was also shown for the prizes offered by Messrs. Sutton & Sons, Webb & Sons, and G. Cooling & Son. Cottagers' exhibits, though rough here and there, were in the main of good quality and excellent appearance.

SANDY.—AUGUST 30TH.

THE twenty-sixth annual exhibition of the Sandy and District Horticultural Society took place on August 30th in the fine park surrounding Sandy Place, by the kind permission of Mrs. Foster, and was a great success horticulturally and financially, thousands of persons attending the show. Liberal prizes were offered for ten stove and greenhouse plants in flower, distinct. Mr. J. Cypher, Cheltenham, was well to the front with grand specimens, noteworthy being Erica Aitoniana, Bougainvillea glabra, Allamanda nobilis, and Statice profusa. Mr. J. F. Mould, Pewsey, who was second, had a well flowered Erica Aitoniana in his collection. Mr. Finch, gardener to Mrs. Marriott, Coventry, was placed third with creditable plants. For six foliage plants, Mr. G. Claydon, gardener to Mrs. Astell, Woodbury Hall, was first with fine specimens of Cissus discolor, Caladium Chantini, and well coloured Crotons. Mrs. Wingfield was second, and Mr. G. Redman third.

Groups of plants for effect were very creditable arrangements, and the prizes went to Messrs. Empson, Claydon, and Redman. In the class for twelve Zonal Pelargoniums the last-named exhibitor secured the leading position with well flowered plants. Begonias were well flowered examples, the best being contributed by Messrs. E. T. Leeds, Smith, and G. Claydon, who gained the prizes in the order named. For a specimen stove or greenhouse plant in flower, Mr. W. Finch gained the chief award with a finely flowered plant of Erica Hartnelli.

For forty-eight cut Roses Messrs. G. & W. H. Burch, Peterborough, were first; second, Messrs. Paul & Son; third, Mr. E. B. Lindsell, Hitchin. An attractive class was that for twenty-four Show Dahlias. Here the prizes went to Messrs. Keynes, Williams & Co., Mr. R. Petfield, and Mr. R. Burgin. For twelve Fancies—first, Messrs. Keynes, Williams, and Co.; second, Mr. R. Burgin. Pompon Dahlias constituted a large and effective class, the awards for twelve bunches going to Messrs. Keynes, Williams, & Co., Mrs. Darwin, and Mr. F. T. Hunt. Cactus Dahlias were grandly shown by Messrs. Keynes, Williams, & Co. and Mr. R. Burgin. An attractive class was that in which prizes were offered

for twenty-four bunches of hardy herbaceous flowers, the prizewinners being Messrs. Paul & Son, Messrs. Laxton Brothers, Mr. A. Prince, and Rev. W. Crouch. Table decorations and bouquets were well and extensively displayed, many of the exhibits showing much taste and skill in arrangement. The principal prizetakers were Miss K. Meadley, Miss M. Foden, Miss A. Mould, Mrs. E. Beckett, and Mr. G. R. Allis.

Fruit made a fine display, a good competition being the rule in all the classes. In the class for two bunches of Black Hamburgh Grapes fine fruit was shown by Messrs. Empson, More, and Allis, who secured the awards in the order named. Muscat of Alexandria, well finished examples, were contributed by the prizewinners—Messrs. Empson, Forbes, and Allis. Prizes were offered for Peaches grown from outdoors and under glass, the chief prizetakers being Messrs. Claydon, Myers, Bailey, Denton, and Carter. Nectarines were well shown by Messrs. Claydon, Allis, and others. Plums made a remarkable display, as also did Apples and Pears. Melons and Figs were also well shown.

For the best collection of vegetables, the special prizes being offered by Messrs. James Carter & Co., Mr. W. J. Empson gained the first prize. His principal dishes were Telephone Peas, Duke of Edinburgh Cucumber, Sharpe's Victor Potato, Canadian Wonder French Bean, and Summer Favourite Carrot. Second, Mr. G. Woodhouse. Messrs. Harrison and Sons offered prizes for three dishes of new Potatoes that have not been in commerce over two years. First, Mr. F. Davison, with good clean tubers. Second, Mr. R. Crawley, who had fine tubers of Fidler's Colossal, Jenny Deans, and Future Fame. For a collection of Potatoes—named, not more than ten varieties—some remarkably fine and clean samples were shown. Mr. H. Scotchbrook gained the premier position; he had fine tubers of Best of All, Suttons' Seedling, Reading Giant, and Lord Tennyson. Second, Mr. J. Bradford, whose principal sorts were Lord Tennyson, Abundance, Reading Russet, and Windsor Castle. Third, Mr. H. W. Brown, who had fine tubers of King of the Russets. Other collections and single dishes of vegetables were contributed in large numbers and excellent condition. As was to be expected in Bedfordshire, some fine types of Onions were shown—viz., White Spanish, White Globe, White or Brown Intermediate, and other forms, the principal prizewinners being Messrs. Wood, Brown, Davison, Lack, Arlesley, Pym, and Foster.

Messrs. Laxton Bros. sent some fine bulbs of Laxton's Sandy Prize White Spanish Onion, not for competition; as also a good collection of dessert and kitchen Apples in most of the leading varieties. Mr. Allan Jeeves, Seddington, Sandy, sent a picturesquely arranged stand of Bedfordshire pickles, consisting of Onions, mixed pickle, piccalilly, Red Cabbage, Cucumber and Cauliflower. Messrs. W. Cutbush & Son, Highbate, sent a fine and well arranged bank of flowering and foliage plants, not for competition.

The cottagers of the district made a good and extensive display of plants, flowers, fruit, and vegetables. The show was well managed by the Hon. Secretaries, Messrs. G. T. Leeds-Smith, and W. Green.

ROYAL OXFORDSHIRE HORTICULTURAL SOCIETY.

AUGUST 30TH.

AMIDST the most pleasing surroundings, rendered more charming by summer sunshine, this Society held a successful exhibition on Thursday, the 30th ult., in the garden of Wadham College, visitors to the show having the privilege, granted to them by the Warden, of access to his adjacent pleasure grounds. Enclosed within stone walls, these gardens are as delightful as any in the University, and notwithstanding that on two sides they abut on the roads, they present inside an aspect of gratifying seclusion, made impressively refreshing by their umbrageous trees in summer time, and eminently charming all the year round. They occupy an area of about six acres, and were laid out and furnished in a style that has produced at the present time as perfect garden scenery as can be met with within the City of Oxford.

The exhibition, as stated, was held in the College garden, and the productions were arranged in two large marquees as well as on staging conveniently placed around a portion of the College buildings and the most spacious paths. One of the marquees was entirely devoted to the classes for plants, while the other contained those for fruits and cut flowers, the vegetables forming an important feature out of doors, and altogether constituting as meritorious an exhibition as any corresponding one hitherto held by the Society, which has enjoyed a successful career of sixty-four years. The competition was confined to all members of the Society in the first division, to amateurs in the second, and cottagers, who are always well represented at these shows, in the third.

The most noteworthy of the exhibits in the classes for plants were those for six exotic Ferns, Mr. J. Johnson, Garsington, being placed first with handsome specimens, Mr. G. Herbert Morrell second with plants of rather less dimensions, and Mr. C. J. Bates third. For twelve British Ferns Mr. J. Walker, Thame, who staged a well matched group, was placed first, Mr. Bates being second; while in the class for six the best were those of Mr. J. Johnson and Mr. W. F. Cross, who secured the first and second prizes in the order named. Fuchsias were remarkably well shown by the Warden of Wadham College, his six specimens gaining the premier award, and a similar distinction for a specimen greenhouse plant. Mr. Mattock, New Headington, took the leading position in the class for six stove or greenhouse plants, as well as for a specimen stove plant in flower; Mr. G. Jacob, Witney, being first for a specimen ornamental foliage plant, and Mr. Johnson first for specimen hardy plants in flower. Single tuberous Begonias were well shown by Mr. Johnson, Mrs. Stone, and Mr. M. Wooten, being placed in the order named in a class for six plants; Mr. Johnson and Mr. M. Wooten securing first and second

positions in that for six double flowered varieties. In the classes for both six single and double Pelargoniums, Mr. Johnson was awarded first prizes. For six Coleus Mrs. Wootten-Wootten, Headington, Mr. M. Wootten, and Mr. E. Ryman, Barton, were the successful competitors, and gained the prizes in the order mentioned.

Cut flowers were strongly represented, Dahlias, Roses, Pelargoniums, Asters, hardy perennials, and bouquets making an attractive display. For twenty-four Dahlias, Mr. J. Walker was first; Mr. J. R. Tranter, Henley, second; and Mr. T. Anstiss, Brill, third; while in a second class for eighteen varieties Mr. Walker was again first; Messrs. Taylor and Sons, Kingham, were second; Mr. Anstiss third. Classes were also provided for single, Pompon, and Cactus varieties, twelve varieties respectively, three blooms of each, Mr. Walker leading in the two first and the Rev. Mr. Hartley in the latter, the other prizetakers being Mr. M. Burden, Mr. A. Ball, and Messrs. Taylor & Sons. For eighteen Roses, Mr. G. Prince was first, Mr. J. Mattock second, and Mr. J. Parker, Headington, third. In the classes for twelve single and double Pelargoniums, three trusses of each, excellent stands were staged, Mrs. Wootten-Wootten securing the premier award in the former, and Mr. Walker a similar one in the latter. Mr. E. Ryman was first for twenty-four bouquets. Hardy perennials, twelve bunches, were remarkably well shown, Mr. W. F. Cross taking the first prize, Mr. Johnson second, and the Rev. the President of Trinity College third. In the classes for Asters the most successful exhibitors were Mr. J. Walker, the Rev. R. F. Dale, Bletchington, Mr. J. R. Tranter, and Mr. F. Ryman-Hall. For twelve single spikes of Gladioli Mr. Johnson was first, the Rev. Mr. Hartley second, and Mr. J. R. Tranter third. The prizes for perennial Phloxes, six varieties, three trusses of each, were awarded Mr. Johnson and Mr. M. Burden; while for the same number of varieties of Phlox Drummondii, staged in bunches, the Rev. R. F. Dale and the Provost of Worcester College were respectively first and second.

The fruit classes were keenly contested, more especially those for Grapes, the exhibits in each being far more numerous than on any former occasion. In summarising the awards the following were particularly noteworthy. Colonel Miller, Shotover House, took the leading position in the classes for white Grapes, Melons, Apricots, and Green Gages. Mr. W. C. Cartwright, Aynho Park, was first for black Grapes (Hamburgh excluded), also for Figs and dessert Pears, Lord North winning the premier award for Black Hamburghs. Mr. G. Herbert Morrell was similarly successful in the classes for Nectarines, Cherries, Gooseberries, and White Currants; Mr. Aubrey Harcourt, Nuneham Park, for Red and Black Currants; Mrs. Stone for dessert Plums, the Warden of Wadham College for dessert Apples, and Mr. H. Smart for culinary Apples.

Dealing with the vegetable classes in the same manner mention should be first made of the superior quality of the various vegetables contained in the several fine collections of six varieties, more especially to that of Mr. Aubrey Harcourt, which gained the chief award in a well contested class. The Rev. R. F. Dale was first for both white round, coloured round, and coloured kidney Potatoes, as well as for twelve Carrots, Turnips, and Beet. The Rev. the Provost of Worcester College was similarly successful with Runner Beans (very fine), red and white Celery, six Carrots, and Parsnips. Mr. Aubrey Harcourt was first for white kidney Potatoes and spring-sown Onions; Dr. Batt for Peas and Tomatoes; Lord North for autumn-sown Onions; and Mr. Baker for Cauliflowers.

In the division for amateurs the principal prizes were awarded to Mr. E. Thorne, Mr. W. F. Cross, Mr. J. Akers, Mr. M. Burden, Mr. G. Kirtland, Mr. F. Newman, Mr. Anstiss, Mr. W. Wheeler, Mr. H. Keen, Mr. R. W. Soanes, Mr. Clarke, and Mr. A. Evans, the first-named exhibitor winning nine premier awards. Cottagers compete at these shows on the recommendation of honorary members without payment of entry fees, and their productions on this occasion were highly meritorious.

ROYAL HORTICULTURAL SOCIETY OF IRELAND.

AUGUST 31ST.

THOSE most interested in the premier Horticultural Society of Ireland viewed with some anxiety the prospects for the autumn exhibition, but it has come and gone with the gratifying results of all-round success. Held on the last day of August in the spacious grounds of Lord Iveagh's Dublin residence under fair if not fine weather, and patronised by many of the numerous visitors attracted to the Irish metropolis for the great horse show, the anxious ones cannot but feel that "all's well that ends well." The effects of an all but sunless summer was more noticeable in the fruit exhibits than in florists' flowers, the latter being numerous and in fine form, speaking volumes for the labour and watchfulness which must have been expended in fighting the elements.

Much interest was centred round class 30, a new feature here being a 10-guinea cup for the best stand of twenty-four bunches of Carnations, three sprays of each, with buds and foliage added. Mr. Cumming, gardener to Lord Gough, St. Helens, Booterstown, carried off the trophy with a well arranged stand of choice varieties, fresh, but not large blooms, Captain Osborne being second. For thirty-six Gladioli in eighteen varieties J. P. Stewart, Esq., was first and J. F. Lombard, Esq., was second. Mr. Stewart also took first honours in Zonal Pelargoniums with a superb stand, faultless in finish and setting up. Second, J. G. Nutting, Esq. Tuberous Begonias made a brave display in the two classes for thirty-six doubles and thirty-six singles, Lord Ashtown (Mr. Porter, gardener) was first. A fine stand of single Begonias, arranged by Mr. O. Connor for R. H. McComas, Esq., being disqualified owing to setting up his blooms in threes.

In plants, the class for the best six Coleus brought out some small but admirably coloured plants. F. A. Millar, Esq., was placed first, Mr. Stewart second, and Mr. McComas third. The entries for this class did much to brighten up the centre stage of a large tent, and here were the inimitable Roses of Messrs. Dicksons of Newtownards, amongst which twenty-four blooms of Mrs. J. Laing received unqualified praise. A grand plant of Cycas revoluta, staged by Mr. Allerley of Montrose Gardens, as a specimen exotic in flower, which it was, and excited some amount of interest, took second place to a pan of Vallota purpurea with some thirty spikes. Mr. Allerley took first for twelve stove and greenhouse foliage and flowering plants. For Messrs. Thompson's 15-guinea plate, for the best single bunch of Grapes, Mr. Bradshaw, gardener to the Marquis of Downshire, was first; second, Lord Ashtown. The same exhibitors also stood in same order for a stand of six bunches in two varieties, and the Veitch Memorial medal for a collection of fruit went to the Lady Emily H. Bury. Messrs. Dicksons (Limited), of Chester, staged an interesting collection of hardy flowers. Mr. J. Forbes, of Hawick, N.B., had an extensive exhibit of Carnations, in named choice varieties. Other nurserymen contributed liberally to what was generally considered the best show of its season seen in Dublin for some years.—E. K.

ROYAL AQUARIUM.—SEPTEMBER 4TH, 5TH, AND 6TH.

AN exhibition of Dahlias, Gladioli, and early flowering Chrysanthemums was held at the Royal Aquarium, Westminster, on the above dates. In many respects the show was much better than was generally expected, the majority of the classes being well filled. Dahlias on the whole were of excellent quality, the same applying to Gladioli and Chrysanthemums.

Show and Fancy Dahlias were handsomely and numerous shown. In the class for forty-eight blooms in not less than thirty-six distinct varieties four collections were staged, the quality of the flowers being very high. The first prize went to Mr. Chas. Turner, Royal Nurseries, Slough, who staged fresh, well-finished examples of G. Rawlings, Mrs. Chas. Noyes, Arthur Ocock, Hy. Walton, Wm. Keith, John Walker, Colonelist, Ethel Britten, W. Rawlings, Mrs. Langtry, Alice Emily, Arthur Rawlings, Mrs. Morgan, Florence, Mrs. G. Harris, J. T. West, W. Powell, Comedian, T. W. Girdlestone (self), Duchess of York, John Bennett, John Standish, Queen of the Belgians, Princess Bismarck, Miss Cannell, Plutarch, Octavia, James Cocker, Crimson King, Maud Fellowes, Matthew Campbell, Mrs. J. Downie (self), John Hickling, Burgundy, Mrs. Gladstone, and some seedlings. The second position was accorded to Messrs. Keynes, Williams & Co., Salisbury, with a stand comprising numerous splendid flowers; and the third to Mr. J. Walker, Thame, Ozon.

In the class for thirty-six Show and Fancy varieties, distinct, Mr. J. Walker was a capital first with very fine flowers of Perfection, James Cocker, Majestic, Wm. Keith, Purple Prince, Wm. Powell, Harry Keith, John Hickling, Miss Cannell, Shirley Hibberd, Ethel Britten, Gwendoline, Mrs. Wm. Slack, George Rawlings, Rev. J. B. M. Camm, Duke of Fife, Fred Smith, Queen of Belgians, Prince Bismarck, Seraph, Mrs. George Rawlings, John Wyatt, R. J. Rawlings, Arthur Rawlings, T. J. Saltmarsh, Prince of Denmark, Harrison Weir, Maud, Wm. Rawlings, Mrs. Langtry, Rebecca, J. T. West, Earl of Ravensworth, Willie Garratt, Mrs. Gladstone, and James Vick. Messrs. Keynes, Williams & Co. were a very good second; and Mr. Chas. Turner third. For twenty-four Show and Fancy, distinct, Messrs. Saltmarsh & Son, the Nurseries, Chelmsford, took the premier award with a superb exhibit composed of H. Walton, Mrs. W. Slack, Rev. J. Gooday, Frank Pearce, Mrs. Gladstone, Duke of Fife, Countess of Ravensworth, W. Rawlings, Harry Keith, Matthew Campbell, Prince of Denmark, T. J. Saltmarsh, Perfection, Arthur Rawlings, R. J. Rawlings, J. T. West, Harrison Weir, James Cocker, Mrs. Langtry, J. Walker, Shirley Hibberd, Mrs. D. Saunders, Alice Emily, and Criterion. Mr. G. Humphries, Kingston Langley, Chippenham, was second, and Mr. J. Tranter, Henley-on-Thames, third.

There were six competitors in the class for twelve Show and Fancy Dahlias, distinct. Messrs. Saltmarsh & Sons were a good first with grand blooms. The varieties represented were W. Rawlings, Mrs. Langtry, Shirley Hibberd, Perfection, J. T. West, R. J. Rawlings, Duke of Fife, Mrs. Slack, Arthur Rawlings, J. Walker, Frank Pearce, and Mrs. Gladstone. Mr. Arthur Rawlings, Old Church, Romford, was second, and Mr. G. Humphries third.

Single Dahlias were well shown by a fair number of competitors. In the class for twelve bunches, distinct, T. W. Girdlestone, Esq., Sunningdale, Berks, was first with good examples of Evelyn, Golden Locks, Psyche, Yellow Satin, M.C.C., Little Frank, Phyllis, A. Hughes, Demon, Aladdin, Tommy, and Sunningdale Scarlet. The second prize in this class went to Ed. Mawley, Esq., Rosebank, Berkhamsted, and the third to Mr. Eric F. Such, nurseryman, Maidenhead. The competitors numbered five, almost all of which staged highly creditable blooms.

There were only two exhibitors in the class for twenty-four single varieties, distinct, Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, Sussex, and Mr. M. V. Seale, Vine Nurseries, Sevenoaks, who were accorded the first and second prizes in the order of the names. The winning stand consisted of Evelyn, James Scobie, Jack, Lowfield Beauty, Mrs. Connick, Rosebank Cardinal, M.C.C., Annie Hughes, Duke of York, Mrs. Parrott, Miss Hensbaw, Amos Perry, Golden Locks, Mrs. Wythes, W. C. Harvey, The Bride, Victoria, Demon, Phyllis, Formosa, Miss Glasscock, Fred Leslie, Duchess of Anhalt, and Northern Star.

Messrs. J. Cheal & Sons thoroughly deserved the first prize accorded

them in the class for eighteen bunches of Cactus Dahlias, distinct. The varieties represented were May Pictor, Duke of Clarence, St. Catherine, Duchess of York, Matchless, Gloriosa, Kaiserin, Bertha Mawley, Lady Penzance, Professor Baldwin, Kentish Invicta, Josephine, Miss Violet Morgan, Kynerith, Countess of Radnor, Apollo, Countess of Gosford, and Delicata. Messrs. Keynes, Williams & Co. were second and Mr. Chas. Turner third.

For twelve bunches of Cactus Dahlias Messrs. J. Burrell & Co., Cambridge, were first with Professor Baldwin, Countess of Gosford, Robert Cannell, Countess of Radnor, Delicata, Juarez, Lady Penzance, Purple Prince, Apollo, Kaiserin, Matchless, and Mary Hillier. Mr. M. V. Seale was second, and Mr. E. F. Such third.

Pompon Dahlias were well staged, seven competitors showing in the class for twelve bunches of distinct, Mr. J. T. West, gardener to W. Keith, Esq., Brentwood, being first with charming blooms of Sunshine, Mary Keith, Arthur West, Tommy Keith, Gipsy, Phoebe, Temptress, Eva, Abundance, Red Indian, Erica, and Donovan. Messrs. Burrell & Co. were a good second, and Mr. M. V. Seale third.

For twenty-four bunches of Pompons Messrs. Keynes, Williams and Co. were a good first, staging the following varieties: Lady Blanche, Midnight, E. F. Junker, Admiration, George Brinkman, Favourite, Little Frank, Janet, Eric, Isobel, White Aster, Crimson Beauty, Lilian, Tommy Keith, Whisper, Little Jack, Hilda, Bacchus, Ceres, Grace, Model, Madge, Sovereign, and Arthur West. Mr. Chas. Turner was second and Messrs. J. Cheal & Sons third.

The amateurs' classes for Dahlias were not very numerous, numbering six only, but some highly creditable blooms were staged by the various exhibitors. In the class for six trebles of Cactus varieties, Mr. J. T. West was first with very beautiful blooms; E. Mawley, Esq., second, and Mr. James Stredwick, Silverhill, St. Leonards-on-Sea, third. Mr. J. T. West was also first for six bunches of Pompons with well finished blooms; Mr. J. Stredwick was second, and Mr. C. Osman, Sutton, Surrey, third.

Mr. T. J. West was the only competitor in the class for eighteen Show or Fancy varieties, and was awarded the premier prize. The blooms were clean and well finished; Harry Turner, Alice Emily, John Walker, Duke of Fife, and J. T. West were all well shown. In the class for twenty-four Show or Fancy there were three exhibitors—Messrs. J. T. West; J. Gurney Fowler, Glebe Lands, South Woodford; and J. Stredwick, who received the prizes in the order in which their names are given.

Mr. T. Vagg, gardener to Mrs. Theobald, The Bedfords, Havering, was first in the amateur class for twelve Dahlias, showing large flowers. Mr. A. Ocock, Rudevick, Horsham, was second. The last-named exhibitor was first, however, in the class for six blooms, Mr. Vagg following.

Gladioli were not very largely represented, only one collection being shown, but this, arranged by Messrs. J. Burrell & Co., Howe House Nurseries, Cambridge, was magnificent, and occupied one long table. Amongst the best of the varieties, which were very numerous, Gertrude, Iolanthe, Grand Rouge, Delicata, Magnet, Sorcerer, Florence, Frametta, Asphodel, and Tessa may be mentioned, though probably many others were equally as good. The first prize adjudged for this exhibit was richly deserved, and it was regrettable that other collections of these very beautiful late summer and autumn flowers were not staged.

Chrysanthemums were fairly well shown. In the class for twelve blooms of large early flowering varieties Mr. W. Wells, Earlswood Nurseries, Red Hill, Surrey, was placed first with a stand of fresh even blooms. The varieties shown were Madame E. Rey, Beauty of Exmouth, Majestic, Bridesmaid, September Beauty, W. H. Lincoln, La Cherine, there being duplicates in several instances. Mr. J. Agate, Havant, Hants, was a close second, the best flowers in this exhibitor's stand being C. H. Payne, President Borel, and George Savage. The third prize was gained by Mr. B. Calvert, gardener to Colonel Archer Houlton, Hallingbury Place, Bishop's Stortford, Herts, for a dozen blooms of George Wermig.

Miss R. Debenham, St. Peters, St. Albans, secured the first prize for twelve Pompon Chrysanthemums, three blooms of each. The varieties shown were Lyon, Flora, Mrs. Cullingford, Mdle. Jolivat, Blushing Bride, Alice Butcher, Précocité, and Peircy's Seedling. Mr. E. Vince, Highgate Cemetery, exhibited a dozen bunches of good blooms, for which the second prize was awarded. The last named exhibitor was first, however, in the larger class, namely that for twenty-four bunches of Chrysanthemums. They were very fresh and well coloured, the best including Sam Henshaw, Souvenir de Madame Menier, Madame Desgrange, Golden Fleece, Blushing Bride, St. Mary, Alice Butcher, and Mrs. J. R. Pitcher. Mr. E. F. Such, The Nurseries, Maidenhead, was second with excellent flowers, the most noteworthy being George Wermig, Goldsmith, Madame Desgrange, and Madame Gustave Grunner-wold. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, secured the third prize.

Mr. W. Smith, Romford, Essex, won the first prize for a vase or epergne of Chrysanthemums, the second award going to Mr. Walter Mole, 22, High Street, Hemel Hempstead, and the third to Mr. D. B. Crane, Archway Road, Highgate. Mr. W. Wells, exhibited a dozen blooms of Chrysanthemums in a miscellaneous class. There were two groups of Chrysanthemums, these coming from Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham, and Mr. J. H. Witty, Nunhead Cemetery, S.E., to each of whom a silver medal was awarded. Mr. B. Calvert won in the class for twelve blooms of Madame C. Desgrange, Mr. E. Vince being second, and Mr. J. Wright, Middle Temple Gardens, third, all showing well.

Mr. Thomas W. Lister, 90, Alexandra Road, Hornsey, won the first prize for twelve bunches of Chrysanthemums in the amateurs' section. Mr. Frank Bingham was first in the class for six blooms of Madame C. Desgrange; Mr. H. Wedekind being second. Mr. Wells was first with six bunches of any large-flowering Chrysanthemums; Mr. J. Agate being second. In the open classes Mr. J. Wright, Middle Temple Gardens, was first with six bunches of white and yellow Madame C. Desgrange; Mr. Vince being second.

The miscellaneous exhibits were numerous, and made a very fine display. Mr. T. S. Ware, Tottenham, had a large collection of Dahlias arranged in a somewhat formal style. The blooms, however, were above the average in quality, and included many excellent varieties of the Cactus and Decorative types, Pompons and singles being also well represented. Conspicuous amongst the former were Matador, Mahala Sheriff, Mrs. Frances Fell, Honoria, and Baron Schröder. The best singles included William Potten, Emily, Fred. Barker, and Lutea grandiflora, while of Pompons Cissie Parnham, Marie Durie, Louise Maltes, and Crimson King. Messrs. J. Cheal & Sons, Crawley, also won a silver-gilt medal for a grand collection of fruit, comprising Apples, Pears, and Plums, of which, too, fruiting branches and young trees were shown. The same firm had Dahlias and hardy flowers in variety. Mr. Robert Owen, Maidenhead, contributed a collection of early flowering Chrysanthemums, and Mr. C. Williams, Hammersmith, had table decorations.

Mr. J. R. Chard, Brunswick Nursery, Stoke Newington, N., was awarded a silver-gilt medal for an alcove decoration formed with wire arches in which bunches of Chrysanthemums and other flowers were arranged. Mirrors were also brought into use here, as were plants of Chrysanthemums and Ferns, the whole producing a charming effect.

Messrs. J. Laing & Sons, Forest Hill, were awarded a silver-gilt medal for a very fine collection of hardy flowers, amongst which Pentstemons, Montbretias, Phloxes, Hollyhocks, and Dahlias were conspicuous. Messrs. H. Cannell & Sons, Swanley, sent a splendid collection of Cactus Dahlias, arranged with sprays of Asparagus, and set in a base of bracken. The flowers were remarkable for their size and brilliancy, especially Bertha Mawley, Dean Hole, Blanche Keith, Matchless, Gloriosa, and Ernest Cannell. Messrs. Spooner & Sons, Hounslow, had a collection of Apples, for which a silver medal was awarded. Mr. T. W. Berridge, Norwood Lodge, Southall, sent some fine Onions; and Mr. R. Dean, Ranelagh Road, Ealing, had blooms of quilled Asters, which were highly commended. Mr. W. Salmon, Ivy Cottage, West Norwood, won a bronze medal for table decorations. Mr. E. F. Such secured a silver medal for a collection of Dahlias and Chrysanthemums. Messrs. Fenlon & Son, Tudor Street, showed some heating apparatus; and Messrs. E. Beckett, G. Springthorpe, G. Coppin & Sons, and Dr. Walker had tubes and cups for exhibiting Chrysanthemums. Mr. Springthorpe's invention was highly commended, Mr. Beckett's being commended.

The first meeting of the Floral Committee of the National Chrysanthemum Society was held, but no certificates were awarded for Chrysanthemums.



FRUIT FORCING.

Vines.—*Early Forced Vines in Pots.*—For affording a supply of new ripe Grapes in late March, or early in and through April, these are in some respects better than planted out Vines, which, unless in inside borders and light, airy, well heated structures, are not always satisfactory. Besides, the strain upon very early forced Vines is so considerable that planted out ones soon give indications of enfeeblement when started early in several years consecutively, so that it is found better in practice to secure stout well matured canes in pots, and after cropping them once throw the Vines away, new ones being provided annually to take their place. Those for starting in November will now have the wood brown and hard, the buds perfected, and the foliage sufficiently matured, if not off, for the removal of the laterals and shortening the canes to from 6 to 8 feet, according to the vigour, trellis to be occupied, and position of the plump buds. Whilst the cuts are dry it is advisable to dress them with styptic, patent knotting, or best French polish to prevent bleeding. Keep the Vines rather dry at the roots, and in a cool airy house. Where the Vines have to be bought they are best seen about now, orders being placed so as to secure stout, well-ripened canes of the most suitable varieties, which we find are White Frontignan, Foster's Seedling, Black Hamburg, and Madresfield Court.

Earliest Forced House.—Where care has been taken to preserve the principal foliage by cleanly culture, and a judicious encouragement of the laterals after the fruit was cut to prevent premature ripening of the principal leaves, the early forced Vines will now be in a condition to have the laterals reduced, also the bearing shoots, which will tend to induce rest and admit of early final pruning. This may be performed on early forced Vines before the leaves are all down, as the wood being brown and hard and the leaves, or some of them, turning yellow, they will not bleed nor start the buds provided the house is kept dry, fully

ventilated, and cold. The pruning will cause the Vines to go more quickly and thoroughly to rest, but it will have the opposite effect on unripe ones and where the atmospheric conditions favour growth. If the Vines are in good condition they will afford bunches quite large enough if pruned to a couple of buds from the base, but when they are weak from overcropping or a long course of forcing the spur shoots may be left a little longer to secure larger bunches. When this method is adopted shoots should be taken from as near the base as possible as well as the bearing, and not be allowed to carry fruit, but be stopped at the sixth leaf, the laterals to one, and subsequently as produced. Such shoots are sure to form good buds, as the extra foliage tends to invigorate the Vines and support the fruit on the other shoot, which can be cut away when the fruit is removed in favour of that retained for fruiting the following season. This alternate system of fruiting necessitates the shoots being kept wider apart for development and exposure to light and air.

If the Vines are grown on the usual extension system it will be necessary to cut to plump buds on firm ripe wood, being guided by the space at command, for there must not be overcrowding. It is important that the house be thoroughly cleansed. Any weakly Vines, or those in an unsatisfactory state, may be improved by removing the soil down to the roots and substituting fresh loam, with an admixture of one-sixth of old mortar rubbish, a tenth of wood ashes, a fortieth of crushed bones, and a sprinkling of some approved fertiliser. Lift any roots available for the purpose, laying them out upon the fresh compost, and cover 3 or 4 inches deep. This is best done before the fall of the leaf. It is a mistake to allow Vines when at rest to become dust-dry at the roots. Comparative dryness is desirable, yet great injury is done by allowing the border to become dried to the extent of cracking and severing the fibres. The outside border should have a covering of some kind to protect the roots from the heavy autumn rains, which reduce the temperature considerably. Glass lights are preferable, as they throw off heavy rains, whilst allowing the sun to penetrate the soil. Some persons, however, are obliged to do without such aids, being content to apply a covering of leaves and litter after cold weather sets in to prevent the soil freezing, which is an absolute necessity in early forcing.

Succession Houses.—Midseason Vines have the fruit ripe or ripening, and will need a free circulation of air, especially in the early part of fine days, as the night dews are heavy and the condensation of moisture on the berries take place rapidly indoors if the atmosphere rises considerably before air is admitted. A little air constantly is a good thing, but it must be increased early on fine mornings and a free circulation allowed whenever the weather is favourable. Moderate air moisture is essential for the benefit of the foliage and the sound keeping of the berries, but a close stagnant atmosphere soon causes the Grapes to spot and decay. The laterals should be kept from interfering with the access of light and air to the principal leaves, otherwise a good spread of healthy foliage over black Grapes is one of the best safeguards against their losing colour. White Grapes also do not become brown so soon when not exposed to the direct rays of the sun as they do when the foliage is thin. Where the Grapes have been cut the laterals may be reduced, also the long bearing shoots cut back to two or three leaves above the pruning buds. This will facilitate cleansing the foliage of red spider and other pests, and assist in plumping the basal buds as well as the ripening of the wood by the increased amount of light.

Late Grapes.—Where the Vines were started in good time the Grapes are well advanced in ripening. Keep the laterals well thinned, and thereby admit as much air as possible to insure the finishing of the crop, not by large reductions at a time but by frequent pinchings. Maintain an artificial temperature of 70° to 75°, falling 5° or 10° during the night, increasing to 80° or 85° by day, accompanied with a circulation of air constantly, and free under favourable atmospheric conditions. Where the Grapes are only beginning to colour somewhat sharp firing will be required to finish them properly before the days are too short and cold to admit of free ventilation, it being possible to do more in the next month or six weeks' time than in twice the time later on. With the Grapes well advanced in colouring and ripening the atmospheric moisture should be reduced; those only colouring should have a moderate amount of atmospheric moisture to assist their swelling, not neglecting to supply water to the roots as required.

Young Vines.—Those that have made a strong growth and are late in ripening should be assisted with fire heat, continuing it until the wood is ripe, accompanied with free top and bottom ventilation. Discourage any further growth by the removal of the laterals as they appear, and withhold water from the roots, only the soil must not be allowed to become too dry, and if the roots have the run of outside borders, some spare lights placed over the border so as to throw off the wet will be very beneficial. If the autumn be dry the border is better exposed, but heavy rains are better thrown off when the wood does not ripen kindly.

Melons.—The latest plants are fast covering the trellis and showing fruit freely. By fertilising these on every other plant fruit will be quickly secured, while by removing the first fruits on the others a later and fuller crop will be afforded on the second laterals. Earth up the plants after the fruit is set, not before, and after that be sparing with the syringe on dull days, employing it only on bright afternoons, and then early, taking care not to overwater at the roots, yet maintaining a genial atmosphere by occasionally sprinkling surfaces about the house. Promote healthy action by the use of stimulating and sustaining liquid applications. Late plants in frames will require linings and coverings on cold nights. This will admit of a little air daily and aid evaporation.

Very little water will be required, only giving sufficient to keep the foliage fresh. A warm, dry, and well ventilated atmosphere is essential to the fruit ripening well.

THE FLOWER GARDEN.

Ageratums and Heliotropes.—Sowing seed in the spring is the best way to raise Ageratum plants. Those obtained from cuttings are, however, the most compact, and, if desirable, a stock might yet be propagated with a view to having abundance of cuttings next spring. Select soft, flowerless tops from the best plants, and dibble them thinly in 5-inch pots, placing in gentle heat. Old plants of both Ageratums and Heliotropes often fail to lift well, but if a number of the latter have been kept for flowering in pots during the autumn and winter, these will produce abundance of cuttings next spring. Failing these root a good number of tops as advised in the case of Ageratums.

Verbenas.—A showery season suits these old fashioned bedding plants, and if they have been rather shabby at times this summer, they have quickly recovered again. There is no lack of soft clean cuttings, and abundance of these should, if not already done, be taken off and rooted. It is the young flowerless shoots that should be preferred, and these ought to be shortened to the third joint, dibbling them before they flag badly in well drained 5-inch pots filled with a mixture of fresh loam, leaf soil and sand. A partially exhausted hotbed is the best place to root them on, and they should be kept close, shaded from bright sunshine, and moist till rooted. Much dry heat ruins either cuttings or well rooted plants.

Zonal Pelargoniums.—Cuttings are so very soft and sappy that they are somewhat difficult to root and save. The old-fashioned plan of preparing the cuttings for pots and pans, and then spreading them out in the sunshine to flag and dry for a whole day or two, gets rid of much superfluous moisture, and has much to recommend it. Late rooted cuttings can be wintered most surely in 4-inch or slightly larger pots, as these can be stored thickly on shelves in cool dry houses. In these the cuttings may be dibbled in quite thickly, giving them more room in the spring. At this late date they must not be exposed to showery weather and heavy fogs and dew, but should have the benefit of glazed coverings, and all the light, air, and sunshine possible. No water ought to be given at first, and only enough later on to keep the stems from shrivelling badly. There will, very probably, be many failures, and abundance of cuttings ought therefore to be put in.

Iresines, Coleuses, and Alternantheras.—Rooted cuttings are preferable to lifted old plants, even when the latter recover well from the check. The first frost will cripple these delicate bedding plants, and no time, therefore, should be lost in rooting a number of young tops. Use 5-inch pots well drained and light soil. Place six cuttings in each pot and root them in heat. All are liable to damp wholesale, and the frames or glass covering them will require to be well dried every morning.

Fuchsias.—These are now very popular as bedding plants and also for plunging separately on the turf. If young flowerless shoots can be had, these might be rooted in pots or pans in heat, much as advised in the case of Verbenas. Instead of wintering them in the cutting pots the better plan would be to pot them separately, and keep them steadily growing all through the winter. They sometimes make good pyramids without any pinching other than stopping the side shoots, but more often they require to be stopped frequently in order to form a good bottom, after which a strong central leader may be trained to a stake, this and the side shoots being pinched back as often as flowering threatens. A moist gentle heat suits Fuchsias, and they must not be allowed to become badly root-bound prior to shifting into larger sizes.

Narcissi and Daffodils.—These are rightly extremely popular, and no class of bulbous flowered plants better repays for the little trouble necessary to take with them. The commoner kinds, notably of the Polyanthus Narcissus intended for the flower beds, must perforce be kept out of the ground some time longer, but there should be no further delay in the case of the choicer sections. In many positions the latter succeed well when not disturbed oftener than every third year, but some few of the delicate species require to be moved more frequently. If single bulbs of rare or expensive varieties are planted from 4 inches to 5 inches deep in good loamy soil they will flower next spring, and also form several offsets, which will attain a flowering size in the course of two seasons, always provided they are not detached from the parent bulb too quickly. The present is also a good time for lifting, sorting over, and replanting any species that last season gave signs of either failing health or of being unduly crowded. Plant all the medium-sized to large bulbs either in lines or thin groups where they will be best seen, and they are suitable plants for fruit borders alongside garden walks, and the smaller offsets in nursery beds. The Common Daffodils and Pheasant-eye Narcissi may also be now procured for growing in shrubberies, alongside woodland walks, and such like. They are well adapted for planting under the turf in patches or singly, as they flower and die down again before it is necessary to mow the grass.

Alströmerias.—There would be fewer failures with these if more judgment was exercised in the selection of sites. They fail in cold sites and heavy soil, and succeed admirably when planted in the narrow warm borders often formed close up to sunny house fronts. Plant rather deeply and do not disturb again for many years. Under this treatment they will increase rapidly and flower grandly every season.

Iris—The bulbous rooted species of these beautiful plants ought to be taken up, divided, and replanted every second or third season.

They all succeed well in a fresh, moderately rich and not too heavy loamy soil, this being worked to a good depth. Plant from 6 to 8 inches apart and 4 inches to 5 inches deep, and surface the beds with Pansies, Violas, Alpine Auriculas or other plants that will not take more than their share of food and moisture out of the soil. Plant new bulbs as soon as they can be had.

Various.—Crocuses permanently planted in borders should be lifted, divided, and replanted every third or fourth autumn. If returned to the same site give a change of soil, and always bury the bulbs 4 inches deep. Snowdrops can be lifted, separated into patches, and replanted without detriment to their flowering next season. They move best after fresh roots have been formed. Either these or newly purchased bulbs should be buried 2 inches deep. During this month plant *Cyclamen Coum* and *C. europæum*. These are rockwork plants, and should have a sheltered position and light sandy soil to grow in. They are most effective in groups of threes. *Triteleia uniflora* flowers very early and grandly at the foot of sunny fences or walls, and when in bloom is only slightly checked by severe frosts. Plant in groups of nine or more bulbs and 2 inches deep. Treat Jonquils similarly to Narcissi.

THE BEE-KEEPER.

APIARIAN NOTES.

BEES AT THE HEATHER.

I HAVE been a month at the moors, and with the exception of four days, from the 21st to the 25th, when there was partial sunshine, cloudy and chilly weather has prevailed, the sun never penetrating the dense vapour. The 1st of September was the most promising morning we have had, and as the Heather is in its prime I am still in hopes the bees will have a few days to gather a large quantity of honey. My hives are in good condition for gathering, and I hope no more swarming will take place. According to appearances they have abandoned all preparation for swarming.

WEIGHING HIVES.

On an average all my hives came back in weight from 12 to 20 lbs., so that at the beginning of September, although my test hive is no heavier, they have all more honey in them; while by poisoning them by the hand some are above the initial weight considerably. I commenced weighing on the morning of the 25th of August. At eleven o'clock a hive weighed 112 lbs.; at twelve noon 114 lbs., and at 3.30 124 lbs., gaining 12 lbs. in three and a half hours. There was no more honey gathering until the 29th, at which date there was again 122 lbs., although honey was apparently being carried in plentifully. On the 30th they had two and a half hours, when the hive weighed 125 lbs. The 31st appeared the best and longest honey day they had, lasting from eleven to five o'clock, but singular to say the test hive went back to 123 lbs. Probably the loss of weight would be due to the secretion of wax for comb-building in supers, as previous to the above dates no secretion of wax whatever was going on in any hive. I am hopeful my next letter will be more cheering, as the morning while I write is unusually bright and fine.

PUTTING HIVES IN ORDER FOR 1895.

Every hive and queen should now be examined, to make sure there is neither incipient foul brood, unfertile queens, nor drone combs in the centre of the brood nest. See that all hives have abundance of stores, and as sugar is more healthful for bees during the winter than some kinds of honey, supply every stock with a few pounds of it, made into syrup by dissolving it in equal parts by weight of water.—A LANARKSHIRE BEE-KEEPER.

MANAGING BEES.

IN the *Journal of Horticulture* of August 23rd "A Lanarkshire Bee-keeper" asks for information regarding Mr. Summers' system of managing bees at Sandbeck Park Gardens, and referred to myself in a previous issue. I have but little to add to the remarks already published—viz., that the system adopted differs materially from that generally advocated in these pages, and with, moreover, admirable results. Indeed, it may interest your correspondent to know that the majority of the bees are in the standard frame hives, which at times have been written about so disparagingly. Each of the hives holds ten frames, and being of the same size the latter are interchangeable. Mr. Summers informs me that he never takes honey from the body of the hive, all being obtained from supers placed on the top, and consequently it is of a superior quality. Having seen the honey I can write confidently with reference to its excellent quality, and the same opinion has been expressed by some London experts, to whom samples were recently submitted.

For the past few years I have taken some interest in the bee column of this Journal, but cannot help thinking that occasionally "A Lanarkshire Bee-keeper" is too much inclined to deprecate systems of bee-keeping other than that practised by himself. He surely is aware that because one man fails in a certain method others need not necessarily do likewise. This may be the rule in some things, but one should always allow a margin for exceptions. Judging by his remarks readers are forced to the conclusion that "A Lanarkshire Bee-keeper" has not been so successful with the standard frame hives as with his larger ones; but if that is so it by no means follows that every bee-keeper in the kingdom has experienced similar results. Not being a bee-keeper I have no interest in any special hive or system, but admire the industry, and I never forget that there are two sides to every question.—A YOUNG SCRIBE.

TRADE CATALOGUES RECEIVED.

Barr & Son, King Street, Covent Garden.—*Bulbs and Daffodils.*
G. Bunyard & Co., Maidstone.—*General Nursery Stock and Fruit Trees.*
Dobie & Dicks, Deansgate, Manchester.—*Dutch Bulbs.*
Dobie & Mason, Oak Street, Manchester.—*Hyacinths and other Bulbs.*
Fotheringham & Young, Whitesands, Dumfries.—*Liliums, Narcissi, and other Roots.*
Hogg & Robertson, Dublin.—*Bulbs.*
Little & Ballantyne, Carlisle.—*Bulb Catalogue.*
Anthony Roozen & Son, Overveen, Haarlem, Holland.—*Dutch and Cape Bulbs.*
Robert Sydenham, Tenby Street, Birmingham.—*Unique Bulb List.*
Charles Turner, Royal Nurseries, Slough.—*Choice Bulbous Roots.*
E. Webb & Sons, Wordsley, Stourbridge.—*Bulb Catalogue.*



*** All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Plants and Flowers for Church Decoration (B. T.).—The article on page 217 of this issue supplies the information you require. The subject could not be dealt with exhaustively in the form of a reply.

Instruments for Drawing (Inquirer).—To obtain a knowledge of drawing plans it is necessary to procure a case of instruments, drawing board and pins, also a book on geometry. A cheap and useful work on the subject is Gill's "School of Art Geometry," which can no doubt be obtained through any bookseller.

Seedling Carnations (F. E.).—The flowers sent are fairly good considering that they are the result of your first attempt at hybridising. They are, however, by no means equal to many varieties already in commerce. The self coloured bloom is certainly of the "Malmaison" type, and may be classed as such, but the calyx splits, and the flower is scentless. The other is a Fancy, but does not possess any great merit other than its fragrance.

Treatment of Coelogynes (F. G.).—Your plants are evidently not fully labelled, maxima being simply the varietal and not the specific name. They may be *C. cristata maxima*, a large flowering variety of this well-known and beautiful winter blooming Orchid. If so they will thrive well in a summer temperature of 70°, running up 5° or 10° higher by sun heat at closing time; at night 60°. In the winter the heat must not fall much below 50°. A shady position must be given the plants while making their growth. Abundance of water at the root is also necessary during this season. In the winter less will be required, but the pseudo-bulbs must not be allowed to shrivel. The best time to divide this Orchid is in the spring soon after the flowers are past, when the plants may also be repotted, if necessary, using a compost consisting of peat fibre, sphagnum, charcoal, and a little half-decayed leaf mould. *C. ocellata maxima*, otherwise known as *C. corymbosa*, requires similar treatment, but flowers a little later than the varieties of *C. cristata*.

Apple Hunt's Early (A. J. A.).—The Apple you send is Hunt's Early, which is described in "The Fruit Manual" as follows:—"Fruit, fragrant, like the Irish Peach; small, $2\frac{1}{4}$ inches wide, and about 2 inches high; roundish or oblate, angular on the sides, and ribbed round the eye. Skin, with a bright crimson cheek, marked with a few darker streaks on the side next the sun, and greenish yellow on the shaded side. Eye, closed, with long, convergent, erect segments, reflexed at the tips, and set in a ribbed basin. Stalk, short, or about half an inch long, slender, set in a narrow cavity. Flesh, greenish, tender, juicy, and perfumed. An early dessert Apple, ripe in the first week of August, but inferior to Irish Peach."

Debilitated Vine (H. M. R.).—The old Vine with the pale, warted leaves, and small thin-skinned berries, does not receive the sustenance it needs. By far the greater number of the food-imbibing roots have extended a long way beyond the narrow border, and if you know where they are you cannot err, on the naturally drained site, to give copious applications of rather strong liquid manure, both now and in the winter. By clearing the old roots in the border, and notching them at intervals, then placing under and over a mixture of wood ashes, leaf soil, and loam in equal parts, then 3 or 4 inches of calcareous turfy loam, spreading on this a covering of lumpy manure, you ought to incite a multitude of young fibres. These with adequate supplies of nutriment would give this Vine a new lease of life. The notching is done by making straight down cuts almost to the pith, then upper cuts, and taking out the wedge. This may be done at any time, and the sooner the better. Are not the growths too crowded? With new roots provided we should train up young, strong, short-jointed canes that might be expected to follow. Top-dressings at the rate of 4 to 6 ozs. of a mixture of two parts superphosphate of lime and one part nitrate of potash per square yard might do good, and certainly would with fibrous roots to imbibe its virtues. You covered the roots too deeply before, and they lie, probably nearly fibreless, in a cold medium, which the sun could not warm during this cloudy summer.

Disqualifying Onions (Twenty-two-years Subscriber).—The term "spring sown" applies for purposes of exhibiting to Onions which have not passed the winter in the open ground after sowing at the end of July or early in August, these being commonly known as "winter Onions." Spring sown Onions are usually exhibited with the tops adhering to the bulbs, winter Onions without tops, in accordance with the stipulations in many but not all schedules. In judging it is the rule to award the prizes to the best Onions, whether the seeds which produced them were sown in boxes in a frame in February or in the open ground. Hundreds of prizes have been adjudged to the former this season, and will be in the future. In the absence of any stipulation in the schedule to the effect that spring Onions must not be raised in glass-covered boxes, but in the open ground, the "best Onions in the show" ought not to be disqualified because the plants were raised under glass any more than Leeks or Celery should be disqualified through being raised in the same way. Cottagers grow magnificent Onions by sowing in boxes covered with squares of glass, and protecting as needed against frost. Some of the best we have seen were raised in an old washtub with soil banked against the sides, and the glass covered with old blanketing on frosty nights. Instead of the raiser—a labouring man—being disqualified for his care and attention his Onions were awarded the first prize when exhibited. It goes without saying that he provided a rich deep feeding ground for the plants, and attended to them well throughout their period of growth.

Cucumber Roots Infested with Eelworm (A. S.).—The Cucumber roots are, as you presume, clubbed, infested with eelworm (*Anguillula* or *Heterodera radiculicola*). There is no question about the eelworm being introduced chiefly with the soil, but it is sometimes brought in with liquid manure and even foul water. As you want something drastic to kill the eelworm and save the expense of heating the soil, you may use corrosive sublimate (bichloride of mercury), a terrible poison, dissolving 1 oz. in a little hot water, which mix with 40 gallons of pump water, and apply with a rose watering can, using 1 gallon to every superficial yard of soil 1 foot thick. The soil must be moderately moist before using the solution, and when it has soaked in turn over the soil. The cost of the corrosive sublimate is about 6d. per ounce, so you will be able to operate on 40 superficial or square yards of bed 1 foot thick for that sum or less, exclusive of labour. We advise you to be very careful and keep fowls away from such soil, as the corrosive sublimate will bring earthworms to the surface, and any fowls that eat them will be poisoned. The bichloride of mercury is a certain remedy for infusoria, and a complete antidote for finger and toe in Cabbages and Turnips. In the quantity named it is not injurious to vegetation, but it should be used as a disinfectant or preventive, not as a cure for eelworm. Permanganate of potash is a fungicide and of little or no value as an infusoriicide. There is no question that your soil is in a bad condition for the Potatoes, which is not by any means unusual, swarm with eelworm, Potato fungus (*Phytophthora infestans*), and slime fungus. Use quicklime, say half a bushel per rod of ground, and as manure have recourse to kainit three parts, nitrate of soda one part, sulphate of iron quarter part, using about 3 ozs. per square yard.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior

varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (R. M.).—The Pear is Beurré Précoce. (H. R. II.).—Peaches and Nectarines cannot, as we have many times stated, be named without leaves for showing the glands, and information respecting the flowers—whether these are large or small. (W. S.).—The Apple is Lady Henniker; the Plum is Belgian Purple if the summer shoots are smooth. (Thanet).—Plums cannot be named unless summer growths are sent with the fruits.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (Lover of Flowers).—1, Begonia Evansiana; 2, Daphne laureola; 3, send when in flower; 5 and 6, the Ferns are immature, and unfit for naming. (H. M. II.).—1, Veronica spicata; 2, Daphne cneorum; 3, Erica codonodes; 4, Hypericum ovaliformis; 5, Genista tinctoria flore pleno. (J. C. W.).—Spiraea bumalda. (Old Subscriber).—1, Monarda didyma. 2, specimen insufficient; 3, a Lantana, but must have flowers to identify species; 4, Hydrangea Thomas Hogg; 5, Hydrangea paniculata; 6, Alsophila excelsa. (A. C.).—The Fern is Polypodium (Phlebodium) aureum; the other specimen is rather insufficient, but may possibly be Tropaeolum tuberosum. (Sunbeam).—Verbascum Blattaria (the Moth Mullein).

COVENT GARDEN MARKET.—SEPTEMBER 5TH.

THE past week has been very heavy, especially in Plums and Cob Nuts, and prices have been exceptionally low. The two cargoes of Californian fruit which have reached us during the past fortnight have arrived too forward in condition to be of much service.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, per half sieve	1	6	to	2	6	Peaches, per doz.	1	0	to 6 0
Grapes, per lb.	0	6	1	6	Plums, half sieve	0	9	1 0	
Cobs per 100 lbs.	20	0	21	0	St. Michael Pines, each ..	2	0	6 0	
Lemons, case	10	0	15	0	Strawberries per lb.	0	0	0 0	

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Beans, Kidney, per lb. ..	0	2	to	0	3	Mushrooms, punnet	0	9	to	1	0
Beet, Red, dozen	1	0	0	0	0	Mustard and Oress, punnet	0	2	0	0	0
Carrots, bunch	0	3	0	4	0	Onions, bushel	3	6	4	0	0
" new, bunch	0	9	1	0	0	Parsley, dozen bunches ..	2	0	3	0	0
Caniflowers, dozen	1	6	3	0	0	Parsnips, dozen	1	0	0	6	0
Celery, bundle	1	0	1	3	0	Potatoes, per cwt.	2	0	3	6	0
Coleworts, dozen bunches	2	0	4	0	0	Salsafy, bundle	1	0	1	5	0
Cucumbers, dozen	1	6	3	0	0	Scorzonera, buudle	1	6	0	0	0
Endive, dozen	1	3	1	6	0	Shallots, per lb.	0	3	0	0	0
Herbs, bunch	0	3	0	0	0	Spinach, bushel	1	6	3	0	0
Leeks, bunch	0	2	0	0	0	Tomatoes, per lb.	0	2	0	4	0
Lettuce, dozen	0	9	1	0	0	Turnips, bunch	0	3	0	4	0

AVERAGE WHOLESALE PRICES.—OUT

	s.	d.		s.	d.		s.	d.	s.	d.	
Arum Lilies, 12 blooms ..	1	6	to	3	0	Orchids, per dozen blooms	3	0	to	12	0
Asparagus Fern, per bunch	1	0		2	6	Pausies, dozen bunches ..	1	0		2	0
Asters (English) doz. bunch	3	0		6	0	Pelargoniums, 12 bunches	4	0		6	0
" (French) per bunch	0	6		1	0	Pelargoniums, scarlet, doz.					
Bouvardias, bunch	0	6		1	0	bunches	2	0		4	0
Carnations, 12 blooms ..	0	6		1	6	Pinks, various, doz. bnchs.	1	0		3	0
" doz. bunches..	2	0		4	0	Poppies, various, dozen					
Chrysanthemums ..	3	0		9	0	bunches	0	6		1	0
" doz. blooms	0	6		1	0	Primula (double), dozen					
Cornflowers, doz. bunches	1	0		2	0	sprays	0	6		1	0
Dahlias	2	0		4	0	Pyrethrum, dozen bunches	2	0		4	0
Eucharis, dozen	1	6		3	0	Roses (indoor), dozen ..	0	6		1	0
Gaillardia, dozen bunches	1	0		2	0	" (outdoor), doz. bnchs.	3	0		8	0
Gardenias, per dozen ..	1	0		4	0	" Tea, white, dozen ..	0	6		1	6
Gladiolus, dozen sprays ..	0	9		1	6	" Yellow, dozen	1	0		1	6
Lavender, dozen bunches	4	0		6	0	" Safrano (English), doz.	1	0		2	0
Lilium longiflorum, dozen	2	0		4	0	" Maréchal Niel, doz. ..	1	6		4	0
Maidenhair Fern, dozen						Smilax, per bunch	1	6		3	0
bunches	4	0		6	0	Stephanotis, dozen sprays	1	0		2	0
Marguerites, 12 bunches ..	1	6		3	0	Stocks, dozen bunches ..	2	0		4	0
Mignouette, 12 bunches ..	1	0		3	0	Sweet Peas, dozen bunches	1	0		2	0
Myosotis or Forget-me-						Tuberoses, 12 blooms.. ..	0	4		0	6
nots, dozen bunches ..	1	6		2	0						

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.	
Arbor Vitæ (golden) dozen	6	0	to	12	0	Hydrangea, per dozen	9	0	to 18	0
Aspidistra, per dozen	18	0	36	0	Ivy Geraniums	4	0	6	0	
Aspidistra, specimen plant	5	0	10	6	Lilium auratum, doz. pots	12	0	18	0	
Balsams per dozen	3	0	6	0	„ Harrisii, per dozen	12	0	24	0	
Cockscombs, per dozen	3	0	4	0	„ lancifolium, dozen					
Coleus, per dozen	2	0	4	0	pots	9	0	15	0	
Dracæna terminalis, dozen	18	0	42	0	Lycopodiums, per dozen	3	0	4	0	
Dracæna viridis, dozen	9	0	24	0	Marguerite Daisy, dozen	6	0	12	0	
Enonymus, var., dozen	6	0	18	0	„ yellow, doz. pots	6	0	10	0	
Evergreen, in var., dozen	6	0	24	0	Mignonette, per doz...	3	0	6	0	
Ferns, in variety, dozen	4	0	18	0	Myrtles, dozen	6	0	9	0	
„ (small), per hundred	4	0	6	0	Nasturtiums, per dozen	1	6	4	0	
Ficus elastica, each	1	0	7	6	Palms, in var., each	1	0	15	0	
Foliage plants, var., each	2	0	10	0	„ (specimens)	21	0	63	0	
Fuchsia, per dozen	3	0	6	0	Pelargoniums, per dozen	6	0	12	0	
Heliotrope, per dozen	3	0	6	0	„ scarlet, per doz.	2	0	4	0	



DAIRY FARMING REFORM.

REPEATEDLY has the possibility of the improvement of dairy farming in every aspect of it in this country, the urgent need of it, and the possible advantage to be derived from it, been set forth in these articles. Year after year, season after season, has this been done, apparently without results. The co-operation among farmers, the establishment of dairy factories, the systematic cultivation of pasture, the improvement of herds of cows both in quantity and quality of milk, the combination of science with practice in this work, which has had our earnest and persistent advocacy, appeared to have no attention from those most interested in the matter—the farmers themselves. Yet not only has the agricultural depression grown yearly in intensity, but the import trade in dairy produce has gone on increasing yearly. In five years the Australian butter trade has assumed gigantic proportions, and there is every reason to suppose that though the turnover for butter imported from that colony alone was considerably in excess of £700,000 last season, it will continue to increase annually.

It was, therefore, like a ray of light falling upon the gloomy sullen inaction—an indication of change, and of a possible stirring up of individuals to action, that we heard of the proposed foundation of a Midland Dairy Institute by a combination of several County Councils.

Clear cause had been shown for this by Mr. M. J. R. Dunstan, M.A., F.R.S.E., Director of Agricultural Education in Nottinghamshire, in an able pamphlet on agricultural education and dairying in Denmark, compiled from notes made by that gentleman during a visit of inspection and inquiry to Denmark last year. He begins by saying that, "The extraordinary development of the dairy industry in Denmark, which has resulted in the export of nearly a million cwts. of butter annually to this country, of the value of over four millions sterling, must give rise to the question, Why should Denmark supply us with a commodity which we are able to produce at home?" Unmistakably does the pamphlet answer this query in the negative, and show that the splendid results achieved in that country are a standing reproach to us. Very naturally did Mr. Dunstan ask if Denmark was not more naturally suited for dairying than England. The answer of one of the greatest authorities on dairying in Denmark, Professor T. R. Segeleke, should be posted up in every market in the kingdom, it was:—"For quality and extent of grass land, Denmark resembles the county of Norfolk more than any other county of England." Of natural advantages in Denmark it may therefore be said there are none. The great reform in dairying and the splendid results achieved in that country has been under difficulties which East Anglian farmers have declared to be practically insuperable. At a lecture on the advantages of improved dairy farming which we delivered some seven or eight years ago before a farmers' club in Suffolk, we were told that Suffolk was not a dairy county. Corn and corn only was their creed. Stolid persistence in this belief has led some to bankruptcy; others contrive to struggle on simply because rent has come down so low that landlords are practically ruined.

Interesting, instructive and suggestive as Mr. Dunstan's pamphlet must be to every farmer, it is especially so to those in the great corn growing district of the Fens southward through Essex to the Thames, because it is shown that provision is made for the needs of the 750,000 cows of Denmark by a four-course rotation of cropping, extending to a six or seven years' course. Of the cropping we are told that "large quantities of Rye,

Barley, and Oats are grown, a moderate area being under Wheat, and a considerable breadth of Mangolds, a less one of Swedes and common Turnips being sown." We quote this as an interesting fact rather than for home guidance, because the Scotch farmers in Essex have shown, are showing, how easily and advantageously land may be laid down to temporary pasture under a six or eight years shift, and how milk at any rate may be produced profitably on land hitherto given up entirely to corn growing. Of necessity, rather than of choice, will the change which is bound to come be to the intelligent sensible practice of such pioneers. With new Wheat down to 18s. per quarter, we cannot have to wait much longer. The fact of farmers thrashing corn so early at such a price is an indication of their necessity. It may, it probably has, been said that corn so sold was not in best condition, as indeed how could it be with the dripping harvest weather; but the fact remains that it was so sold, and sold at a loss. Reform must come of dire necessity, a change to better times through much suffering, owing, be it said, plainly to the ignorance and stupidity which permits Denmark to wrest from us a trade which ought mainly to be ours. We shall return to Mr. Dunstan's pamphlet next week.

WORK ON THE HOME FARM.

Real harvest weather at last! Corn stacks springing up fast on every farm after weeks of weary waiting, cleared stubbles, and little, if any, of the corn sprouted. Oats and Barley may be carted with a hope of some profit, but we fear that really bright malting samples of Barley will be few and far between. Very much of the Wheat crop is a heavy one. Doubtful must the sowers have been of the wisdom of sowing it at all, still more doubtful the reaper. To the home farmer Wheat growing of the best is still as important as ever. He must have enough of it for an ample supply of flour for the household, and Wheat straw must be had for hunting stables and carriage horses. To him we say, Get in what Wheat you have to sow early in September. Lose no time now in sowing enough Rye for all possible requirements in spring. We commend this early green crop to the attention of those farmers who have found themselves at a loss after folding late Swedes. A word in favour of Rye may appear unnecessary, yet we were asked about it for spring folding recently by an intelligent young farmer in the North Midlands, who had seen, but never tried it in his own practice. By all means sow some, was our advice, and sow early.

Of winter Oats we are bound always to speak highly; no corn crop for home consumption has proved more useful—few so useful as this. Sow it early, too, and take especial care if this season is your first with it to procure as fine and heavy a sample of seed of it as can be had. You will have to pay something extra, but it will prove one of the best investments in corn you ever made. A good sample of winter Oats always commands a special price on market, especially if it is old corn. See also to the sowing of Tares early in September; then a couple of successive sowings may be made with advantage at intervals of a fortnight. Green Maize is now well in use. Do not forget that the first sharp frost will turn the upper part of the leaves brown, and though cattle will eat it afterward, it is not so useful as when quite fresh and green. Better use a fair quantity of this in covered yards during the hot weather we appear likely to have awhile, and keep stock from the flies.

METEOROLOGICAL OBSERVATIONS.

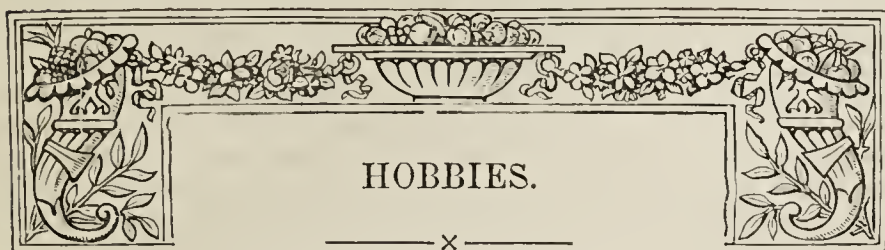
CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet

DATE.		9 A.M.				IN THE DAY.				Rain.	
1894. August and September.		Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.		On Grass.
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday ..	26	29.971	66.1	63.7	S.W.	58.7	76.6	56.5	117.7	57.3	—
Monday ..	27	30.032	61.6	59.7	N.	59.9	66.3	52.2	89.3	47.5	—
Tuesday ..	28	30.230	60.4	58.0	N.E.	59.5	71.1	53.3	101.7	49.2	—
Wednesday ..	29	30.247	60.3	55.3	N.	59.7	69.3	52.2	108.7	47.2	—
Thursday ..	30	30.276	56.6	56.4	S.E.	59.4	71.2	47.6	91.0	42.4	—
Friday ..	31	30.136	57.1	56.9	N.E.	59.1	75.1	50.2	107.8	45.0	—
Saturday ..	1	30.116	61.3	55.0	N.E.	59.1	71.2	54.2	111.3	47.9	—
		30.144	60.5	57.9		59.3	71.4	52.1	103.9	48.1	—

REMARKS.

26th.—Warm, overcast, and misty till 10 A.M.; occasional sun after 11 A.M.; bright summer-like afternoon and evening.
 27th.—Overcast and gloomy till 3 P.M.; faint sunshine after 4 P.M.
 28th.—Fine, with three or four hours of sunshine.
 29th.—Fine and sunny almost throughout.
 30th.—Yellow fog till 10 A.M., and hazy almost throughout.
 31st.—White mist till noon, thick early, sunny afternoon and evening.
 1st.—Bright throughout.
 A rainless week, with a good deal of sunshine. Temperature slightly above the average.—G. J. SYMONS.



SUPERFICIAL reasoning probably arrives at the conclusion that gardeners are, of all men, the last and least addicted to hobbies. "He is a good all-round man and has no hobby," was the summed-up character of a fellow worker under discussion; yet I venture to say that the better the man with resultant good all-round work, the greater is the certainty that he has a hobby, though there is difficulty in finding it. It is in this case not obtrusive nor likely to run away with its rider, and in most cases the numerous present day requirements are a reliable curb to any tendency in that direction; yet it is there, and it is that man's solace in a never-ceasing round of anxious toil, as well as a safety valve to the pressure of petty vexations which few escape.

On a friendly visit I look for my brother gardener's hobby, and seldom fail to find it, nor to derive some lessons from its pursuit for future guidance. In the plant houses, the fruit houses, the flower borders or vegetable quarters, on the walls, or in some quiet corner it may be located, though to find it may necessitate some observation of the worker as well as of his works. A first visit does not always reveal it. Social intercourse, resulting in the "feast of reason and flow of soul," thaws the diffidence which at first obscures it from view. You are, for instance, conducted round a well-kept garden, in which each object is passed in review order. Those things likely to escape the eye of a casual visitor are pointed out, receiving their due share of friendly criticism until your peregrinations bring you—say to the "mum." Here your friend is silent till you open the ball with, "What a fine lot of plants!" The compliment elicits no reply, and you further remark, "What trouble they must give you." "No," replies the guide, with some emphasis; "I do not find them any trouble—just the staking, tying, and watering." He is open to receive any sympathetic remarks on other objects of his care and solicitude; but not here. The cudgels are at once taken up in defence of the hobby, and in duty bound you strike no more discordant notes. The ice of reserve being broken, you note each feature presented to view—the luxuriant foliage of that "Rey," or the grand wood of this "Shea." The guide's enthusiasm throws a light on points hitherto unobserved, and you (the interviewer) must be a very unimpressionable man if you fail to gather some useful hints from the hobby rider. Conscientious worker he may be, neglecting not any of the multitudinous phases of duty; but all labour is lost sight of here—no trouble, nought but love, an agent banishing all difficulties and producing the acme of excellence.

Not to himself alone are the benefits confined. If that was the case whilst allowing the attendant influences for good further discussion would be superfluous. Unremitting attention and keen observation are ever ready to note minor details escaping ordinary care. A bond of sympathy is established between the worker and the silent objects of his love, by which all wants are not only provided for but anticipated. Nature may and often does assert her prerogative by upsetting for a time man's calculations just sufficient to give a piquancy and stimulus to the work in hand, but unflagging perseverance conquers her recalcitrant moods. Reluctantly she yields the special form or colour whereby horticulture is enriched; possibly the worker also, though pecuniary gain is probably the last consideration to enter in the conqueror's calculations. There

is ever a fascination to the mortal mind in subduing and controlling the subtle things of Nature.

In the vast field presented by horticulture, with its innumerable roads and bye-paths converging to some point of perfection, not any of its subjects appear too obscure or humble to be taken in hand. Far distant may be the goal presented to the worker's eye, but the greater the triumph when reached. The spasmodic dictates of fashion may for a time place the worker and his work out of view. "Old fashioned" is the verdict, but he bides his time. Sooner or later the old love again basks in the smiles of public favour, and is benefited by that absence which makes the heart grow fonder. In some cases recognition is tardy and the work is tedious. Why does a certain man persistently cultivate a certain class of plants when they are out of date—out of fashion? "Oh, it is his hobby," may be said. All honour to him who quietly but earnestly keeps that end in view which others cannot see, and neglects no means, however trifling they may appear, to attain it. All obstacles are cleared, and the hobby is ridden to the winning post. To those whom circumstances permit to grasp one object only, results must perforce obtain from a life's devotion which the varied routine of ordinary duties do not permit of. Hence we see the marvellous results obtained by hybridists, in which Nature is not only improved on, but new types are created. Love of the work, with perchance some business calculations in the matter of profit, have been the incentive in starting, but the latter consideration is finally absorbed in the former. The worker is gradually made cognisant of the wonderful power he holds, and in the exercise of it finds that is all-sufficient.

Local influences of soil and climate have, by their suitability to some special class of plants, clearly defined a safe road on which to travel. Under these favourable elementary conditions one nursery becomes famous for its American plants, another for its Roses, fruit trees, or other plants which finally become a speciality. Taught in such schools as these it cannot be a matter for surprise that pupils should carry those lessons with them out into a world of work, and derive such pleasure and profit from them as circumstances may permit. By such means is valuable practice disseminated from these seats of learning. As there are gardeners and gardeners, so there must perforce be hobbies and hobbies, and many of the riders must be content to follow on a beaten track, enjoying the work of others, only cultivating what is set before them, yet straining every nerve to produce the best examples of the creative faculties of other minds. Nature also is pliant, and often affords opportunities for the keen observer to embrace. It may be that a man's forte is vegetable growing, or one of the many phases of fruit culture, and any departure from the type showing an advance is preserved, increased, and further developed. Should the limit of size be reached in one direction, then the worker is not slow to perceive in his hobby other capabilities for improvement. The progeny of some precocious subject becomes the earliest of the earlies, and *vice versa*, a late member of the tribe prolongs the season, and confers a lasting benefit on all.

I think there is not any garden, however limited in size it may be, or restricted in its field of work, which does not contain some distinctive feature calling for admiration, and capable of yielding some lesson to a visitor. The subject is, perhaps, one affording mutual interest, and in that case, though both travel on the same road, one has noticed landmarks which the other has failed to perceive. If so, the generous spirit pervading members of the craft is ever ready to give the information sought.

Many a small plot owned by the busy toilers in other spheres of duty, in, or on the outskirts of our large industrial centres, yields a soothing influence over those whose occupations demand the laxative recreation so peculiarly afforded in the observation of Nature. Limited to some simple subject of Flora's kingdom, or other phase of gardening, the mind is diverted, fresh fields for thought are opened and possibly become the means of some service to the

art. A little reflection will serve to show that such results have obtained, by workers who have thus employed their leisure, who have found in their hobby a compensation balance to the whirr of factory wheels, a relief to the severe strain imposed by city life—that rest and relief which Nature alone can give.—E. K., *Dublin*.

NEPENTHES.

AT no distant date these very ornamental plants were in great request, and eagerly sought after in private gardens for suspending from the roof of stoves and other houses kept for show purposes. During the past few years there appears to have been but little demand for them, and Orchids and other flowering plants have largely taken their place. No doubt the demand for flowering plants may probably be attributed as the main cause. Whatever may be the cause, however, it is to be regretted if choice and interesting Pitcher plants should be relegated to an inferior position in our gardens.

One could very well understand the general neglect of plants that prove difficult of cultivation, and are either not interesting, or give but a poor return for the time and labour devoted to them. This is not the case with *Nepenthes*, for I have noticed that wherever they are well grown they find a large number of admirers who visit the structure in which they are suspended. They seem ever to be interesting from their peculiar structure and quaint appearance. These plants are not alone attractive in a suspended position from the roof of a plant house, for they can be used effectively in choice and picturesque groups. Even a group of these plants is attractive when carefully arranged with a few suitable Ferns and fine-growing Palms such as *Cocos plumosus*, *C. Weddelliana*, or *Geonoma gracilis*. For instance, those who saw the group contributed by Messrs. J. Veitch & Sons at Shrewsbury could not fail to admire it as a distinctive feature rarely seen. When grown in private gardens, how frequently groups of these plants could be effectively used in certain positions and at suitable periods of the year, and what a change they would prove if freely used! Nearly all the groups that we are in the habit of seeing, whether at shows or various festive gatherings, are of the orthodox fashion; too much sameness about them. We want a change, which could be effected in a marvellous manner by a free and judicious use of *Nepenthes*.

For several years I grew these plants largely, and had them suspended from the roof of a large plant stove. They are not difficult to grow or pitcher freely—in fact, the plants need never be deficient of pitchers the whole year round. All that is needed is care in their cultivation. To keep them liberally furnished with pitchers entails only a very small amount of labour. To accomplish this, the old system of allowing the plants to grow upright and attain an ungainly height must not be practised, for this results in no pitchers after the first few years of their existence. Once they begin to grow luxuriantly they cease to pitcher, and the plants are of no use for decorative purposes. They are liable to scale and thrips, but if the plants are clean to commence with and grown under favourable conditions they are seldom attacked by these pests. At one time, with the exception of *N. Hookeriana*, *Rafflesiana*, and one or two others, the *Nepenthes* were chiefly small pitching kinds. The larger and more beautifully marked sorts now in cultivation should prove a further inducement to the cultivation of these plants than was the case years ago. Some of them are handsome with pitchers a foot or more in length.

To grow *Nepenthes* well they should be afforded more light than was formerly given them, but not direct sunshine during the hottest part of the day, for this would prove injurious. I long since discovered that when exposed to a moderate amount of light, even at the expense of slightly browning the leaves, the plants pitched with greater freedom. They should not be grown if possible under fixed shading, although they will do fairly well, but often grow too soft to pitcher. The temperature for *Nepenthes* ought to range from 60° to 70° at night, the lowest from the end of October until February. I have found that a few degrees lower than this during cold, severe weather does no harm, provided the plants are not too close to the glass. The leaves of the plants ought not be nearer than 18 inches or 2 feet to the glass during the winter months, or their growth is liable to be seriously checked. It is almost impossible to maintain a too close or moist atmosphere for the plants during the whole of the summer months, but air must be given in warm bright weather. They will grow freely enough under what may be termed a close or non-ventilating system of cultivation, but they will not form pitchers freely.

A liberal supply of water is essential to the growth of these plants. The syringe must also be freely used twice daily, and even a third time during hot, bright weather, when conditions are

so favourable to the drying of the atmosphere and the material about their roots. I have found that heavy syringings alone do not prove ample to keep the compost about large plants sufficiently moist, and have had to give them a thorough soaking every second day, during hot weather. Although *Nepenthes* like copious supplies of water they strongly resent wet and sour soil about their roots. They are very much like Orchids in this respect. Some years ago I followed the principles recommended, and used living sphagnum moss and peat in equal proportions. Experience, however, convinced me that this was not the most suitable and most serviceable compost for these plants. This mixture is all right for propagating and for giving young plants a start, but not for plants of a large size. I found good fibrous peat, with all the small removed, with a few crocks or lumps of charcoal, the most suitable material for them. The moss used in the compost decays too rapidly for the well being of the plants, the fibrous peat being far more lasting in its nature, and thoroughly open and porous. This is what *Nepenthes* like. Living sphagnum moss may be used on the surface and round the sides of the baskets for the sake of appearance, and if kept in a healthy condition, all other things being suitable, the plants will flourish.

I have said that to pitcher *Nepenthes* they must not be grown on single stems. After the young plants are 6 or 7 inches high, or have made about the same number of leaves, the point of the growth should be removed. The shoots pinched every three or four leaves that they make. By this principle they are never without pitchers, the plants branch freely and quickly form bushes, and as they increase in size and strength the pitchers are also increased in size to the limit they are capable of attaining. I have had baskets of *N. Hookeriana*, not a solitary plant, 3 feet or more through them, and laden with fine pitchers. All robust growers are capable of attaining a similar size or larger. Some are weaker growers and need more care, but in a collection these are soon discovered. For many purposes plants of a smaller size are more useful. This would prove the case for effective grouping, but for suspending only from the roof of plant houses large specimens are very attractive.

Propagation is very readily effected by cuttings. The shoots of any plant needed for stock may be allowed to extend, and the plant pruned close back early in March. *Nepenthes* bear cutting back without any apparent injury, and soon break into growth again and pitcher before the end of the season. The shoots cut off should be cut into lengths of two joints and inserted singly in 2½-inch pots filled with sand and living sphagnum moss mixed together. The pots must be plunged either in a close propagating frame or under a bell-glass. After being well watered, keep practically air-tight, and well shaded from the sun until the cuttings are rooted. Brisk heat and a bottom heat of 75° to 80° is necessary to root them quickly, or if it can be kept at the latter all the better. Once the plants are growing and young growths have been made the most difficult part of their culture is to harden them so that they will bear exposure where the stock of established plants are grown. This is a slow, and must be a very careful, process, or the plants will not only flag but go off quickly after they are rooted. Air and light must be gradually admitted until the young plants will bear exposure without any trace of flagging. When they reach this condition they may either be placed in larger pots or 4-inch baskets; in the latter they entail less labour, and are, I think more ornamental. I have heard it said the point of the plant should not be inserted, as it will not root. This is pure fiction, because I have rooted the points just as freely as other portions of the stem; but the wood must be cut where it is moderately firm, and as soon as rooted the extreme point should be removed. I have not succeeded in rooting very soft points, and do not recommend them for the purpose.

The following will be found a good representative collection of a dozen *Nepenthes*:—*Mastersiana*, the light and dark form; *Mixta*, *Dicksoniana*, *Curtisi superba*, *Burkei*, *Amesiana*, *Morgania*, *Rafflesiana*, *Hookeriana*, *Hookeriana elongata*, and *Wrigleyana*. *Northiana* and *Burkei excellens* are also two splendid forms; the latter is perhaps the finest of them all. The varieties given are the selection with which I have again commenced the cultivation of these plants.—WM. BARDNEY.

NOTES ON POTATOES.

A NATIONAL POTATO SHOW.

HAVING heard many wishes expressed by persons interested in Potatoes for a revival in some shape of the old Potato exhibitions, I have to ask your consent to allow me to make widely known that desire through your columns, and to invite the opinions of others equally interested in Potatoes with respect to the suggestion. Should the coming Great Fruit show at the Crystal Palace become

a permanent institution, no better opportunity or more convenient place would offer for the revival. That would at least show that in no sense was the proposal put forth in antagonism to the Royal Horticultural Society; indeed, the promoters would look for and no doubt secure the kind co-operation of the Royal Horticultural Society, as afforded to the old show Committee, through the use of Chiswick Gardens for trials of new Potatoes. I venture to voice the suggestion as to a revival of the old shows, because now I am absolutely independent of all Potato interests other than such as attaches to a love for the tuber that knows no abating. What I would ask, therefore, is of all persons desirous of seeing National Potato shows revived that they will kindly communicate to me early their opinions. If the verdict is for, then I think it would be most fitting to invite all favourable to a meeting, which I am sure the Crystal Palace authorities would readily find room for, on the first day of the Great Fruit show—viz., the 29th of the present month; and a duly representative Committee could then be formed to promote the first exhibition next year.—ALEX. DEAN, 62, Richmond Road, Kingston-on-Thames.

THE WARMINSTER POTATO EXPERIMENTS.

THROUGH the kindness of Mr. Jas. Lye of Market Lavington, in the first place, and Mr. Scott, florist, of Warminster, who has local charge of these Potato experiments, I was enabled to see them on Monday of last week. They are conducted on a first-rate piece of soil that abuts on to the Salisbury road, and on somewhat elevated ground. The soil had previously to last year been liberally cultivated, and it is easy to see that this year the growth on all sorts has been very robust. As to what is being done in relation to weight or otherwise of sets, of manures, or other diverse matters I have no knowledge, and made no inquiries. Both Mr. Lye and myself being Potato men, were most interested in seeing what seemed to be the effects of Bouillé Bordelaise dressings that had been applied. Even with regard to these I did not ask for special information, as I had no business to seek for information that should properly come to publicity through the Wilts County Council's report on these trials. What I saw and was told by Mr. Scott was that of numerous varieties of Potatoes, each having six long rows at some 30 inches apart, had been twice dressed with the copper and lime mixture. What we saw was about one-fourth of each block or variety, having been undressed, had in most cases lost every leaf; whilst the remaining three-fourths, which had been dressed, was in most cases still green and vigorous. It seemed as if the dressed portions had fully three weeks or even a month's longer healthy growth than had the portions undressed. The chief exceptions were found in some very late coarse-growing Belgian sorts, but even on these the dressed and undressed portions were clearly marked. A Belgian variety, *Tirius*, having round Regent-like tubers, seems to be a splendid field and market sort, if its quality be as good as it looks. Mr. Scott has portions of his main crop dressed in his nursery, and these were also very green.

POTATOES AT SULHAMSTEAD.

That veteran potatologist, Mr. Robert Fenn, is, I find, a strong believer in the efficacy of the anti-blight composition or powder, for he employs it liberally over Vines, Tomatoes, Potatoes, and everything else susceptible to moulds. It is, however, on his Potatoes that he employs it most freely, and as his varieties are all of his own raising, also of that garden section which, because of their high-class quality, appear to be so susceptible to the attacks of the fungus, seem to be the very best on which to experimentalise. None of the liquid or Bordeaux mixture has been tried at Sulhampstead, where the powder only is used. It may be employed by means of bellows or on Potatoes through a fine sieve, which, being tapped as the operator passes along, causes the powder to fall freely over the leafage. Dressings are applied weekly or less often, according to weather. This year they have had to be more frequent, because of the constant heavy rainfalls. Still, the powder is very cheap. What may be its constituents I do not know. However, in the presence of Mr. Jones of Messrs. Sutton & Sons, Mr. W. Pope of Highclere, and myself, Mr. Fenn lifted on August 20th several roots of each variety that he has kept dusted, and in every case not only was there no disease, but the crops were remarkably good. Those who have thought the Sulhampstead strains wanting in vigour would have been surprised had they seen the very fine crops they turned out. I have seen some sample roots of several famous disease resisters lifted in various places since, but in no case were Mr. Fenn's fine results exceeded. The first lifted was Sutton's Favourite, giving a very handsome, clean, good crop. Then came Rector of Woodstock (very good), and its striped sport Harlequin, also very good.

Lady Truscott, a flattish round white, gave a splendid crop, twenty-five to twenty-eight tubers to a root. Kate Fenn, a second

early, flattish round, was also remarkably good, and that fine variety Woodstock Kidney, which has been the pollen parent to so many good seedlings, and yet always diseased badly, here had the tops quite fresh and green, and gave a beautifully clean crop. If any test of the value of the anti-blight composition could be furnished certainly it was in this instance. An odd name for a Potato is The Damson. Mr. Fenn is eccentric in his nomenclature. Still it is a beautiful pale red rough-skinned kidney that has never got into commerce, but it is a thousand times better Potato than Mr. Bresee, and gives a very fine clean crop. Then came the well-known Fiftyfold, giving, too, a heavy clean crop. Reading Russet was wonderfully clean and good, so also was Reading Ruby, the well-known handsome red-skinned kidney. Alderman De Keyser, reminder of the old International Potato show days, a longish pale red variety, was first-rate, and so was the second early flattish white Eliza Fenn. Early Border was also good, as also was Sutton's Ringleader, that exceptionally fine first early kidney.

The great feature of the trial was that the culture was in a garden, hence productive of robust growth, that there was between every other row a line of strong Brussels Sprouts, and yet with one of the dampest and most favourable seasons for the promotion of the Potato disease on record, and with sorts that have been regarded as so susceptible of its attacks, here was in most cases good leafage, and in all cases fine clean crops, and really no evidence whatever of disease in the tubers. If the powder dressings have thus saved the Potatoes from the fungus, then by all means let the anti-blight composition have all the praise. In any case, Mr. Fenn, who has thus employed it, has in it the fullest faith. As to his Tomatoes, not a speck or spot is on them, and they are in only a cool greenhouse, with Vines and Figs at the back, and are in full growth.

Very interesting is it to find that Mr. Fenn is again engaged in efforts to create a new race of Potatoes through the agency of *Solanum Fendleri*, a very distinct species. He had previously made crosses with *Solanum Maglia*, but it is doubtful whether, after all, that species differs materially from *S. tuberosum*. *Solanum Fendleri* came to him some thirty-three years since from Mr. Pringle of the United States, the raiser of numerous well known sorts. Still many efforts to obtain seed apples had been unsuccessful till 1891, when he succeeded in getting a sort of half-bred variety, which he named Antagonist, to operate, and thus got a cross. This season he recrossed one plant from that first effort with pollen from Antagonist again, and has two very promising seed apples. Should he succeed in getting these to grow next year and bloom, then he will cross with some superior varieties in the hope that by proceeding tentatively he may secure something quite distinct. Of course all is problematical, but matters of this sort are to our old friend labours of love. Rapidly approaching his eightieth year, he is still wonderfully active and energetic. Perhaps the anti-blight powder, in the efficacy of which he has such faith, may help to give to him some sort of perennial youth.—A. D.

PREPARING STRAWBERRIES FOR FORCING.

WHETHER grown in large or small numbers the preparation of Strawberry plants for forcing now demands more than passing attention, and those responsible for the production of only a few dishes in the spring will need to be as attentive to detail as the grower who may have to provide plants in thousands. With the potting done—and it ought by this time to have been completed—the two most important items perhaps are air and water. It is the custom with some growers to stand their plants on the garden paths in single lines, protected against worms entering the pots by the use of planks or boards. For the well doing of the plants, particularly in respect to the maturity of the crowns, there is no better site available, but objection is levelled against the practice by those having due regard for the walks and their after appearance.

However, it is not a question as to where the plants shall stand, because this is best decided by those in charge, according to the means and convenience at hand; what is needed is sufficient space between the pots, so that air can circulate freely among them and act directly on every leaf. When standing so closely together as the pots will allow, the plants grow into a confused mass, excluding air and sunshine, the consequence being unripened crowns and soft flabby leaves, results that most of us wish as far as possible to avoid. Watering must be governed by the state of the weather. Up to the time of writing the demands on the water-pot have not been very heavy, consequent on the frequent showers and dull sunless days. The soil used for potting ought to have been of such staple as to carry the plants on to the spring without resort to any feeding whatever, and it should also be made quite firm with the potting stick in order to suppress the tendency of leaf development, which dull sunless weather encourages at the expense of fibre.

If this state is not quite assured it would repay even now to apply the rammer. It affords considerable pleasure to some growers to get their plants furnished with abundant foliage and great luxuriance, but my observations lead me to believe that such plants not invariably disappoint when flowering time arrives in the spring. The crowns become sub-divided to such an extent that a bold truss of flower is not easily found, and it is generally admitted that the finer the individual trusses of bloom the better are the chances of gathering large berries at the finish. It is a very good plan to reduce the superfluous or side crowns during the growing season, so that the central one may be the better developed, and for the same reason all runners ought to be rigorously pinched off as they appear.

Writing of forced Strawberries reminds me of the grand crop of the variety *Auguste Nicaise* I saw at Heywood, Westbury, last spring. Judging from the size of the fruits, some 2 ozs. each, and none I should think less than an ounce, together with the vigour of the plants, this Strawberry must deserve to be grown more largely than seems to be the case at present. Mr. Robinson grows the variety extensively, and contrives by cool treatment to have them as late as the middle of June; and it also succeeds *Noble*, which is grown only in moderate numbers for early supplies. As a late sort *James Veitch* has few superiors. This I saw in splendid form under the charge of Mr. G. Pymm, Rodwell Hill, Trowbridge, last spring. It is not of first-class flavour, but this is not always considered so much as mere size, and under pot culture flavour may be developed if need be by treatment at the ripening period. It is a good traveller, and in late-forced Strawberries this is a consideration, because they have so often to be despatched by rail or post at that season. Strawberries winter best in the open, provided sufficient leaves are available for protecting the pots thoroughly. Taken from the open they respond quickly to the warmth provided in the forcing house, but unless well protected it is a risk to leave them outdoors.—W. STRUGNELL.

IMPORTED FRUITS AND VEGETABLES.

I OBSERVE that, in common with many writers both in the public and horticultural press, you look with much satisfaction on the enormously increased and increasing importation of Bananas for consumption in this country. If this fruit could be allowed to ripen on the plant that produces it I should be in perfect agreement with you. In such a case it is a most agreeable, excellent fruit and very nutritious. It is not allowed so to ripen, but is gathered not even fully swelled and perfectly green.

It comes to this country, chiefly to London, where it is hung up in dark cellars, and subjected to artificial heat, to ripen it, forsooth, in the dark. No process that goes on in continuous darkness can ripen any fruit like the Banana. A process of fermentation takes place, which results in a tough indigestible fruit in which I sometimes observe the process of decay beginning. I have grown this fruit in hothouses till the ripening was complete, and the comparison between such fruit and the fruit that is imported was that between light and darkness.

The Banana is not the only fruit that is offered to the public in these days that is unwholesome from not being left on the tree that produces it till it is matured. At one time Oranges were gathered green for shipment to this country, but with such swift steamers as we have this is not so now to any injurious extent, but Apples that come from Tasmania and New Zealand are gathered when not nearly ripe, and hence are insipid in flavour compared with what they would be if left to ripen on the tree, nor can they be so wholesome. The same may be said of Pine, hence the sugar that is taken with them at dessert. A good well-grown English Queen or Black Jamaica Pine needs no such aid; the flavour is exquisite, sugar would but spoil it.

There is now a rigid inspection of all foods and drinks offered for sale, except fruit and vegetables; I believe such to be as necessary as any other. I often see Cauliflower, Broccoli, and other vegetables in greengrocers' shops that have in course of sea transit undergone a process of fermentation that has changed and corrupted their natural juices and rendered them anything but safe food for human beings, specially when choleraic disease is present, even in a latent form.—WM. THOMSON.

[We are obliged to our able and experienced correspondent for his communication. On the citation from the "Western Press," on page 224 last week, we made no comment, but inserted the paragraph as an item of news appropriate to our columns. At the same time we think the free importation of Bananas to this country is very advantageous to consumers, while not prejudicial to home growers of this enjoyable and nutritious fruit. Though many

inferior samples are placed on the market, as is the case with various kinds of home grown fruit, yet on the whole there has almost been as great improvement in imported Bananas as in Oranges during recent years.

It is true that many tons of Bananas are stored in dark cellars, but not, we suspect, for the purpose of ripening so much as for retarding their maturity as long as possible; but though many change in their dark abodes, it is to a large extent the custom of fruiterers to purchase them prior to such change and ripen them in light positions. It is to their interest to do this, as the clearer they are and the better in quality the higher the prices they command. They give satisfaction to many thousands of persons who have never tasted, nor are likely to taste, Bananas which have ripened on plants in English hothouses.

These in their best form are altogether superior to imported samples, and, indeed, so delicious that we often wonder why they are not more frequently seen in the gardens of the affluent. Possibly even the owners of such gardens do not know what a treat they might have for themselves and their friends in the form of ripe clusters of home-grown Bananas.

With the remarks generally of our correspondent on the deterioration, only too apparent, of many samples of fruit and vegetables in greengrocers' shops we cordially agree. We do not consider some of these fit to be eaten, though in the view of the authorities they seldom appear to pass to the stage entitling them to be regarded as "unfit for human food," yet not very long ago large quantities of Bananas were seized and destroyed.]

SHROPSHIRE HORTICULTURAL SOCIETY.

WE purpose giving our readers this week a few particulars of the origin of this important Society, which we think will be interesting as illustrating how success may be attained by good management, treating exhibitors liberally, and giving the general public such a programme as they cannot obtain elsewhere for a shilling. In the spring of the year 1875 the Shropshire and West Midland Agricultural Society was established, and the Committee decided to hold their first meeting in the Quarry Grounds, Shrewsbury, in July following. The present indefatigable Hon. Secs. (Messrs. Adnitt and Naunton) and the late Mr. W. Pritchard (a nurseryman of some standing in the town) consulted together as to whether a floral exhibition would not prove an interesting attraction to the show, and they eventually resolved to try the experiment. They accordingly headed the subscription list with £20 each, and obtained the names of several other influential townsmen to a fund for guaranteeing the necessary expenditure in prizes and expenses, and thereupon set to work in earnest, formed committees, prepared a schedule of prizes, and engaged the band of the Coldstream Guards, being the first time the Shrewsbury public had had the pleasure of hearing this fine band. The show was accordingly held in the following August, and resulted in a handsome profit of £409 4s. 2d. After this success it was resolved to establish a permanent society, when an excellent working committee and officers were appointed, whose valuable services resulted in establishing on a sound basis the finest and best horticultural society in the country. We here append a statement showing its annual receipts since the start in 1875 up to last year, a glance at which will show its wonderful growth:—

TOTAL RECEIPTS FOR EACH YEAR.

Subscriptions.	Cheap Tickets.	Takings at the Gates.		Sundry Receipts, including interest.		Total.
		First Day.	Second Day.			
£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1875—318 18 0	77 10 0	286 15 1	107 9 8	0 19 3		791 12 0
1876—259 10 6	105 11 0	82 4 6	189 5 2	48 14 0		635 5 2
1877—277 13 0	154 12 0	92 1 10	381 3 8	69 19 4		975 9 10
1878—316 2 6	219 15 6	104 7 3	528 6 1	112 19 2		1281 10 6
1879—381 1 0	210 3 8	65 8 2	398 8 10	151 7 3		1206 8 11
1880—388 17 6	217 13 0	121 4 9	653 12 8	135 19 0		1517 6 11
1881—397 1 0	260 19 0	104 17 10	725 2 0	153 16 2		1641 16 0
1882—392 6 6	319 9 6	134 7 0	824 15 0	159 17 5		1831 15 5
1883—400 18 6	396 11 6	156 1 0	1055 7 0	190 13 4		2199 11 4
*1884—400 5 0	501 7 3	154 18 3	678 2 11	206 4 3		1740 17 8
1885—402 6 0	346 18 3	218 9 7	1174 19 0	207 8 1		2250 0 11
1886—403 9 6	372 11 2	216 0 4	1157 1 4	252 6 6		2401 8 10
1887—409 18 6	500 9 6	130 17 8	1142 17 7	253 6 9		2437 1 0
1888—414 9 6	504 10 2	247 1 3	1317 18 0	291 6 5		2775 5 4
1889—416 18 6	525 1 8	225 12 6	981 4 6	280 9 4		2429 6 6
1890—428 3 0	551 3 9	311 13 9	1317 11 9	354 13 2		2963 5 5
1891—428 7 6	633 3 2	351 16 2	1413 11 4	507 12 4		3334 10 6
1892—414 19 0	667 4 8	434 19 6	1633 14 8	591 7 4		3742 5 2
1893—494 18 0	496 16 10	504 15 8	1459 6 2	7 5 15 9		3631 12 5
1894—	—	583 11 3	1262 8 9	—		—

* Year of R.A. Society's Show.

As will be observed, the above is incomplete for the present year, but the takings at gates on the first day is far in excess of any previous first day; and whilst the second day's takings are less than since the year 1890, such is easily accounted for in consequence of severe rain all the day from early morn, which kept away many thousands from the

show grounds. The really wonderful thing is that anything approaching £1200 could be taken during a twelve-hours rain. It is phenomenal.

Small and unpretentious in its beginnings, as will be observed by the record, the annual show has for some years past assumed colossal magnitude, and still goes on increasing. Its unbroken record of unqualified success has this year been crowned by the greatest and most complete display of horticultural produce which has probably ever been seen at an autumn show in Europe. Below we give an interesting statement, showing how the Society has disposed of its profits year by year:—

LIST OF DONATIONS, &c., GIVEN BY THE SOCIETY SINCE ITS FORMATION.

	£	s.	d.
1878—Donation to Shrewsbury Corporation for Improvements to Quarry Grounds	1	0	0
1879—Erection of Band Stand in Quarry	223	5	2
1881—Erection of Gates at Quarry Entrance	216	9	3
„ —Donation to Salop Infirmary	105	0	0
1882—Donation to Fund for Purchasing Grammar Schools	105	0	0
1883—Gates in Quarry Place, and Seats and New Music Stand in Band Stand	155	8	8
1886—Building Lodge at Quarry Entrance	486	6	5
1887—Presentation of Books to Free Library	105	0	0
„ —Railings and Fittings at Quarry Entrance	112	13	4
„ —Enlarging and Painting Band Stand	304	12	3
„ —Donation to Building Ladies' Oak Room in Quarry, and }			
1888—Painting Inside of Lodge and Band Stand	68	8	0



FIG. 35.—MR. H. W. ADNITT.

1888—Donation to Shrewsbury Severn Angling Society for Construction of Rearing Ponds in Dingle	50	0	0
„ —Donation to Shrewsbury Public Baths Fund	300	0	0
1890—Donation to Mayor's Fund for Clearing Off Debt on Free Library	300	0	0
1891—New Seats in Quarry	77	0	0
„ —Alterations Round Band Stand	157	10	0
„ —Improvements to Bank of River in the Quarry. Contract	486	16	1
„ —Grass and Lawn Mowers, Rollers, &c., Presented to the Corporation	53	8	0
1880 } Donations to Band Fund and Small Local Subscriptions	219	2	0
1893 }			
1892 }			
and } Purchase of Land for Future Extension of the Quarry Grounds	5300	0	0
1893 }			

It will be granted that this is a wonderful record, and that the interesting town has largely benefited by the generous yet prudent policy of its much-cherished Horticultural Society. In recognition of their splendid services over a period of twenty years we have pleasure in giving the portraits of the two Honorary Secretaries—the horticultural twins of Shrewsbury—Messrs. Adnitt and Naunton.

TROPÆOLUM SPECIOSUM.

WHEN seen in really good condition it is well nigh impossible to describe in too glowing terms the beauty of this grand perennial climber. In Scotland, I believe, it invariably grows and flowers splendidly, but in the drier atmosphere and more sunny climate of England it is seldom seen in a thriving state.

It was my good fortune a few days ago, while leisurely enjoying the romantic scenery of North Wales, to come unexpectedly in front of a luxurious plant in all its gorgeous beauty. This was growing in wild profusion over the walls of a whitewashed cottage, situated on a terrace-like ridge at the base of one of the numerous mountains in the neighbourhood of Bettws-y-coed. The aspect was a northern one, and the numerous trees around the cottage rendered the position particularly shady. These favourable conditions, combined with the dull wet weather of the last few

months, had induced this moisture-loving *Tropæolum* to exhibit its best form. The shoots along the greater part of their length were wreaths of brilliant scarlet flowers, which could have no better foundation on which to display their charms than the deep green foliage of the plant and the white wall beneath and around. No stranger could pass that cottage without giving its brilliant creeper more than a passing notice, but for that fact, I think, the good housewife whom I saw within would have been inclined to regard my glaring admiration as an unwarrantable display of inquisitiveness.

Later in the day I saw several other plants of this *Tropæolum* growing on wayside cottages, but none was so vigorous and attractive as the one already alluded to. It is evident, however, that the climate of North Wales is well adapted for its culture, otherwise so many thoroughly established plants would not be met with there.

Thousands of English people go each year to other lands to enjoy the invigorating breezes and diverting scenes of mountainous regions; but until they have been to Bettws-y-coed, and along the valley that runs from it to Llangollen, they have not seen the best their native land can show, and who, having seen, would not

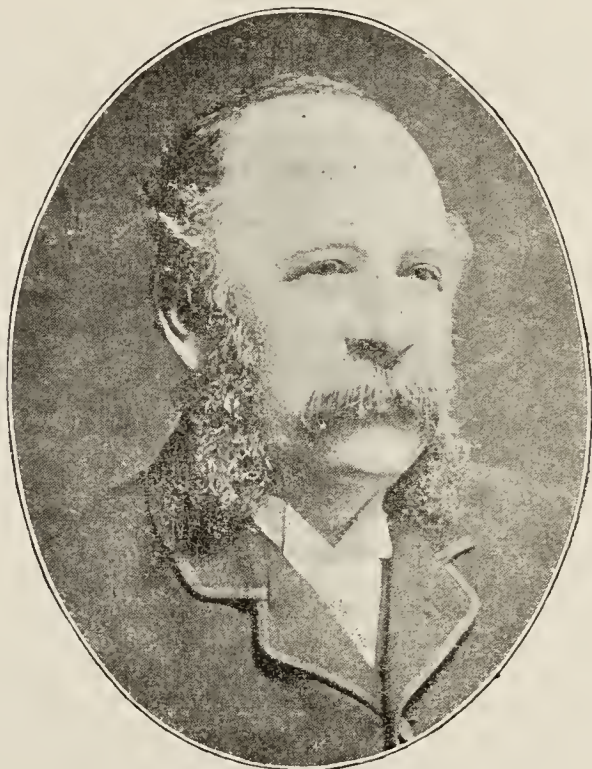


FIG. 36.—MR. W. W. NAUNTON.

be delighted with the mountain peaks, fairy glens, shady vales, rock-bound waterfalls, and broad sparkling lakes of Wales?—
H. DUNKIN.

MUSCAT OF ALEXANDRIA GRAPES.

THAT Mr. E. Molyneux is a good Grape grower there is no disputing, and what he has to say on the subject (page 194) is well worthy of close perusal and study. I am yet of opinion, however, that his remarks on colouring the Muscat of Alexandria do not affect the position taken up by me on page 167. With strong main rods only 3 feet 3 inches asunder, and the spurs at the average distance apart, an insufficiency of light would reach the bunches to effect early colouring, and the way out of the difficulty may be exposing to direct sunshine, but I do not like it.

My contention is that the colouring thus artificially brought about is most imperfect, there is too much "face" to the bunches. I have frequently spent hours in carefully slinging up the bunches in order that the points as well as the shoulders should improve in colour, and to accomplish this either wires or wooden skewers had to be passed through the centres, but have never yet been satisfied or even compensated by the results. Where the sunshine struck full the greenness in the berries was less apparent, but the colour was far from being of a rich golden or amber hue, and spots were the order of the day. The bunches when hanging do not show their defects so plainly. It is when cut and placed on show-boards that the patchiness and disfigurements are most apparent. They may compare favourably with some on the show-table that have been similarly treated, but figure badly when more naturally coloured, and therefore clear-skinned, better finished samples come in contact with them. Mr. Molyneux's bunches at Southampton may not have been any better coloured than those shown along-

side, only they were superior in other ways. The first week in August is early to show Muscats, and if wanted at that time every year I should advise fruiting of a few canes in pots or with their roots confined in brick pits, this admitting of a much earlier start being made, and perfect colouring brought about in a natural manner. I gave my own experience, Mr. Molyneux gave his, and now others perhaps will state their convictions.

With regard to the shrivelling of berries, I very much question if anyone yet knows the way out of this difficulty. A dozen or more reasons for the misfortune might be and have been given, such as too much and not enough heat, inside borders, outside borders, too much or not enough water, too much moisture, and not enough of it in the atmosphere, want of a little temporary shade at times, soil too heavy and not heavy enough, late ripening, extra early ripening, red spider, faulty root-action, and such like, have all been variously stated as the cause of shrivelling, and an anxious inquirer who once consulted all the oracles known to him will not readily forget the bewildering round of replies and presumably sound advice he was favoured with. None of them met his case, however, and to this day his bunches of Muscat of Alexandria would be highly satisfactory if only shrivelling could be prevented.

With me shrivelling was least noticeable in the case of Vines in a house started early in February, and worst in another started one month later. The former were in an outside border, the latter in an inside border, and I used to think not enough water was given those with their roots wholly inside. Then came a time when the roots found their way outside and into very good quarters too—viz., an Asparagus bed, but still shrivelling took place more or less as of old. The problem is yet unsolved.—W. I.



EVERGREEN CALANTHES.

THERE are probably many persons desirous of growing a few Orchids not having a house to set apart entirely for them, but who wish to grow them in a structure devoted to miscellaneous plants. To any such I would recommend the evergreen section of *Calanthes* as represented by *C. Masuca* and *C. veratrifolia* as suitable plants for a warm greenhouse or stove. The former species produces flowers of a deep purple shade, while the blossoms of the latter kind are pure white. Both species are of the easiest culture, and if good healthy specimens are grown they cannot fail to please, as they are very free flowering and last for months in good condition if care is taken not to wet the flowers.

The plants should be grown in rather large pots in a substantial compost; good loam, chopped sphagnum, and charcoal, with a little half-decayed leaf soil, used in the proportion of one part of each of the latter materials to three of the loam will be found suitable. Thorough drainage must be provided, for as these Orchids require to be kept moist all through the year, more water being of course required while growing than during the winter months. A rather dense shade is advisable during the summer, as if growing in too much light the blossoms of *C. Masuca* are apt to lose their colour and turn to a dingy undecided hue.

MILTONIA SPECTABILIS.

This grand old Orchid still finds numerous admirers, and this is not to be wondered at, as in its best forms it is one of the most beautiful *Miltonias* in cultivation, while the poorest varieties are well worth growing. The flowers are produced singly on the spikes, and in the type are creamy white, with the exception of the lip, which is purplish crimson with streaks of a deeper hue. The colour of the lip varies a good deal in the several varieties, and in the *M. Moreliana* the sepals and petals also are rich purple. In good forms the flowers are from 4 to 5 inches across, and they last long in good condition. The pseudo-bulbs are produced about an inch apart upon the rhizome. These are from 2 to 3 inches in length, and bear one or two leaves at the apex; there are also a pair of small sheathing leaves at the base.

This Orchid is invariably of a pale yellow tinge both in the leaves and pseudo-bulbs, and no attempt of the cultivator can alter this; nor is it necessary to do so, as the paleness seems to be natural to the species, and is certainly not a sign of ill-health. *M. spectabilis* should be grown in the *Cattleya* house, and preferably in shallow baskets or on rafts, as it dislikes much material about its roots. A light position shaded from the midday sun,

and not far from the glass, is the most suitable for this species. Abundance of water is required while growing, and in winter the roots must not be dried. The usual mixture of peat and sphagnum will be found a suitable compost.—H. R. R.

VANDA HOOKERIANA.

THIS plant is not so generally grown as most of the other species of the genus. In growth it somewhat resembles *V. teres*, but is smaller in all its parts, the flower alone excepted. Like that species it delights in ample sunshine, strong heat, and a humid atmosphere, and requires no rest. I believe that the species is indigenous to Borneo, where it is found luxuriating in swampy ground, creeping over low bushes of a semi-aquatic nature, fully exposed to the sun, and flowering almost perpetually.

Under artificial conditions in this country it cannot be called a perpetual flowerer, being more erratic in this particular than any other species that I am acquainted with. It is useless to attempt to grow it unless conditions similar to the above can be afforded. The fortunate possessors of those conditions and a few plants will be well repaid for all outlay and trouble when flowering is effected, this *Vanda* being a glorious flower, with its noble lip, amethyst-purple on opening, dewed with moisture, and glistening in the tropical-like summer sun, which even our fickle climate can occasionally afford, given good glass and a suitable structure.

It has been grown for some years by Mr. J. F. Hall at Sharcombe, Wells, Somerset, but although *V. teres* by its side has been annually flowered in abundance, this desirable species obstinately refused to emulate its example. A happy thought occurred to Mr. Hall one day, which was no sooner conceived than effected. The plants were removed to the Croton house, where, grouped with a few trial plants of *V. teres*, it soon proved by its more vigorous growth that the Croton house treatment was what it required. Six months are gone since its removal from the *V. teres* quarters, and for the past six weeks the cultivator has been rewarded with its charming blossoms.

The temperature of this house is not allowed to fall below 75° in the depth of winter, the plants receive all sunshine available, direct and otherwise, no ventilation is given, and the humidity nearly reaches saturation point through the summer, the syringe or hose being almost constantly in use.

The flowers, as I have mentioned, last fully six weeks without spot or blemish of any kind other than a gradual loss of colour, the lip at the end of that time becoming as pale as the sepals, and nearly transparent. I enclose a bloom for your inspection which has been open for quite six weeks under the above conditions.—W. R. W.

[The flower is exactly as described—spotless and clear. We are obliged to our correspondent for his communication.]

MELONS AT WOBURN ABBEY.

I MUST confess to having been greatly surprised at Mr. McKay's rejoinder (page 221) to what I stated, on page 130, about the Melons so well grown by Mr. Calvert at Woburn Abbey. When I penned those notes it never occurred to me that there was such an individual in existence as Mr. McKay. Mr. Calvert is an honourable man, and does not attempt to gain credit at the expense of his predecessor. I hope on some future occasion to be allowed to chronicle some more notable achievements at Woburn Abbey, but before doing so shall be glad to know the exact time and date when Mr. McKay ceases to claim the right to share in the unexhausted improvements. To me his interference seems uncalled for, and I think the Editor has been generous in giving him an excellent advertisement.—W. I.

IN the interests of peace allow me to say that I read the article in question on page 130, August 9th, when it first appeared, and saw nothing therein which reflected in the slightest degree upon Mr. Calvert's predecessor. I have again read it, and am still of the same opinion. As I am not acquainted with any of the parties concerned, I have no interest in defending any of them, but simply give my opinion, in order to prevent a useless discussion which cannot possibly do good to anyone. Simple records of difficulties successfully contended with are of great value to many readers, who are thereby encouraged to try and do likewise; and I am sure our worthy friends at the fountain head are too wide awake to allow any reflections on other persons.—W. H. DIVERS, *Belvoir Castle Gardens, Grantham.*

IN your issue of the 6th (page 221) you request readers of the Journal who are interested and not prejudiced in the above matter (and which is a very simple one indeed) to see if they can find any legitimate grounds for Mr. McKay's complaint that appears in your issue of the same date. I have gone carefully through "W. I.'s" article of the 9th August, and I am quite satisfied that there was not the slightest intention on his part when writing about the Woburn Melons, of casting any reflection on Mr. McKay. So far as I am able to see there is not the least cause for your correspondent's uneasiness. "W. I." did not allude to anything which

Mr. Calvert's predecessors had done or left undone. The whole matter is such a frivolous one that I am surprised any gardener should take offence (which Mr. McKay seems to have done). I am very pleased to be able to substantiate what the Editor says with regard to the very genial character of "W. I.," having known him for some years. I am sure were it in his power he would soon find Mr. McKay a new appointment. Mr. McKay may depend upon what the Editor has said that "W. I." had not the slightest intention when writing about the Melons at Woburn, of casting a particle of reflection on him.—T. ARNOLD.



CULTURE OF CHRYSANTHEMUMS.

[A Paper by Mr. ARDERIE, read at a meeting of the Falkirk and District Gardeners' Mutual Improvement Association.]

THERE has been so much written about the cultivation of the Chrysanthemum that it is a difficult matter to say anything that is not already known. We all know, however, that the Chrysanthemum has in a comparatively short time secured a prominent place amongst plants for the production of cut flowers during the autumn and winter. When November has made everything in the outside garden bleak and bare we can admire the opening buds of the glorious Chrysanthemums, appropriately called the queen of winter flowers. The few remarks given below refer chiefly to plants that are intended for the production of specimen blooms. I would like it to be understood that the details mentioned are not given as being absolutely the correct mode of cultivation, but are the results of what I have found to produce the best results. I am assuming that those young men, who are fired with ambition to shine as first-class gardeners some day, will be taking up the cultivation of this grand plant with the laudable object of achieving some feat in the way of winning prizes; but whatever the object in view, keep it steadily in front until it is accomplished. It is not so easy to win cups in these days. There must be no fits and starts, or happy-go-lucky methods adopted if you want to do any good. There are few things men with determination cannot accomplish, but it is only by strict attention to every detail that success can be attained.

The grower should not have more plants than he can properly attend to during the summer, and be able to accommodate when the stage for taking the plants indoors has arrived. I would also advise the beginner against growing a large number of varieties. Obtain the best twelve or the best twenty-four, thirty-six or forty-eight, if it is for showing purposes you are growing for, and grow three or four plants of each variety. That is a much safer plan than growing, say, 200 different sorts. No doubt one likes as many varieties as possible if they are good, but one will do better to adopt the plan of growing four each of the very best kinds. When buying new varieties obtain the opinion of some good grower if you have not seen flowers. It is very disappointing to procure an expensive "novelty" and then, after a whole season's work and care, find it comparatively useless. These things do not often happen with our British firms however, but they sometimes occur with foreign raised seedlings. If it is intended to grow blooms for exhibition purposes the cultivator will be guided by the convenience for housing the plants when they have finished their season's growth outside, and the time and space at his command to attend to their wants during the summer. It might be as well here to say that 100, 200, 300, or 500 plants would be necessary to grow in order to compete in classes say for twelve, twenty-four, thirty-six, or forty-eight blooms respectively.

PROPAGATION.

It is of the highest importance in these days to have your blooms on the exhibition boards as near perfection as possible, and a good selection is necessary. With the month of November arrives the time for propagating. I frequently commence about the 15th with the late-flowering and weak varieties, to give them a long season of growth, and prefer to take cuttings from plants that have not been overfed. Suckers not over-gross make the best plants and produce the best blooms. Cuttings that are taken off the main stems throw premature flower buds and put the plants out of time, often causing considerable annoyance to the cultivator. The compost for starting the cuttings is of the utmost importance. It must be borne in mind that the soil has to stay round the cutting through the whole season, hence the necessity of using good compost to start with. Procure some good fibrous turf cut in the previous September, and before using chop it finely, taking out all coarse roots and weeds that may happen to be in it. Add some leaf mould, lime rubbish, and sand; the lime mortar keeps the compost sweet. I generally root all our best varieties in small pots, smaller than the ordinary thumb pots. These I had made specially, as they take up less room and answer the purpose admirably. The object in putting one cutting in each pot is to save the roots when shifting into larger sizes. After the cuttings have been inserted give a good watering through a fine rose, and stand them on a bed of sifted ashes in any cool house; I use a small Tomato house for the purpose. Cover the cuttings with portable sheets of glass, or a small frame made to suit the place,

and keep them close for ten days or so, turning the glass upside down every morning to let off the condensed moisture. If kept too wet the cuttings are sure to damp. After ten days give a little air by tilting the glass up about half an inch. If the cuttings have been good they will be rooted in about thirty days, when place them in another frame for a week, giving abundance of air, and at the end of that time place them on shelves near the glass. Avoid all currents of air at this stage, and be careful about watering. Do not give water unless they absolutely need it, but do not let the soil become too dry. Mildew will follow if kept wet, and a hard stunted growth will be the result if allowed to once become dry at the roots.

During the end of January and beginning of February the early-rooted cuttings will need shifting to 3-inch pots. The compost used for this shift ought to be a trifle heavier without lime rubbish, but a proportion of bone meal or horn turnings added instead, and press the soil firmly to insure a sturdy growth. Give abundant air in all favourable weather. This shift will carry the plants to the month of March. During the latter month, at various times, I look over these late-flowering varieties and take out the point of the leader, and thereby causing the plant to make fresh growth. By allowing the plant to go on uninterruptedly till it made its first natural break, it would be of no use for showing purposes, so with this month arrives the time for timing the buds to come in on November; but I will say something on this later on, when I detail the taking of the buds.

POTTING.

About the last week in March or the first in April shift plants that require repotting, but be careful not to use pots too large. By the middle of April place the plants in cold frames, resting them on a hard bed of ashes. They thrive much better at that season in frames than on shelves, where the temperature often rises to over 90° with sudden burst of sunshine. If the plants have been well cared for they will be from 12 to 30 inches long, and growing vigorously by May. Pick out all the strong growing kinds and give them a shift into 6-inch pots, and place a stake to each to keep them growing straight. If this is neglected it sometimes happens that the plants fall over and are broken. If the weather has been warm or dry the plants are liable to become infested with green fly in the points of the shoots, which must be seen to at once. Give the growths a good dusting with tobacco powder, and there is no more efficient remedy than fumigating with patent cones. I give my plants a slight dusting with powder whether they are infested or not. Some varieties are subject to mildew, which must also be attended to at once, for if allowed to remain the loss of the lower leaves is sure to follow. Violet Rose, Boule d'Or, Lizzie Cartledge, Val d'Andorre, and some of the Queen family are notorious for that. I frequently spray all infested plants with Murray's electric mildew destroyer, and if used in accordance with printed directions it will instantly clear it off. I use it a trifle stronger than the prescribed dose for the worst affected plants. I also find this preparation good for killing thrips that infest the plants during the growing season, but it must be employed with extreme caution, for if used too strong it will burn the points of the shoots and cause them to go blind.

By the end of May some varieties will require their final shift; 9-inch pots are invariably used for the majority of the kinds, but there are some that do in even less sizes with better results and a few that require a size larger. All the Queen family require 10-inch pots; but the Prince of Wales family need smaller, 8-inch being large enough for them. Be careful not to shift unless the plants require it, and that can easily be ascertained by turning them out, and if the roots are travelling freely round the ball they are then in a fit condition for repotting. The compost used must be of the best. I have fibry turf broken in pieces the size of a hen's egg, taking the fine soil out by passing it through a coarse riddle. To every barrowload of turf add a 10-inch potful of crushed bones, a 4-inch potful of soot, and a third of the amount of coarse sand. Drain the pots well, and for some of the strong growing kinds put a handful of half-inch bones in the bottom of each pot. If the soil is heavy or clayey mix horse droppings with it, but do not use too wet or too dry. Procure a stick 1½ inch thick, and 15 inches long with one end tapered wedge shaped, and ram the soil as tightly as possible with the stick. Slack potting means gross wood and large foliage, and wood that is difficult to ripen; with flat thin flowers, therefore, it is imperative to pot as firmly as possible. There are a few exceptions to this rule, of which Jeanne Délaux is the type amongst Japanese, and Prince of Wales amongst incurved. For the former I use a good amount of leaf mould and old lime mortar and some charcoal, and pot less firmly. For the latter I dispense with the lime mortar, but add a few pieces of bones or pounded oyster shells. Leave about 2 inches from the rim of the pot to allow of future top-dressing, tie each plant to a stake as the potting goes on to keep the stem straight.

FEEDING.

I never give the plants any stimulants until the roots are well in the soil, as great mischief often arises from too early feeding. I frequently use soot water, one part in three, during the growing season to give the foliage a good colour. The best plan is to make sure that the roots are numerous in the pots before commencing to feed, and then start with very weak doses. If the weather is dull and wet do not give any in liquid form. There is nothing in my opinion better than sheep's droppings steeped in a tank; in very hot weather cow manure is cooling. Give all manurial watering clear, and let no sediment rest on the pots, as it quickly forms a crust and prevents air

entering in the soil. Give an application twice a week to begin with, and increase until the buds are nearly showing colour. Plants that have been subjected to doses of nitrate of soda or sulphate of ammonia are very liable to damp when in bloom, especially if the wood has not been well ripened. The main thing is to try and obtain firm, short-jointed wood, with good but not necessarily large foliage. It must be well ripened by natural causes, not starved and partially dried as some persons think, but gradually ripened from the base to the top.

(To be continued.)

LIVERPOOL NOTES.

GLOXINIAS AT CLEVELEY.

It would be a difficult matter to visit Cleveley and not find something interesting in flower. This season the Gloxinias have been marvels of beauty and good cultivation. The seeds from which such excellent results have been attained were sown in the spring of 1893. When the seedlings could be handled they were transferred to boxes and afterwards placed in 4½-inch pots, in which size they were allowed to bloom, an excellent show being obtained the same autumn. Last spring they were placed in 5½ and 6-inch pots, and at the time of my visit they presented a charming picture, some 500 plants being set in a groundwork of Maidenhair Fern, with a few small plants of Cocos Weddelliana to take off the flatness of the group. Mr. Cromwell had also a similar arrangement along the beautiful corridor, thus showing how accommodating the Gloxinias are if only arranged out of draughts. Her Majesty is a pure white variety, the flowers being large and the foliage dwarf and vigorous.

FRUIT AT THE TOWERS, RAINHILL.

It is amazing what may be performed, and that successfully, by a single-handed gardener, if only he takes interest in his work. This was never better exemplified than on the occasion of the last Rainhill show, when, at the invitation of Mr. E. Blythian, Mrs. Baxter's gardener, some friends, including several noted fruit growers, went to look at the Grapes and Peaches. Although Mr. Blythian has produced some splendid stove and greenhouse plants at various exhibitions, and at times excellent Grapes, we were little prepared to find fruit so well grown. The Peach house, a good substantial lean-to building, was first entered. The back wall trees bore a crop of fine fruit, beautifully coloured, and all of exhibition size. Many, no doubt, thought the trees overcropped, but it was pleasing to hear Mr. Blythian remark that he had taken as heavy crops for many years past, and judging from the clean shoots, he is likely to be as successful in the future.

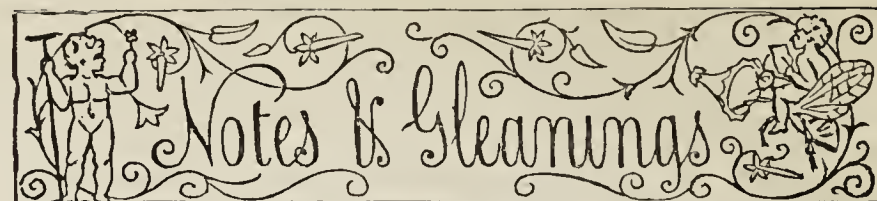
The vinery is about 100 feet long, divided into three houses, same style, and continued from the Peach house. In the early house some Grapes had been cut, but there were still numerous handsome shapely bunches left. The second house contained Muscats, Alicantes, Buckland Sweetwater, and others; the late house, Alicantes, Madresfield Court, with others, all in the same admirable condition, the greater portion of the bunches being fit for any exhibition table. All the borders are inside the houses, and when we take into consideration the time required in thinning, training, and watering, in addition to large pleasure grounds, plant houses and kitchen garden, all well kept, we realise that a man has found his true vocation. Certain it is in the case of Mr. Blythian, and where more fitting to acknowledge labour well done and good results achieved than in the pages of the *Journal of Horticulture*?

A FLORAL PARADISE.

The garden at Ardenholm, Maghull, near Liverpool, the charming residence of W. S. McMillan, Esq., is truly unique. Having heard of this garden, and of its genial owner, I at the invitation of Mr. W. J. Robertson paid it a visit. The garden is certainly quite different to other gardens around Liverpool, being given up with one or two exceptions to the cultivation of Pæonies, Lilies, Roses, Delphiniums, Phloxes, Pentstemons, tuberous Begonias, Cannas, and Lobelias of the Cardinal type. Mr. Robertson kindly escorted me through the grounds. The Pæonies, of which there are 400 trees and about fifty herbaceous ones grown, were just going over, but the collection contains the most expensive varieties in cultivation. Six hundred and fifty dwarf Roses were in full bloom, and a fine effect they produced. Lilies had been caught with the frost, but there many choice varieties open, with more stout spikes showing.

The Delphiniums, however, were the great feature of all, about 400 of these plants being grown. To deal with them adequately in this brief notice would be impossible, so I ask my readers to imagine this grand array of established plants in full bloom, in all colours of blue, lavender, yellow, mauve, and other shades. Some of the plants are in rows, others isolated, many of the latter being 7 to 8 feet 6 high, and from 5 to 6 feet through, with dark green foliage down to the ground. Some idea of their magnitude may be gained when I mention that over 5000 stakes are used to keep them in position, and so neatly is the work done that it is with difficulty that one can be detected. When some few years ago Mr. McMillan took over the house there was no semblance of a garden, but a wilderness has been turned into a veritable floral paradise. Of the remaining plants in the garden I must speak at some future date. Begonias are precarious here as bedding plants, and Cannas are quite a new feature that they will be watched with interest.

—R. P. R.



THE WEATHER IN LONDON.—During the past week the weather has been very variable. Thursday last opened fine, but heavy rain fell at midday, while Friday was dry though sunless throughout the day. On Saturday morning there appeared indications of a wet day, but it cleared later in the morning. Sunday was very wet almost the whole of the day, Monday opening dull, but becoming bright later. Tuesday was a bright genial day though cold at night. Wednesday fine.

— **CRYSTAL PALACE FRUIT SHOW GRAPE STANDS.**—Difficulty having arisen in respect to note 4, page 3, of the schedule of the Crystal Palace Fruit Show, Sept. 29th, Oct. 1st and 2nd, may I ask you to state that the exact dimensions of the Grape stands fixed therein will not be rigidly enforced? Stands of any reasonable size may be used.—W. WILKS, *Secretary R.H.S.*

— **AMERICAN APPLES.**—According to the latest reports some of the American fruit growers are anticipating a fairly good season, because the Apple crop in England is a light one. The crops both in the United States and in Canada, however, are estimated to be less than a fair yield. Several hundred barrels of Apples have already been sent from New York and other ports to England.

— **A GOOD CROP OF TOMATOES.**—Will growers of Tomatoes oblige by stating what they consider a good crop for a plant to mature? I have had one bearing 16½ lbs. of weight of fruit this season. There were eleven trusses, an average of nine to the truss; the largest truss consisted of eighteen Tomatoes, weighing 3 lbs. 2 ozs. Possibly several readers would be glad to have the information suggested in the *Journal of Horticulture*.—J. P., *Wolverhampton*.

— **RHODODENDRON SCHLIPPENBACHI.**—A correspondent says that this Rhododendron has something of the habit of Azalea mollis, with large flowers like Azalea indica. The flowers open as an ordinary Azalea, are 3 inches across, rosy lilac, spotted about the base with dark brown. There are often about six flowers in a cluster, making the plant very showy. It is said to be a native of the wooded hills of Corea and Manchuria, and is a garden plant in Japan.

— **CARNATION LIZZIE MCGOWAN.**—While cultivators are for praising the large flowering varieties they are apt to forget the smaller and free-flowering sorts that yield treble the number of blooms. For supplying pure white blossoms, and especially during the winter, the above named variety is unsurpassed. More than this, the flowers are very fragrant, which cannot be said of the bulk of the modern raised kinds. Lizzie McGowan belongs to the fringed type, is not an extra strong grower, but flowers in the greatest profusion.—E. M.

— **SAPONARIA OCYMOIDES.**—For the rockery or to cover a stone edging alongside a path this is an excellent plant to grow. Not only is it of a trailing habit, but it flowers most abundantly during early summer. The flowers are deep rose. A stock of plants can quickly be raised from seed, but the flowers obtained are nothing as compared to those from plants raised by division of the roots, being so many shades lighter in colour, therefore less showy. Having grown a number of plants from seed I strongly advise others to depend upon those raised from a true stock.—M.

— **RIPENED WOOD.**—I shall be happy to join issue on this question with "E. K." or anyone else whenever they choose to throw down the gauntlet; but my impression is readers of the *Journal of Horticulture* would prefer that this discussion should cease, at any rate for the present. I will, however, close with an inquiry bearing on, yet apart from, the "Ripened Wood" controversy. Are not all kinds of fruit, but especially Pears and Apples, colouring splendidly in "this practically sunless season," as "E. K." so truly terms the present one?—**A SCEPTIC.**—[We have no evidence in support of the impression of our correspondent, and we shall readily publish what "E. K." has to say on this important subject when he has time to treat it as fully as he may wish.]

— UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—We are informed that the annual dinner of the above mentioned Society will take place on Tuesday, October 9th, at 6 P.M. at the Cannon Street Hotel. Arnold Moss, Esq., has kindly consented to preside on the occasion.

— ANCHUSA ITALICA.—Respecting Mr. Arnott's note (page 224) and a previous one from Mr. Henslow on this old and showy favourite, whilst thanking them for their courtesy I must express regret that a somewhat careless reference to my "Paxton" led me into error. I find that Mr. Arnott's correction is perfectly right.—E. K.

— FLOWERS IN THE STREETS.—One of the best developments of later London has been the cultivation of flowers in window-boxes. Perhaps the most remarkable success in that line is the luxuriant growth of Sunflowers at Messrs. W. H. Smith & Sons' headquarters in Arundel Street. The street is narrow and the houses high, so that not much sunlight gets in, but in the window balcony in the third storey of Messrs. Smith's offices, just over the principal entrance, there is a bed of healthy-looking Sunflowers in full bloom. If one happens to cast an eye upwards walking up the street, says a daily paper, it comes quite as a pleasant surprise to see the floral freshness of Smith's front.

— INTRODUCING NEW PLANTS.—There is always sympathy for the raisers of new plants and fruits. It is well understood that they seldom receive anything like the equivalent which other good service to progressive horticulture seems to require, but the party who has to make old acquaintance with the new plant is seldom thought of, and yet, as a rule, the first introducer to commerce of the new plant gets as little for his work as the original raiser does. Almost any large firm could give their experience in confirmation of this point. The popular Japan Ivy is a good illustration. According to "Meehan's Monthly" the first nurseryman probably to offer it for sale in America was Mr. John Charlton of Rochester, N.Y., who spent heavy sums of money in advertising it, with very few to respond. Hundreds of pounds have since been made on the sales of this plant, but very little from this is represented in Mr. Charlton's bank account. That was in 1868. Few plants have achieved so wide a popularity—it is seen everywhere, in every part of the country.

— HOW PLANTS GROW.—In a recent issue of the Philadelphia Academy's "Proceedings," is a paper on rhythmic growth in plants. Growth is not continuous, but is a series of advances and rests, and some portions of plants rest longer than others, and again longer at one time than at another time, and many of the characteristics of plants are wholly dependent on the duration and force of the growth cycles. For instance, says an American contemporary, some plants form lateral flower buds during the growth of the flower spike, which continue growth and development as the flower spike advances. There will then be immature buds at the top of the spike, while the lowermost buds on the spike advance to full blossoming. The Hyacinth illustrates this class. Compound flowers, of which the Aster family is an illustration, make buds which are partially developed and then rest till the terminal bud is reached, which then blossoms, and the others successively downward follow. The author of the paper cited shows an intermediate class in the Willows. The catkin is formed as in the second class noted. The lower florets in the catkin rest after being partially formed until the catkin has assumed its full length, but the new growth cycle is not from the top down or bottom up, but from the centre of the catkin.

— MUSA CAVENDISHI.—Mr. T. Sharpe, Virginia Water, sends us the following interesting account of growing and exhibiting a large bunch of this Musa many years ago:—"The plants produced in eighteen months from the sucker, bunches of fruit weighing from 60 to 80 lbs. It was a curious sight to watch the huge bunch protruding from the centre of the tree, the point resembling, in colour and shape, a bullock's heart. Then came the long stem and flowers of a purplish colour, followed by the setting and swelling of the fruit. The best bunches were grown from four plants grown in a bed about 10 feet wide and 15 feet long, and 3 feet deep, filled with turfy loam and supplied with bottom heat. One sucker was planted near each corner of the bed, and the quick growth of these was marvellous. I well remember Mr. J. Carr, the head gardener, exhibiting one of these bunches, weighing, I think, 76 lbs., at the Crystal Palace in September, previous to the great International Show at Kensington. It was conveyed to the Palace by road in a van, and suspended in an iron frame 4 feet 6 inches in height, and about 3 feet through. The show lasted two days, and I was sent with Mr. Jacob Rose (now a worthy pensioner of the Gardeners' Royal Benevolent Society) to convey the fruit back to Weybridge. It was put

in the train safely at the Palace, and we arrived at Clapham Junction about 8.30 P.M., where we had to change. When the first train arrived for Weybridge we found that the guard's van only had a single door, through which we could not take our precious charge. Train after train arrived, but still the same single doors. Here was a fix! Mr. J. Carr had grown a bunch of fruit that could not be taken in a railway train. Were ever two wielders of the spade placed in the same plight? The stationmaster suggested that we should place it on the engine, but I knew that Mr. Hinds thought more of this bunch than of the railway train, so we did not risk it. This went on until after midnight, when a train arrived with double doors, so that ended our trouble. We arrived at Byfleet Lodge about 2 A.M. So much for tropical fruit growing."

— GARDENING APPOINTMENTS.—Mr. Benj. Greaves, who for the last thirty-four and a half years has been head gardener to Fred. Pennington, Esq., has been appointed head gardener to Alexander Hargreaves-Brown, Esq., M.P., who has purchased the Broome Hall estate from Fred. Pennington, Esq. The garden staff has also been re-engaged. Mr. W. Silk, for the last four years foreman at Cossiobury, Watford, has been appointed head gardener to Panmure Gordon, Esq., Loudwater House, Rickmansworth. Mr. T. Odd, late head gardener to James McCall, Esq., Evington House, Leicester, as head gardener and bailiff to the Hon. and Rev. J. Pratt, Tendring Rectory, Colchester.

— PRESERVING FLOWERS.—The preservation of flowers in their natural shape is not a new thing. The owners of Orchids and other choice flowers who wish to compare the flowers of an early blooming species with those that bloom late in the season, dry them in a way that preserves, not only their shape, but the markings and colours fairly well. The process, as explained in "The Orchid Review" some time ago, is to cut off the ovary to facilitate drying, and place the flower in a box, on a layer of sand half an inch deep, the box being gradually filled to a depth of at least 2 inches, so as to prevent shrivelling. The sand must be gently filtered in so as not to disturb the shape of the flower. The box is then set in a warm and dry place for a few days, and when the operation is complete the sand is filtered out again and the flowers are arranged in shallow cabinet drawers. Fleishy flowers lose their colours as in ordinary methods of drying, the advantage being that the parts are not broken, as is unavoidable when they are pressed between sheets of paper.

— SAUROMATUMS.—Writing to a recent issue of the "Garden and Forest" an English correspondent says: "A border filled with several species of Sauromatum is an object of exceptional attraction and interest in early summer. It is on the south side of a tropical plant house, from which, probably, it gets a little warmth in the winter; otherwise it is exposed to the weather, summer and winter. The tubers are buried 6 inches below the surface, and from these there spring in May or June the singular flowers, at first a straight green rod a foot long, which gradually unrolls and reveals a long fleshy purple spadix, which curves over till its tip touches the ground. The spathe is strap-shaped, curled, a foot long, green outside, greenish-yellow, with purple blotches inside. After the flowers come the handsome pedate leaves on tall spotted snake-like stalks. These die down in the autumn, and are succeeded by cone-like clusters of crimson-purple fruits pushed up just above the soil. The species thus grown are *S. guttatum*, *S. punctatum*, and *S. pedatum*. They are all Himalayan."

— MARGARET PINKS.—Now being the time when almost any plant will prove serviceable for producing a supply of bloom during the winter months, I think it is a pity these Pinks are not more generally grown. They are of very simple culture; in fact, if the following cultural directions are pursued I am positive they will prove satisfactory to all who follow them. In the first place the seeds should be sown in February, using well drained shallow pans filled with light sandy soil. A hotbed will be found very suitable for the germination of the seeds. When the young seedlings are large enough to handle prick them off into boxes, using a similar mixture as before, keeping them close and shaded from the sun. When they are ready give them another shift into 3-inch pots, keeping them close until they are established, then harden them ready for planting out of doors. By the end of August they will have made good bushy plants. It is an excellent plan to cut them round with a spade a few days before lifting; this prevents them feeling the check of removal quite so much. After potting stand them in a cool pit, and keep close, again shading from the sun until established. They will amply repay for the trouble taken with them. I have a number in 6 and 7-inch pots, some plants of which will soon be a mass of flower under the above treatment.—G. HAGON.

— THE OLIVE OIL INDUSTRY.—Writing on this industry in Santa Barbara Mr. Cooper says:—"We never count on getting more than one fair crop in two years. The best return I have had is 1500 bottles to the acre, but this is not to be expected often; 500 bottles to the acre is a good crop, selling retail at 4s. per bottle. The commissions, insurance, and advertising amount to fully 25 per cent.; and picking, packing, and bottling 25 per cent. more, leaving 250 bottles per acre, and from this again must be deducted the cost of pruning, washing the trees, cultivating, and other expenses. It is a good business if you can sell the oil for 4s. the bottle. I can sell all I have for the present, but when the large orchards now being planted come into bearing it will not be so unless consumers who use the imported abominations sold under false labels can be instructed as to the danger of using cotton-seed oil in any form." The Olive tree grows well in Santa Barbara, and a large number of persons have engaged in its culture during the last three or four years. It is estimated that there are about 6000 acres of Olive trees in the district, and the acreage is fast increasing.

— THE BOTANICAL MAGAZINE for September contains illustrations, together with explanatory text, of the following plants:—*Salvia macrostachya* (Labiatae).—This is a South American Sage, with broad leaves 8 inches in length, and a spike of blue flowers extending to more than a foot. The leaves are very reticulate, and the plant markedly hairy. Its habitat is Ecuador. *Rhododendron Schlippenbachii* (Ericaceae).—This plant, which was discovered by Baron Schlippenbach, is a native of the region around Corea, where the present war is raging. Its flowers are of a pale rose colour, and are produced before the leaves. *Fritillaria aurea* (Liliaceae).—This is a dwarf *Fritillaria*, of not more than a span in height, sent to Kew from Smyrna, near which it flourishes. Its flowers are solitary, yellow, and distinguished by reddish-brown cross-bars along their length, with a similarly coloured orbicular nectary at the base of each segment. *Trochodendron aralioides* (Magnoliaceae).—This is a very peculiar plant, the flowers being destitute of sepals, petals, and all floral envelope; while the stamens stand out in a stiff circular fringe around a cluster of ten carpels. The flowers are arranged in terminal racemes of about fifteen to twenty, and their prevailing aspect is green. The bark and leaves are highly aromatic. It is a native of Japan, and though allied to the *Magnolias* has much the habit of an Aroid. *Sobralia sessilis* (Orchidaceae).—This species, which is from Guiana, has been confounded with *S. decora*, a native of Guatemala. It is remarkable by the red-brown tubercular hairs upon its stems, and the reddish-brown of the under side of its leaves. The flowers are rose coloured.

— THE FRUIT CROPS.—The recent warm weather has made the Kent fruit growers very busy. Owing to the continued rains the Cherry season fell far short of the anticipated result, but of the hard fruit there is an abundant crop. This is especially the case with Plums, the trees being loaded. But this very abundance is acting prejudicially to the grower, for while it affords the public an opportunity of enjoying the luxury of good fruit at a cheap rate it yields but a small return. Cases have been known within the past few days in which fruiterers have only been able to obtain 3s. per bushel, and out of this sum has to be deducted the cost of picking and carriage, which leaves a very slender margin of profit. According to a daily contemporary, many fruiterers in the Sittingbourne district say that they have more Plums than they will be able to pick, while others maintain that the present low prices will not pay them to pick the whole crop. Heavily freighted fruit trains are leaving Sittingbourne and adjoining stations for London and the North every day. Pears are also a very heavy crop this season, but Apples are short.

— BOTTLING FRUIT.—A correspondent writes to a daily contemporary on the above subject in the following strain:—"I see it reported that Plums are very plentiful, and that the price is so low that in some parts it scarcely pays for the cost of gathering. So it appears to be a favourable opportunity for many families to provide themselves with a good supply of Plums for pies during the coming winter. This can be done at a cost very little in excess of the price of the fruit. Buy bottles with wide mouths from sellers of sweets, and when clean fill them with good, sound, ordinary fruit, placing them in the oven and heating them to the extent of about one-third of the usual cooking. When taken out the fruit will have sunk in the bottles, so take one or more of the bottles and fill up the others from them, pouring boiling water into each bottle until the fruit is covered. Then put into the neck of the bottles salad oil, say to the depth of half an inch, and fasten down promptly with parchment covers tied, store away in a dry place. I am not sure that the oil is necessary, but it is done in my house.

Occasionally the bottles should be looked at to see if any have got mouldy on the top. If so, such fruit should be used as soon as mouldiness is noticed; of course removing the mouldy part. But done as I have stated the fruit will keep all through the winter, and be quite as good for pies as when fresh gathered. Any fruit, such as Plums, Cherries, Raspberries, Blackberries, Currants, Gooseberries, Whortleberries can safely be bottled in this way, and I have often thought it is a great pity that so easy and inexpensive a method of keeping fruit fresh for use is not generally practised. Any housewife can do it, and you may render many persons very good service by making it widely known. I may say that what I now recommend has been done in my house for several years, and this summer we have added Rhubarb to our list."

— SOLANUM JASMINOIDES.—Hardy as is this climber, it is only under glass its best conditions are attained. For a cool conservatory or corridor it is an admirable plant. Thus treated, I saw it some years ago in a lofty iron-framed conservatory at Abbotstown, Co. Dublin. Long streamers in graceful profusion hung from the roof; its somewhat simple white flowers, displayed pendent, had a charming effect. An advantage this climber appears to possess is cleanliness and thinly disposed foliage, requiring but little attention from overcrowding; thus by its adaptability to a lofty roof difficult of access it specially commends itself.—E. K.

— PETROLEUM AS FUEL.—In a paper read before the Society of Arts by Mr. Stockfleth some time ago the importance of "liquid fuel" for steam-raising purposes was recently brought forward. For many years Mr. Stockfleth was chief petroleum expert to the Nobel Company in their Russian oil fields. Russia is not so well stocked with coal as Great Britain, and attention has been more widely attracted to the use of liquid fuel in that country than at home. For fully twenty years petroleum residue, commonly known as "astatki," has been the universal fuel for the steamers on the Caspian Sea, while the locomotives on the railways of Southern Russia have been regularly fired with this liquid. To give some notion of the extent to which petroleum residue is burnt in Russia, it is stated that in 1892 over 3,000,000 tons were transported from the wells at Baku to the Caspian ports and Astrakhan. No special construction of furnace is required. The oil is stored in tanks, from which a pipe proceeds to the fire-box, and on emerging from a flat jet the oil is caught by another jet of steam, which sprays the liquid fuel in an even shower throughout the furnace. There is absolutely no smoke, dust, or ashes, and the labours of the firemen are reduced to a minimum. The amount of fire can be regulated to a nicety by a tap on the oil-pipe, and considerable economy is effected in this way, as there is no occasion for loss of steam through safety valves when the engines are temporarily stopped. Large savings are also effected by the convenience with which the liquid fuel can be stored. One ton of astatki equals fully 2 tons of ordinary coal. The time may come when heating greenhouses and forcing houses by steam is more general, in which case petroleum might doubtless be used for that purpose.

— THE WAKEFIELD PAXTON SOCIETY.—There was a very good attendance of members at the weekly meeting of this Society, held on Saturday night, 1st inst. Mr. W. H. Milnes, who presided, called special attention to a footnote to the new syllabus:—"Please note that each meeting will commence at eight o'clock for business, and the lecture at 8.15 prompt." Mr. W. Vere, gardener to Mr. W. H. Stewart, J.P., of Milnthorpe House, was the essayist, his subject being "Begonias in pots." Mr. Vere said there was no plant for summer decoration to beat the Begonia. It was the most showy, interesting, and pleasing that the professional or amateur gardener could grow. No plant exhibited so many shades of colour, from the purest white through delicate shades of blush-pink to glowing scarlet, and from the deepest bronze to the most charming yellow. The foliage, too, was very beautiful, clean and glossy, and full of fine markings. Great care must be taken in watering, which was the secret of successful culture. The plants must be allowed to die down naturally, and the tubers should have four months' rest. In the last week of February the tubers should be repotted, and if kept in a temperature of 60° in the day and 45° at night they would produce strong growth. When the plants begin to show bloom in June they should be brought into as much light as possible. All the attention needed was careful watering, with abundance of air in hot weather. At the end of September or the beginning of October, signs of the approaching need of rest would appear, and watering must cease, which gave the tubers soundness. In conclusion Mr. Vere said he hoped the Begonia would become more popular with amateurs, as it was not difficult to cultivate, and was, as he had said, a very beautiful flower. After an interesting discussion votes of thanks were given to Mr. Vere and the exhibitors of specimens.

— AUGUST WEATHER AT STIRLING.—The first half of the past month was very wet; 3·477 inches of rain fell on the first eighteen days, and on two only of these no rain was recorded. Total fall for the month, 3·800 inches, which fell on twenty days. Greatest fall on one day, 0·990 inch, on the 13th. Mean maximum of the month, 66·0°; mean minimum, 44·1°. Highest maximum 74·6°, on the 24th; highest minimum 55·4°, on the 1st. Lowest maximum 54·7°, on the 26th; lowest 38·1°, on the 23rd.—G. McDOUGALL.

— THE WEATHER LAST MONTH.—August was dull and rainy up to 30th, but bright during the last two days. On the 10th we had a heavy thunderstorm, when 0·75 inch of rain fell in about twenty minutes. We also had thunder on 15th. The wind was in a westerly direction twenty-two days. Barometer—highest reading, 30·02 inches, at 9 P.M., on 29th (it had been below 30·00 since July 1st); lowest 29·268, at 9 A.M., on 3rd. Total rainfall—3·54 inches, which fell on twenty-seven days, the greatest daily fall being 1·04 inch, on the 10th. Temperature—highest in shade, 73°, on 14th; lowest, 44°, on 7th and 31st; mean daily maximum, 65·87°; mean daily minimum, 50·87°; mean temperature of the month, 58·37°; lowest on grass, 41°, on 7th, 21st, and 23rd; mean earth temperature at 3 feet, 57·70°. Total sunshine, 120 hours 59 minutes.—W. H. DIVERS, *Belvoir Castle Gardens, Grantham*.

— KNIGHTON AND DISTRICT HORTICULTURAL SOCIETY.—The annual show of this Society was held in the Public Hall on Saturday, 8th inst. The number of entries was in excess of previous years, and the exhibition was of a very high standard of quality. The great attraction was the groups of plants not for competition which were placed in the centre of the hall. The first on entering was staged by Mr. Fairfield, gardener to T. Fielding Johnson, Esq., and was composed of Palms, Fuchsias, Begonias, Coleuses, and Adiantums of various kinds, having a beautiful effect. The next was by Mr. Dodd, gardener to H. Simpson Gee, Esq., and exhibited great skill in the freedom of the grouping—a little colour would have improved it. Mr. Lawson, gardener to Mrs. Ellis of Knighton Hayes, was the next with a magnificent group of smaller plants, including many beautiful Grasses, Palms, and Ferns. Mr. Smith, gardener to Mrs. S. Bennett of Holmdale, came in for a large share of admiration for the excellent way the platform was decorated. Mr. T. J. Gunn exhibited a grand table of fruit, while Mr. F. Goodwin, gardener to R. Toller, Esq., had some fruit and garden flowers. The same exhibitor decorated a table in the ante-room and obtained a pleasing effect with Begonias and Dahlias. The vegetables and garden flowers in the cottagers' classes were excellent. The children's classes, which form a conspicuous part of this show, were well filled. During the afternoon Mr. J. H. Walker, F.R.H.S., lecturer to the Leicestershire C.C., delivered an address on "Growing Vegetables for Exhibition" to a large and appreciative audience.

FRUIT AT WILTON PARK GARDENS.

DURING a recent visit to Wilton Park Gardens I noticed a very fine crop of Apricots on a south wall. It was, however, the large and even size of the fruit, combined with splendid colour and freedom from spot along with the perfect condition of the trees, that led me to make a few inquiries as to their management. The trees did not show the slightest trace of a decayed branch or gum exudation. The leaves were large, clean, and of that deep green tinge that speaks of unmistakable health. The varieties, Large Early and Moor Park, were unusually handsome specimens. The wall is fitted with a 2 feet glass fixed coping, and protection is afforded for covering the trees while in bloom with canvas along the front.

The roots are mainly confined to a border 3 feet wide, the remainder in front being cropped with small growing vegetables and salads. This part is trenched every year up to the same distance from the wall, and the roots are thus kept in a limited space. In consequence of this annual root-pruning the trees never have large fibreless roots, but a mass of fibrous ones which are of great benefit to them. Mr. Challis considers the immunity of his trees from gumming to this restriction of rooting space and the encouragement of root fibres. Certainly the appearance of the trees is weighty evidence in favour of the plan adopted. The practice of continuously watering the trees is not resorted to, it being considered preferable to loosen the soil on the surface 3 inches deep occasionally, top-dressing it with burnt earth and old lime rubble. This not only acts as a mulch, but supplies the roots with the necessary nutriment required by stone fruit. Even last year the trees were watered but once, although the glass coping to a great extent prevents many showers falling on them. Mr. Challis regards Moor Park as much the best Apricot, but for hardiness Large Early cannot be surpassed. Altogether the method of obtaining annually full crops of fruit appears to be worthy of imitation.

Mr. Challis believes in training Peaches on the cordon principle with a view to covering the space quickly, and on an outside wall with

a southern aspect he is giving the plan a thorough trial. The wall is fitted with a fixed wide glass coping. The trees are planted 2 feet 6 inches apart, trained with a central stem; of course the side growths being trained thinly, and not quite horizontally. The object of this is to mature the current season's growths, these taking the place of those branches fruiting this year, which are cut back to the base, or within an eye or so, leaving sufficient to secure ample growth for the next season. The trees are now four years old, having been planted two seasons, and Mr. Challis considers he will gather two dozen good fruit from every tree so managed. This is the first time I had seen trees grown on this principle, but certainly for covering a wall quickly and evenly the plan has much to recommend it. Peach trees trained on the ordinary fan-shaped system are carrying good crops. Such varieties as *Violette Hâtive*, *Hale's Early*, *Goshawk*, *Dr. Hogg*, *Amsden*, *Princess Louise*, *Dymond*, and *Taylor's Violette Hâtive* were most promising. The two latter are much appreciated, *Taylor's Violette Hâtive* is regarded as being quite distinct in some respects and superior to the type. Of Nectarines there are full crops of *Lord Napier* and *Humboldt*.

The leading varieties of sweet or dessert Cherries are trained as cordons on an east and west wall. The trees have only been planted a year or two, and they promise to succeed admirably, the growth being vigorous and the foliage clean. Fruit spurs, too, are forming readily where required for the production of a full crop of fruit. Figs against an east wall were giving fine samples of ripe fruit, *Castle Kennedy* especially being noteworthy. *White Marseilles* was bearing abundantly also; the leaves had suffered to some extent from the cold and sunless weather of July, showing the want of hardiness of this variety as compared with others.

Strawberries are largely grown, both out of doors and in pots for forcing. For the latter purpose 3500 plants are annually layered in pieces of turf and placed direct into their fruiting pots. To see that the plan answers admirably one only has to look at the plants at the present time carrying fine foliage and already forming plump crowns. The bulk of this number comprises *Auguste Nicaise*, with a few of *Noble* and *Royal Sovereign*. The former having been for some years Mr. Challis's sheet anchor, he rightly adheres to his favourite. Out of doors this year this same sort has succeeded admirably along with *Noble*. *Sir Joseph Paxton* and *President* were failures, although these varieties generally succeed so well.

Pears are a heavy crop, but the fruit promises to be somewhat small and "speckled." The foliage, too, is pale in colour, being much affected by the adverse weather experienced during the last three weeks of July. The pyramid trees are perfection in the matter of training, being planted some twenty-five years since. Some bush-trained trees on the Quince are a hundred years old, and carrying full crops of fruit at the present time. Apples are but a thin crop. The trees, planted by Mr. Challis twenty-five years ago, are trained vase-shaped, each starting with a clean stem from the base for upwards of 1 to 2 feet high. The branches then radiate off in circular form about 3 feet from the stem, and are then trained in a perpendicular manner 10 feet high. Each tree is limited to twelve branches, all of which obtain an equal share of light, the circle formed by the branches being about 6 feet in diameter. Spurs are formed the whole length, and in favourable seasons give abundant crops of handsome fruit.

With regard to Peaches under glass, the trees are planted across the inside border, or, in other words, transversely instead of longitudinally, or lengthwise next the glass. The idea which Mr. Challis had in planting them thus was to secure more light for the trees growing against the back wall than is available under ordinary methods of training. The houses are lofty, being quite 20 feet high at the ridge, and three-quarter span structures. Instead of the roof having the usual rafters and sashbars, it has only light horizontal bars, the 2 feet squares of glass being secured with wires. Thus abundance of light is emitted all over the house, and there is no obstruction whatever as in the case of sashbars and deep rafters, so common even in modern erections. The trees are about 6 feet apart, and cover the whole of their allotted space. In some cases two trees are planted back to back as it were, and within 8 inches of each other, and right well they succeed with this apparent close training of the branches. In such cases as this of double planting a separate trellis for each tree is required. Abundant ventilation is provided both back and front. Ripe fruit was gathered in May, and a regular succession has been forthcoming since. At the time of my visit magnificent fruit of *Palmerston*, *Barrington*, *Prince of Wales*, along with *Pineapple* and *Victoria Nectarines* were to be seen. In some instances Figs occupied the high back walls, and had borne excellent crops of fruit.

Grapes are extensively grown, and were more remarkable for the number of serviceable bunches for home consumption than for exhibition displays. One house was filled with *Mrs. Pince*, which deserves more than a passing note. Handsome bunches of fruit they were, much superior to those generally seen of this variety. The prospect of their finishing satisfactorily, too, was a good one; that rich purple tint so pleasing in this Grape, but so seldom realised, being noticeable. A houseful of *Lady Downe's* was also promising. In all cases Mr. Challis does not favour the plan of overcrowding the rods, but gives them a distance of 4 to 5 feet asunder. The back walls are clothed with *Gros Colman* and *Alicante* Vines in some cases, and excellent crops of useful fruit the Vines are carrying. Vines in pots, trained umbrella fashion, with their bunches hanging downwards, all from the centre, are much appreciated for decoration during the autumn, *Alicante* being the variety most in favour for this purpose.—E. M.



THE NATIONAL ROSE SOCIETY AND ITS MEMBERS.

DURING the last few months the Committee of this Society has received a good deal of rough usage at the hands of those who have the pen of ready writers. These criticisms have been of a very varied character—the incompetency of the Committee in not being able to forecast the character of the season and not regulating their shows accordingly; their slowness to perceive the change in public opinion, and I know not what else have been brought against them. I do not think it is all fair this one-sided sort of game should go on, and as the members have roundly censured the Committee and its officers, I, as one of the latter, wish to buttonhole the members for a few minutes.

You are aware, gentlemen, that we are honorary officers and not well paid officials. Mind, we do not complain of this, but we do think that it ought to have some weight so that we might be saved as much trouble as possible. But how stands the matter? You all know (at least you ought to know) that the subscriptions of the Society are due on the 1st of May, but as many of you have proved oblivious on this subject you received this year an additional reminder in that month, while those of you who were secretaries of affiliated societies were distinctly told that you might order medals to any amount you liked, but that none would be supplied to you until you sent the cash. Had all this any effect on you? Not an atom that I can see.

I have just received from the Treasurer a list of those who have not yet paid their subscriptions. Remember this is the 5th of September, and I find that whereas we have 530 members, 115 of you, with that delightful consideration for the labours of the officers which so cheers them and so lightens their burdens, have made not the slightest movement towards paying your subscriptions. Moreover, it must be recollected that all this involves expense, and that by the time your subscription is received and acknowledged (for I do not imagine, like Pennsylvanian bondholders, you will repudiate) an additional pound at any rate has been added to the expenses of the Society. But, says some charitable member who has paid his subscription, there are perhaps new hands who do not yet know the methods of the Society. Lay not this flatteringunction to your souls, for in the list furnished to me I find members of the Committee, local honorary secretaries, secretaries of affiliated societies, and others, and what I think is the most aggravating part of the business the same names occur every year in the list of defaulters. Whether it is carelessness, or that putting off the payment of money which many find so distasteful, or laziness, I do not know. Perhaps those of you who read this may find one or more of these excuses suited for your purpose, and if not, pray invent one.

I know not whether what I have here written may do any good, "but I have delivered my soul," and that if it does you no good will reconcile me a little more to what I regard as a great lack of consideration. There seems to be an idea amongst secretaries of affiliated societies that if they do not order medals their affiliation fee is not to be paid. This is entirely a mistake, for the fee is due whether medals are ordered or not.—D., Deal.

[If our correspondent does not think it fair that what he calls a "one-sided sort of game" at criticism bearing on the National Rose Society should go on, whose fault is it, if fault there be, that the "other side" has not been heard? No attempt is made in the above communication to meet the propositions which have been fairly and temperately advanced, and supported by gentlemen whose position in the Rose world entitles them to express their views on matters which they believe affect the usefulness and prosperity of the N.R.S. The non-payment of subscriptions on the part of one-third of the members of any society does not indicate anything like the active interest and zeal that it is desirable should be manifested in its work and progress. Are there no causes for this apathy other than those included in the list of pleasantries above recorded? N.B.—A communication from Mr. E. Mawley in which, at last, the other side of the question of the trophy class is presented, arrives too late for insertion this week.]

CAMPANULA PYRAMIDALIS.

SURELY this is an age of general advancement and constant change in horticulture, as in everything else; the rolling tide of fashion is ever on the alert for new departures and fresh species. Every year new

varieties of plants and flowers, in all branches of horticulture, are brought out, some to take the public mind by storm for a while, then to sink into obscurity and make room for something else; others only to reign in a narrow circle, as if they were not sufficiently strong to rise beyond the lowest stages of the ladder of popularity.

Amid this unceasing rush it is not a surprising, though still a deplorable fact, that many fine old flowers are left by the wayside and for a time forgotten. It is doubtless owing to this reason that *Campanula pyramidalis* is not more widely cultivated, for grown as a pot plant for decoration it has few superiors. The conservatory here now presents a gay appearance, and pleasingly conspicuous are the attractive spikes of *Campanula*, ranging about 4 feet high, and thickly clothed to the pot with masses of bloom, the pure white and pale blue forming a charming contrast. The hardiness of its nature and comparative ease with which it may be grown are recommendations.

The best method I find is to sow the seeds in shallow boxes during the spring and place in gentle heat. When the plants are large enough to be handled remove into small pots, and as they require it shift into 6 or 7-inch pots, using fibrous loam and a little decayed manure, and place outside in a sunny position until severe frosts commence, for though the plants will not suffer out of doors in an average winter, it is best to either plunge the pots in some refuse to protect the roots or keep them in a cold frame during the winter. As spring comes on and the plants commence their growth they should be finally moved to 8-inch pots for flowering, and be placed out of doors in a warm sunny position. As the pots become full of roots and flower spikes present themselves, the plants should be well supplied with liquid manure until they commence blooming and are placed in the conservatory, where their extreme beauty will amply repay for all trouble bestowed on them. If the plants are in too large pots they often grow very robust, but fail to throw up a flower spike, so that discretion should be used on this point, or they may prove a disappointment. The plants here have been largely commented on, and where flowering plants are required for decoration they will be found very useful, as the tall bold spikes clothed with bloom cannot fail to excite praise and admiration.—G. H., Alton Towers.

TOMATOES AT THE PRIORY NURSERY, WARWICK.

OWING to the wet, sunless weather of the last few months the Tomato crops in many districts have not been so abundant and good as usual, sappy growth and diseased plants being unfortunately far too common. It is, therefore, the more interesting to record an instance of successful culture, especially when it is found in a neighbourhood where the growth of the "Love Apple" is carried out on so gigantic a scale as at Kenilworth, where Mr. H. Whatley with his town of glass promises to become a provincial "Ladds." Where specialists of this type are located gardeners get accustomed to see heavy crops, and are, therefore, not likely to be surprised till they meet with something particularly good. The few miles which separate Kenilworth from Warwick do not prevent those interested in the matter from having their "look round" the Tomato-growing establishments during the height of the season, to see who is to the front in the matter of numbers and quality of crop.

This year it is generally considered that the palm must be awarded to Mr. J. Marsh, the proprietor of the above nursery. I called there a few days ago, and was rewarded by the sight of a prodigious crop. The plants are growing in light, span-roofed houses (which were erected last spring). They are planted 15 inches apart in the borders on each side of a walk running through the centre of the house. Each border affords room for four rows of plants. These are trained to strings fixed in an upright position, one end of each string being fastened to a peg driven into the soil, and the other to a wire stretched under the sashbars. When each plant has grown to within a few inches of the glass the point is taken out, and side shoots are throughout the growing season regularly removed. By adopting this method of planting and training it is surprising what a weight of fruit may be cut from a house of given dimensions, in fact a far greater one than can ever be obtained by growing a single row of plants and training them under the roof in the orthodox way. The soil forming the border is of a very simple description, being good maiden loam with but little fibre, with which a liberal admixture of bonemeal was incorporated. At planting time this was rammed very firmly, and during the early stages of growth the soil was maintained in a comparatively dry condition, the aim being to secure sturdy short-jointed growths commencing to produce clusters of flowers within 9 inches or a foot of the soil. That this object has been attained I can bear ample testimony, for although at the time of my visit much of the fruit on the lower part of the plants had been cut some still remained which almost touched the soil. Above these in regular succession to the top of the plants perfect clusters of fine, even fruits were to be seen, some ripe, others just turning colour, while those on the extremities of the clusters were still green. The exact weight of crop per plant would of course be difficult to estimate, seeing that the fruits were in so many different stages, but I opine that no practical man could see such striking results without describing the crop as a grand one.

Regular waterings with soot water and other liquid manures have been given since the time the first few clusters of fruit were swelling freely. The only varieties grown are Ham Green Favourite, Comet, and Perfection. The first named is considered by Mr. Marsh to be the best for

market growers, although Comet runs it very closely for all-round excellence; and Perfection, he thinks, is all that its name implies, as regard the size and shape of the individual fruits.—H. D.

CARPENTERIA CALIFORNICA.

ALTHOUGH introduced some years ago *Carpenteria californica* does not appear to have found its way into many gardens. It is one of the

LADY GARDENERS.

I FAIL to see that we need be very much alarmed that ladies will displace us in the field of gardening. Much of the work may be suitable, and perhaps would be as well if not better performed by them than men, but a good deal of the work that falls to most gardeners is very unsuitable to females. The present generation at any rate need not fear, but those of the rising generation must look to their laurels and so prepare themselves to hold a foremost position. If they lag behind and are then



FIG. 37.—CARPENTERIA CALIFORNICA.

most beautiful of hardy shrubs in existence, and when in bloom in early summer produces a very fine effect. As depicted in the engraving (fig. 37), the flowers are large, pure white, and have yellow stamens which enhance their appearance considerably. The blooms, moreover, are fragrant, and usually produced in bunches at the tips of the branches. This *Carpenteria* grows to a height of 8 or 10 feet, and appreciates the shelter of a wall, although it will thrive in almost any situation that is favourable to similar shrubs.

superseded by the fair sex they have only themselves to blame. Many women at the present time work hard, and successfully too, in our market gardens, and if they are capable of holding their own in this sphere of labour, where competition is of the keenest description, I fail to see why they should not prepare themselves for the management of private gardens or other positions of a responsible nature and of a similar character. There may be difficulties in the way, but these can readily be surmounted. Why should they not?

Many ladies are already engaged in some branches of horticulture, and I do not see why they should not take it up on a larger and more

extended scale. Why should the field of gardening be closed against them? Times have changed, and we must look for these changes to extend themselves even to gardening. We shall be none the worse, but I think better in the end, for this threatened invasion of ladies. It will surely stir up the rising generation to greater energy and effort in the future. It is time many of our young gardeners laid to heart the importance of a systematic study of the profession, and if they will not they will only have themselves to blame if displaced by those who will do so, even if it is the fair sex. There is already more than one school open to ladies; but how are they trained? I do not exactly know, but one thing is certain, one of the principals is already lecturing on gardening for the County Council in one of the midland counties, and the reports of the lectures that I have seen have been successful.

My advice to young men is, Be up and doing, and do not be alarmed, but put your shoulder to the wheel and prepare thoroughly for the responsible posts you may some day be called on to fill. I know it is often disheartening to those who work hard and then fail to obtain suitable situations, but competition is certain to be keener in the future than the past, and the best men will assuredly secure the best places in the end. A good man, whether ladies are in the field or not, is certain to fall on his feet sooner or later.—W. BARDNEY.

ROYAL HORTICULTURAL SOCIETY.

SEPTEMBER 11TH.

THE display at the Drill Hall on Tuesday was a very imposing one, almost the whole of the available space being occupied with tabling. Hardy flowers of various kinds were seen in handsome condition, but Orchids, though of fine quality, were not very numerous. Fruits and vegetables were not so largely shown as might have been expected, but made a fairly creditable display.

FRUIT COMMITTEE.—Present: T. Francis Rivers, Esq. (in the chair); Dr. Hogg, the Rev. W. Wilks, and Messrs. J. H. Veitch, J. Cheal, G. W. Cummins, T. J. Saltmarsh, A. Dean, G. Wythes, A. J. Laing, J. Hudson, F. Q. Lane, H. Balderson, G. Norman, G. Reynolds, H. J. Pearson and J. Wright. Mr. A. Pettigrew, Cardiff Castle Gardens, was invited to a seat at the table.

Mr. J. Smith, Fairlawn, again exhibited the Melon Empress of India, to which an award of merit has already been awarded. The Committee on the present occasion thought the case was fairly met by such award. The same remarks were expressed in respect to Mortimer's Eclipse Melon, and no advance was made on the previous award of merit.

Messrs. Kimberley & Son, Coventry, sent a seedling Apple, Autumn Rouge, attractive, but not good in quality, and it was passed. Mr. E. Crump, Manor House, Whitnash, Leamington, sent handsome bunches of a seedling Grape, the result of a cross between Alicante and Gros Colman. It has the appearance of Madresfield Court, but with the texture and taste of Gros Colman (passed).

Mr. G. Dyke, gardener to G. Nevill, Esq., Stubton Hall, Notts, again sent his new Melon, the result of a cross between Hero of Lockinge and Sutton's Triumph—outer part of the flesh white and not ripe, inside scarlet and fully ripe (passed). Mr. Charles Ross sent a dish of a good looking Pear named Popham, a seedling from Calebasse Grosse, and of no particular merit (passed). Mr. F. Capp, Wexham Park Gardens, Slough, was awarded a vote of thanks for an excellent brace of Telegraph Cucumber.

Mr. Featherby, The Vineries, Gillingham, Kent, sent large baskets of Cannon Hall Muscat and Gros Maroc Grapes, and a cultural commendation was awarded. Mr. Owen Thomas sent a bunch of Frogmore Seedling Grape, berries roundish, black, thick skin, juicy, and sweet. Some particulars appeared to be required. Mr. Thomas also sent a seedling Melon raised from Hero of Lockinge and Best of All, good sized lightly netted, with a greenish white flesh. It was called the Peach Melon. Mr. Clarke, gardener to Sir J. Fowell Buxton, Warlies Park, sent a seedling Peach. Fruits large, dark, and handsome, but most of the stones were split, and the quality not high (passed). Mr. G. Talford, The Gardens, Trafalgar, Salisbury, sent Walburton Admirable Peaches, Brunswick Figs, and Humboldt Nectarines grown against open walls; all very good (vote of thanks).

Mr. G. Kent, gardener to Sir John H. Johnson, St. Osyth's Priory, Colchester, sent a dish of excellent looking Onions, said to keep till July. Mr. Barron will try them with the view to growing the variety at Chiswick. Mr. A. S. Cole, gardener to G. Cutt, Esq., Wandsworth Common, sent samples of Tomatoes, cross between Ham Green Favourite and Sutton's Perfection, good, but not distinct from many others. Mr. C. Herrin sent a fruit of the White Russian Cucumber from Dropmore, a thick warted specimen, and past its best. Messrs. James Veitch & Sons sent fine clusters of ripe fruit of the Cut-leaved Bramble, *Rubus laciniatus*, for which a vote of thanks was accorded.

Mr. G. Palmer, Junction Road, Andover, sent trusses of fruit of Palmer's Triumph Tomato, and Messrs. Jas. Carter & Co. sent Tomato Duke of York, but no award was made for either of them. Mr. G. Jones, Sudbury, sent a collection of vegetables, for which he was awarded a bronze Banksian medal. Messrs. J. Laing & Sons sent a meritorious collection of fruit including nearly fifty dishes of Apples and Pears, and a silver Banksian medal was awarded.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); Messrs. J. Fraser, J. Laing, O. Thomas, H. Herbst, R. Dean, C. T. Druery,

G. Stevens, C. F. Bause, J. Jennings, P. Barr, E. Mawley, C. E. Pearson, J. T. Bennett-Poe, J. D. Pawle, C. Noble, H. Cannell, G. Paul, G. Gordon, and the Rev. H. H. D'Ombraim.

The exhibits in this section were very numerous, and some grand flowers were staged. Two handsome plants of *Eucharis amazonica*, carrying upwards of 300 blooms, were shown by Mr. W. Howgrave, gardener to Mrs. Crawford, Gatton, Reigate, and formed an attractive exhibit (silver Banksian medal). Mr. J. Walker, Thame, Oxon, showed a fine collection of Show and Fancy Dahlias, including, amongst others, Maud Fellowes, Shirley Hibberd, R. T. Rawlings, Rev. J. B. M. Camm, Colonist, John Walker, Joseph Ashley, Queen of the Belgians, and Mrs. D. Saunders. Quilled Asters were also shown by the same exhibitor, Snowflake, Oxonian, Model Pink, Purple Prince, The Bride, Alexandra; Modesty, and Unique were amongst the best (silver Banksian medal). Four splendidly flowered plants of *Chrysanthemum Lady Fitzwigram* were shown by Mr. H. J. Jones, Hither Green Nurseries, Lewisham (award of merit, see below), and some fine Hops by Mr. R. Davis, Tenbury, Worcestershire.

Foliage plants staged by Messrs. J. Laing & Sons, Forest Hill, S.E., included *Caladium Roma*, *Begonia Bettina Rothschild*, and *Nicotiana colossea variegata*. A somewhat extensive collection of Dahlias, Show, Fancy, and Cactus, was arranged by Mr. E. F. Such, Maidenhead. Amongst the best of those staged were Amphion, Black Prince, Robert Mayher, Baron Schröder and Countess of Pembroke, of Cactus kinds, and R. T. Rawlings, J. Walker, E. Peck, G. Paul, Mrs. Slack and Mrs. Gladstone of the Show and Fancy varieties. Messrs. Cannell & Sons', Swanley, collection of flowers was very beautiful, and included Cactus Dahlias Dean Hole, Old Gold, Cannell's Velvet, Kentish Invicta, Miss Irene Cannell, Mrs. Glover, W. H. Cullingford, Chancellor Swayne, Mrs. H. Cannell, and single Cactus Marguerite. Asters were also grandly shown and included many handsome varieties. For a yellow quilled variety, Eynsford Yellow, an award of merit was accorded (silver Flora medal). It is a distinct advance in Asters, the colour soft yellow, and the blooms of the best form. A bank of Cactus Dahlias was put up by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, and was very beautiful. Among the varieties represented were Kaiserin, Honoria, Baron Schröder, Kynnerith, Mrs. F. Fell, Countess of Radnor, and John Bragg. The exhibit also comprised two new Pompon varieties named Gladys Valentine and Louis Mattes (silver Banksian medal).

Mr. J. T. West, gardener to W. Keith, Esq., Brentwood, staged a number of stands of Show and Fancy Dahlias, which made a very imposing display, and comprised almost all the leading varieties in perfect form (silver Flora medal). Hardy border flowers in great variety were shown by Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, and included *Tritoma nobilis*, *Rudbeckia nitida*, *Aster acris*, *Sedum spectabile*, *Achillea Ptarmica flore-pleno*, *Helenium pumilum*, *Malva moschata alba*, *Delphiniums*, *Lupinus arboreus*, *Helianthus rigidus* Miss Mellish, *Coreopsis grandiflora*, and *Monarda didyma* (silver Flora medal). Mr. W. Salmon, Ivy Cottages, Elder Road, West Norwood, staged African and French Marigolds, Dahlias, and other hardy flowers in a highly creditable manner (silver Banksian medal).

A vote of thanks was accorded to Messrs. T. Cripps & Sons, Tunbridge Wells, for a box of Dahlia Grand Duke Alexis of Russia, white tinged with rose, and somewhat novel in character. Messrs. J. Cheal and Sons, Lowfield Nurseries, Crawley, had a very beautiful collection of Cactus Dahlias, in which Maid of Kent, Countess of Radnor, Black Prince, Old Gold, Sir Francis Montefiore, Professor Baldwin, Robt. Mayher, May Pictor, Centennial, Mrs. Gordon Shaw, and Delicata were in especially fine condition (silver Banksian medal). Show, Fancy, and Cactus Dahlias were shown in superb form by Mr. S. Mortimer, Swiss Nursery, Farnham. The collection comprised all the leading varieties, the blooms being characterised by weight, freshness, and good colouration (silver Flora medal). Messrs. W. Cutbush & Sons, Highgate, arranged a charming collection of hardy flowers, including Dahlias of various kinds, *Delphiniums*, *Tritomas*, *Geums*, and numerous others (silver Flora medal).

A very attractive exhibit was that of Messrs. Paul & Son, Old Nurseries, Cheshunt. Roses were included in fine form, as also were perennial Phloxes. The other flowers shown comprised *Anemone japonica*, *Montbretias*, *Helianthus*, *Gaillardias*, *Rudbeckias*, and *Trolliuses* (silver Flora medal). A group of very handsome plants was staged by Mr. Wythes, gardener to the Duke of Northumberland, Syon House, Brentford. Some admirable *Nepenthes*, *Crotons*, *Ferns*, *Dracenas*, and other plants, all splendidly grown, were prominent in this exhibit (silver-gilt Flora medal). Messrs. J. Veitch & Sons sent plants of *Caladiums* Ladas and Lord Rosebery, and *Nepenthes mixta* and *N. mixta sanguinea*, for the latter of which a first-class certificate was recorded (see below). A first-class certificate was awarded to Sir Trevor Lawrence for *Crocodylus aurea imperialis*, which is described below. Messrs. W. Paul and Son, Waltham Cross, sent plants of China Rose Duke of York, as free as the old Monthly Rose, also blooms of a new China Queen Mab (first-class certificate, see below), and also three boxes of cut Roses in charming variety (bronze Banksian medal). Mr. Chas. Turner, Royal Nurseries, Slough, staged bunches of new Pompon Dahlias Matchless, Eric, Little Lady, Irene, Captain Boyton, Crystabella, and Rowena. Mr. C. Turner also sent a group of *Hydrangea paniculata grandiflora*, comprised of finely grown and flowered plants (silver Flora medal).

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); Dr. M. T. Masters, Messrs. J. O'Brien, De B. Crawshaw, H. M. Pollett, Thos. Bond, W. H. White, H. J. Chapman, E. Hill, Jas. Douglas, A. H. Smeed, W. H. Protheroe, and F. Sander.

Orchids were not shown in very large numbers, though doubtless they were as numerous as could be expected for the time of the year. R. J. Measures, Esq., Camberwell, sent a small collection of choice kinds, arranged with Maidenhair Ferns. *Cypripedium Nandi*, *lucidum*, and Charles Canham were noticeable, as also were *Cattleya aurea chrysotoxa*, *Lælia Dayana* var. *delicata*, and *Masdevallia Measuriana* (silver Banksian medal). Handsome plants of *Lælia tenebrosa* Robert Castle, and *L. purpurata* Mrs. Naylor Leyland were shown by Messrs. F. Horsman & Co., Colchester. Mr. Capp, gardener to Sir C. Pigott, Bart., Slough, exhibited a collection of cut blooms of *Cattleya Gaskelliana*, in which were included some good forms.

Mr. R. Johnson, gardener to T. Statter, Esq., Stand Hall, Manchester, staged an interesting collection of blooms and plants, including *Cattleya gigas* Countess of Derby, *C. minucia*, *C. Victoria Regina*, *C. granulosa aurea*, *C. aurea*, *Lælia picta*, *L. Parthenia*, and *Cypripedium excellens*. Mr. G. Cragg, gardener to W. L. Walker, Esq., Winchmore Hill, showed *Cattleyas guttata* *phoenixoptera*, and *guttata Leopoldi*, while Sir Trevor Lawrence, Dorking, sent *Odontoglossum aspersum* roseum and *Cattleya Gaskelliana albens odorata*. Messrs. F. Sander & Co., St. Albans, showed an interesting collection in which were some fine Orchids. *Celogyne Meyeriana*, *Odontoglossum bicktoniense album*, *Lælia Sanderæ*, *Calanthe Lauchana*, *Pleurothallis Lauchana*, *Sobralia xantholeuca*, *Cypripedium Maynardi*, *C. Alice Gayot*, and *Cattleya Gaskelliana virginale* may be mentioned as the most prominent.

The Orchids staged by Messrs. W. L. Lewis & Co., Southgate, made a charming display, and comprised *Habenaria carnea nivosa*, *Cattleya Gaskelliana* J. H. Allen, *C. Johnsoni*, *Oncidium tigrinum*, *O. macranthum*, and others (silver Banksian medal). Mr. J. Davis, gardener to J. Gurney Fowler, Esq., South Woodford, sent plants of *Cypripedium Charlesworthi*, *Glebelands* variety, and *Cattleya Loddigesii*, *Glebelands* variety. A group of Orchids was shown by Messrs. Hugh Low & Co., Clapton, in which *Cypripediums* in variety largely predominated (silver Banksian medal). Mr. D. Fairweather, gardener to J. A. Miller, Esq., Canterbury, received a first-class certificate for *Renanthera coccinea* (see below).

CERTIFICATES AND AWARDS OF MERIT.

Aster, Eynsford Yellow (H. Cannell & Sons).—This is a quilled variety with finely formed medium sized clear yellow flowers (award of merit).

Cattleya gigas, Countess of Derby (Thomas Statter).—The sepals and petals of this handsome form are creamy white, the lip being pure yellow veined and edged very rich purple (first-class certificate).

Cattleya Gaskelliana albens odorata (Sir Trevor Lawrence).—The sepal and petals of this handsome *Cattleya* are white, very faintly tinged with rose, the lip being white, flushed purplish rose, with a yellow throat veined with white (award of merit).

Chrysanthemum, Lady Fitzwigram (H. J. Jones).—This is an early free blooming variety with silvery white flowers, having a yellowish centre (award of merit).

Crocus aurea imperialis (Sir Trevor Lawrence).—The flowers of this variety are decidedly larger than those of the type, and the colour is somewhat richer (first-class certificate).

Cypripedium Meleore (Jules Hye).—The petals of this hybrid, which is the result of a cross between *C. bellatulum* *Mariæ* and *barbatum grandiflorum*, are very broad and dull rosy purple, spotted dark brown in colour. The dorsal sepal is of the same shade edged with white, while the pouch is a dull reddish purple (first-class certificate).

Cypripedium Nandi (R. J. Measures).—This is the result of a cross between *callosum* and *Tautzianum*. The petals have rosy tips spotted blackish purple; the dorsal sepal white, shaded with rose and veined green and rose; lip bright, dark rose veined crimson purple (award of merit).

Dahlia, Cannell's Velvet (H. Cannell & Sons).—This is a small flowered Cactus variety, the colour of which is rich crimson tipped with magenta (award of merit).

Dahlia, Mrs. Gordon Shaw (J. Cheal & Sons).—This is a fine decorative variety, with very rich bright crimson-coloured blooms (award of merit).

Lælia Dayana delicata (R. J. Measures).—The sepals and petals of this variety are very soft purplish rose, and the lip rich deep purplish black with a creamy white throat (award of merit).

Lælia Parthenia (Thos. Statter).—This is supposed to be a natural hybrid, and is but rarely seen. The sepals and petals are white, very faintly tinged with rose, the lip being white veined with rose, and having a pale yellow and brown throat (award of merit).

Nepenthes miata sanguinea (J. Veitch & Sons).—This variety has somewhat larger pitchers than the type, of deep red ground colour mottled with brown (first-class certificate).

Odontoglossum aspersum roseum (Sir Trevor Lawrence).—The sepals of this charming Orchid are brown crossed with pale green, the petals being rose heavily spotted at the base with brown, while the lip is a dull purplish rose (award of merit).

Renanthera coccinea (J. A. Miller).—The upper sepal and petals of this *Renanthera* are red patched with yellow, the lower sepals rich deep red, the lip being scarlet with a white throat (first-class certificate).

Rose, Queen Mab (Wm. Paul & Son).—This is a charming China variety, salmon pink in colour, with a yellowish base (award of merit).

THE LECTURE.

The subject for the afternoon meeting was "Lord Bute's Vineyards in Wales," on which Mr. A. Pettigrew, F.R.H.S., read with admirable

clearness a highly interesting paper, Dr. M. T. Masters presiding. The paper was in the form of a narrative or history of the work from the beginning, about twenty years ago, until the present time. When the wine-growing project commenced Mr. Pettigrew said many persons predicted failure, and it afforded material for some of the comic papers. One of them suggested that if ever wine was produced it would take "four men to drink it—two to hold the victim, and one to pour it down his throat;" another was on much safer ground in saying as "Mr. Pettigrew had commenced the work it might be expected he would not carry it out in a pettifogging way." He certainly has not, for the one word descriptive of the whole procedure is "thorough."

The Vines were planted in 1875 in 2 feet of light loamy soil on chalk on a southern slope sheltered from the north, east and west. They are grown 3 feet apart and trained to stakes like Raspberries, topped at the height of about 4 feet, and the sub-laterals pinched the same as is done in vineries. When the leaves have fallen the canes are cut down to two or three buds, leaving mere stumps for producing fruiting growths another year. Such in brief is the routine. By far the best variety for the object in view is the Gamais Noir. On testing the "must" with the saccharometer the specific gravity was found to be 29°, while Royal Muscadine grown on the Cardiff Castle wall only showed 6° saccharine. The first wine was made in 1877—40 gallons, and rather more the following year, but in 1879 the fruit did not ripen, the rainfall of the year being upwards of 44 inches. One year's failure such as that means, said Mr. Pettigrew, another failure the following year, for if the fruit cannot ripen neither can the wood, and without ripe wood there can be no Grapes for wine-making.

The vintage in 1881 was good, and sold for 60s. a dozen bottles. Dr. Lawson Tait bought much of it, and some of the wine was sold in Birmingham last year for 115s. a dozen. The next good vintage was in 1887, the Jubilee year, 40 hogsheads. This induced Lord Bute to extend the plantations. There are now 5 acres of Vines in bearing, and about an acre is being added yearly. Only about a dozen hogsheads of wine were obtained in the three following years, but in 1893 the yield was the largest and best yet obtained, and if the wine realises the usual price, the value of the vintage will be £3000.

The Grapes are pressed, and the whole process of fermentation (which takes about twenty-five days), casking and bottling, is carried out in the Cardiff Castle gardens by Mr. Pettigrew. The wine has to remain three years in cask and four years in bottle for the quality to be developed. In colour the "Castle Coch" wine (so branded because the first vineyard is near Lord Bute's old castle of that name) is not unlike that of a dark sherry—golden brown; but the flavour differs wholly from that of sherry and port as well. It is in fact, distinct, and the wine, of which there were samples on the table, is rich and generous, almost resembling a liqueur. Mr. Pettigrew's experience in the direction indicated is unique, and he was listened to with great attention. An interesting discussion followed, and a cordial vote of thanks terminated the proceedings.

LILIUM HARRISI (BERMUDA LILY).

THERE are few gardeners who are not aware of the great decorative value of this plant; in fact for pot culture it is one of the most useful Lilies grown. Imported bulbs should be potted as quickly as possible, for they soon begin to deteriorate if exposed to the air for any length of time. The size of pots used should be in accordance with the size and strength of the bulbs. For those of ordinary size 6 to 8-inch pots will be large enough for single bulbs. I prefer placing them direct into the pots in which the plants are intended to grow and flower, using a compost of two parts fibry loam, one part leaf soil, with one part rough gritty sand and dried cow manure, made only moderately firm. I place the bulb low in the pot, with the crown just out of the soil. This allows for an inch or two of top-dressing when required. The pots are plunged in cocoa-nut fibre refuse in a cold frame. If the soil used be fairly moist no water need be given until there are signs of growth. When the plants are a few inches high top-dress with light rich compost, securely stake, and remove to a light warm house. Give abundance of water at the roots, and keep the plants well syringed overhead, occasionally giving a little liquid manure.

The greatest pest this beautiful plant is subject to is green fly, which must be kept away by the frequent use of tobacco powder or light fumigations. Never allow the plants to become dry at the roots, this is fatal to any good results. This Lily will bear a considerable amount of heat, in fact luxuriates in a moist warm atmosphere.—HEDLEY WARREN.

INSECT PESTS AND DISEASES.

FOR the benefit of "A. D." (page 201) I may say that I am the person responsible for setting up of the "scare," as he thinks well to call it, about the Onion maggot; and after carefully reading his original article, I still come to the conclusion that it infers it is wrong, or, to say the least, unwise, to set up a "scare" about anything, and he goes on to try and make his argument good by speaking of several pests of different kinds that have disappeared after a stay of a few years.

I do not want to enter into a controversy with "A. D." on this subject, nor do I wish to deny the "facts" that Nature does provide antidotes in certain cases. I am fully alive to the fact that it is so, but she does not supply one in all instances; and it is for that reason I consider it wiser to try and find one for ourselves and save our crops from ruin;

and if Nature in the course of a few years should do the work in a more simple and perfect manner, so much the better. At the same time I rather doubt if the advice of "A. D." is very good when he says, "If the maggot should appear again, the best thing to do will be to keep our heads cool and drown it out with cold water, as Nature has done so effectually this year." In the first instance, in a season like that of last year, it would have been absolutely impossible in many districts to have obtained the necessary amount of water to have given the thorough drenchings we have had this year, and if the water had been forthcoming it would have entailed a large amount of labour to have supplied it; and lastly, the artificial waterings under the scorching sun of last year would have had a very different effect on both maggots and crops to the natural waterings this year under a cloudy sky, and the various results could only be found out by experience, which I think would have to be bought rather dearly.—W. S. E.

KIRKCONNELL, DUMFRIES, N.B.

NEAR the mouth of the river Nith, and reached by a drive of about eight miles from Dumfries, is the estate of Kirkconnell, the property of Mrs. Maxwell-Witham. The mansion, which stands in a beautifully wooded park, possesses no pretensions to architectural beauty, but has all the same an interest of its own. The fine old Oaks, and the Spanish and Horse Chestnuts in the park, are the objects of much interest to the arborist, and were visited by the Scottish Horticultural Association in one of their tours. Very fine are they, and in perfect keeping with the quaint building they almost surround. The latter is one of those composite structures which are the work of successive generations, the oldest and most interesting portion being the fine old tower which dates from the eleventh century, and is still in excellent preservation, containing among other apartments the dining-room. A portion of the house, which stands with its gable to the front, appears to have been next erected, and in 1780 the main portion of the front was commenced. Much of the condition of the mansion is due to the fact that the estate has remained in the same family from before the erection of the old tower already referred to, although three times the male line failed, and succession was maintained by the marriage of the heiresses. Thus it was that the old family name of Kirkconnell was merged in that of Maxwell from the alliance of the heiress with the noble family of Maxwell of Caerlaverock, and in recent times the marriage of the present proprietrix to her cousin, the late Robert Witham, Esq., led to the adoption of that of Maxwell-Witham. One of the memorable events in the history of the family was the adhesion of its then representative to the cause of "Bonnie Prince Charlie" in 1745. This led to his flight to France, and would in all likelihood have entailed the forfeiture of the estate had it not been that he had previously conveyed it to two staunch friends, by whom it was reconveyed on his return a few years later. Some relics of the ill-fated prince are still in the possession of the family, and are highly prized and viewed with interest by all visitors.

It is not, however, the object of this notice to speak in detail of the interesting history of the family and estate, but to mention some features of horticultural interest. The plainness of the house is greatly relieved by the free growth of a Dundee Rambler and an Ayrshire Rose, and the masses of *Pyrus japonica* and *Cotoneaster*, which cover much of the walls. The present garden is about 100 years old, the former one having been in front of the house, and, with the shrubberies, contains many interesting old plants, as well as those of modern introduction. It is surrounded by high brick walls, covered with fruit trees and a few shrubs, among the latter a fine specimen of *Buddleia globosa* being conspicuous. Unfortunately this season has not been a favourable one for fruit at Kirkconnell, and one has not the pleasure of reporting favourably on this important department. This is solely due to the conditions of the season, and, as is to be expected in ordinary seasons, good crops are secured. The Grapes in the vinery show that every attention possible is given to their cultivation, and highly successful results are obtained.

Vegetables are well grown, especially noteworthy being a large number of plants of a splendid strain of Curled Parsley and some magnificent Onions. In these Mr. Harper, the gardener, has shown by his success in competition that he is not easily beaten in their cultivation. Herbaceous plants are a great feature of the garden, and are represented by a large collection of the best old and new introductions, no pains nor expense being spared to add to this attractive department.

The collection of florists' flowers is an unusually large one for a private garden of this size, those grown being principally Antirrhinums, Pansies, Phloxes, Pentstemons, Roses, Marigolds, and Asters. Mr. Harper takes a special pride in his florists' flowers, and as he receives every encouragement from the family it is little wonder that successes at various shows have been credited to the Kirkconnell flowers. Space does not permit of detailed notice, but the best of the new sorts are added, so that there may be no lagging behind. Some of the newer Roses, such as Margaret Dickson, were remarkably fine at the time of the writer's visit.

A notice of Kirkconnell would be incomplete without a reference to the old garden Roses which abound, and which are left un mutilated, so that they are in great masses covered in their season with multitudes of flowers. I have already spoken of them in the Journal, but one cannot refrain from repeating that these old Roses, such as the Damask,

the Maiden's Blush, and many others, are never seen to advantage unless in such places as these, where their growth is luxuriant and their floriferousness only limited by the short season of their flowers. The glass structures in the garden are not extensive, and call for no special notice, save to mention the fine tuberous Begonias and Zonal Pelargoniums, which are of the most modern types and admirably grown.

Many features of interest to the horticulturist, such as the fine old Kalmias, and to the antiquary, such as recently discovered ancient fort, cannot be spoken of, but it can safely be said that Kirkconnell will well repay a visit from anyone interested in gardening or antiquarian pursuits. Not readily to be forgotten is the unfailing courtesy and kindness shown to visitors by the family and all connected with the estate, a courtesy which makes the pleasure of a visit tenfold greater.—S. ARNOTT.

PROPERTY IN MUSHROOMS.

THE preponderance of rain with which we have been favoured since midsummer has had the effect of stimulating the growth of Mushrooms, and, as a matter of course, the appearance of these windfalls provokes the annual invasion of the lawless classes, who, uninvited, proceed to help themselves to this marketable product of the agriculturists' meadows. That a tangible value attaches to these growths goes without saying. If there were no sale for them there would be no raiding or trespassing to secure them before the farmer has time to gather them for his own emolument. As illustrative of the possible value of Mushrooms on a farm we may cite a holding in the Vale of Evesham, from which (so we understand) as much as £100 has actually been cleared, net, by the occupier during the current summer, by picking betimes the daily natural output of Mushrooms, and railing them off to the Manchester market. We only hope that our present allusion to this stroke of good luck and good management combined may not have the effect of bringing a horde of raiders on the scene, and for this reason we suppress the actual address of the *fortunatus agricola*.

We have no doubt that the harvest of this increment of the soil has only been secured by dint of an outlay in watching and tending the fields, to an extent which would not have been requisite if the crop had been one of grain or of roots. A correspondent from a county adjoining the district referred to is evidently suffering from the malpractices of professional Mushroom raiders, and he inquires of us what remedy, if any, he has against trespassers who invade his land to loot his Mushrooms. In his case it seems that he has been energetic enough to sow "Mushroom spawn largely" in one of his fields, and the crop appears to be prolific, tempting the cupidity and dishonesty of the predatory classes, and galling the feelings of the occupier, who notes his carefully engendered crop vanishing daily under the night forays of the professional Mushroom thief. We are especially interested in this last named case, and commend it to the prompt attention of the Agricultural Union, whose organisation we announced and congratulated ourselves upon a few weeks ago.

As regards the abstraction of natural Mushrooms, no criminal charge will lie, so far as the actual picking is concerned. The most that can be done is to proceed for trespass; and here—unless some tangible damage has been done to the land, which can form the basis of a summons for malicious damage in trespass—a petty sessional court can practically do nothing; while civil action against men of straw would be only throwing good money away. The value of the Mushrooms abstracted or trampled, so long as they are a natural product of the soil, cannot be taken into consideration in appraising the damage caused by the entry of the trespasser; and it is not likely that much actual damage can be verified by his footmarks on the herbage, or his passage over the boundary fence—supposing that he has entered thus, and not by a gate. In fact, the farmer is practically powerless to protect a natural crop of this sort, unless he is prepared to employ hands to watch it, with authority to turn off all intruders. If he takes this line, he or his servants may use whatever force is necessary to repel intrusion; and if the intruder uses counterforce to obtain or maintain his entry, then a criminal offence, *qua* assault, is at once committed by the intruder; and we trust that any bench of justices with such a case before them (of forcible entry and assault) would inflict the fullest sentence in their power, even though the assault should happen to be no more than a "common" one—not inflicting any wound, nor otherwise "aggravated." If it should amount to the latter class of offence, then still more would it demand full penalty. We are aware that it is somewhat straining the law to sentence to a substantial term of hard labour, without option of a fine, for a slight assault and resistance to an ejection; but morally the intruder is a thief, and, moreover, in all probability there is already a bad police record against him; so that there is good justification for making an example of him. The very point of the Mushroom thief is that the law is on his side, inasmuch as it does not make his abstraction a felony; if, then, he invokes the letter of the law, he is best paid in his own coin when, under another letter of the same law, he finds an otherwise nominal assault in pursuit of his plunder visited with a spell on the treadmill.

But now we may turn to the special case put before us by our correspondent, where a field has been expressly sown with Mushroom spawn and is plundered. It is a statutable offence, punishable on summary conviction, to "steal, destroy, or to damage with intent to steal," any "cultivated root or plant used for food of man or beast, or for medicine, distilling, or dyeing" if the same is growing on land open or enclosed,

not being an orchard, garden, nursery, or conservatory—i.e., an ordinary open field. Therefore, if it can be brought home to a trespasser that a Mushroom which he has picked is "cultivated," though in a field, he can be convicted under this section (sect. 37 of 24 and 25 Vict., c. 96). The penalty is 20s. fine, beyond the value of the article stolen, or a month's hard labour. We admit that there may be difficulties in proving that a given Mushroom found in a trespasser's hands is one of the artificially sown and not one of natural growth; but that is a question of "fact" entirely for the court, and if it can be shown that the prisoner took several Mushrooms off the land, and that a certain proportion of the crop were attributed to the artificial culture, they would have a basis of fact upon which they might find him guilty of stealing one or more cultivated Mushrooms.

If the theft were from a forcing house, or from a garden or orchard, the offence would be more serious. It would be misdemeanor for a first offence, punishable by £20 fine or six months in gaol, and on a second conviction it amounts to felony. But it is not theft from hot-houses or gardens that is now the *crux*; it is the systematic raiding from open meadows of a distinctly valuable commodity—a lawless proceeding, but one which the state of the law does not make a crime *per se*, so long as the growth is "natural;" for that which is "naturæ solis" is not a subject of larceny at common law.

We have long ago pointed out the need of a statute to make "trespass in pursuit" of any natural product of the soil that has a market value a criminal offence. If the article taken has value, that value morally belongs to the owner or occupier of the soil; anyhow, the passer-by can have no title to it, still less should he be free to trespass to capture it, with no greater deterrent than that of civil process for nominal damages. If the law would but abandon its fiction, and vest all natural produce of the soil, animal and vegetable alike, in the occupier, and make it a chattel and the subject of larceny, all this evasion of the rights of *meum* and *tuum* would be stopped, and the occupier of the soil would have as much property in a casual and wild Mushroom as in a cultivated Turnip. We hope that among the various agenda of the new Agricultural Union we shall find a bill to the effect here mentioned, to create a generic offence of "trespass in pursuit" of a product, though natural, of the soil; and that the penalty may be one that will be fully deterrent. When we have evidence that, as occurred a few seasons ago near Bristol, the value of a natural crop of Mushrooms was such that it was worth while for the farmer, on the one hand, to have them guarded night and day, and worth while for local roughs to collect by scores for the avowed purpose of stripping the field by force for their own emolument, we have surely proof that a change in the law is necessary in order to give protection to the farmer for the full enjoyment of what is the produce of his holding.—("The Field.")

BARR'S DAFFODIL CUP.

"BARR is the man for medals," observed a reader of his interesting bulb catalogue recently issued. This remark caused us to look into the matter, and we found medals for Daffodils offered twice a month, from February till May next, at the Royal Horticultural Society's meetings. Then follow more medals for florists' Tulips. We have previously said that if anyone can make these brilliant flowers popular Mr. Barr is the man to do it. He either is, or ought to be, the man to give medals, too, for we note that he *won* sixteen this year.

But the famous bulb enthusiast does not stop at medals, and his great prize for 1895 is the silver Daffodil cup. Some donors of such prizes as these have a habit of making the cups appear as large as possible by the process of "thinning out." The Daffodil cup is, like the best bulbs, solid and heavy. Designed by Mr. H. G. Moon, there is nothing laboured about it, no unmeaning display. It is a Daffodil cup pure and simple, solid and good, pleasant to look at, and handy to use. We had a peep into Mr. Barr's study the other day; it is a veritable museum of curiosities. To make an inventory of the contents would be a triumph; among other items was something appropriate for the cup—namely, sundry barrels of wine—the result, presumably, of Daffodil hunting in Spain! Let us then in fancy drink to the health of the donor of the trophy—and its winner—some time next May.

The cup is to be won by points accorded for "Collections of Daffodils" exhibited in February, March, April, or May, each competitor to choose his own time and varieties, but must only exhibit at one of the meetings.

In judging we are told that "quality will be an important consideration," as it should be, and not either mere numbers or the stiff formal style of arrangement common in markets. At the close of the season the Royal Horticultural Society will award the cup to the exhibitor who has gained the most points.

The conditions are framed with the object of giving the greatest number of growers, reside where they may, an equal chance of securing the blue ribbon of the year in the Daffodil world. The better they choose the bulbs and the sooner they plant them the better will be the chance of success.

We trust the competition will equal the anticipations of the author

of it, who has done more than any man living in making the gracefully "dancing Daffodils" the deservedly popular flowers they are to-day.

We have tested the cup represented in fig. 38, and know it is good, but we have *not* sampled the barrels of wine in the "study." Oh Mr. Barr! Possibly it is intended for the losers—to make their hearts glad in the moment of defeat, for we never know what the "Daffodil King," like a contemporary monarch, is going to do next.

HORTICULTURAL SHOWS.

GLASGOW.—SEPTEMBER 4TH AND 5TH.

THE autumn exhibition under the auspices of the Glasgow and West of Scotland Horticultural Society was held in St. Andrew's Halls on the above dates. Although the season had not as regards weather been of



FIG. 38.—BARR'S DAFFODIL CUP.

the most favourable character for floriculture, the show was very attractive in all departments, the display of flowers being specially fine. In the open competitions the quality of the exhibits could scarcely have been better, and the judges found great difficulty in certain cases in determining the order of merit. The twelve bunches of Violas, for which Mr. Smellie, Busby, was awarded first prize, were excellent specimens; and Mr. Alex. Gilchrist, gardener, Lennoxton, took second place with a pretty exhibit. The floral sprays and coat bouquets shown by Mr. Galloway, Ayr, were exceedingly tasteful; Mr. W. B. McNeil, Shawland, obtaining the premier place in the hand bouquet competition.

The nurserymen's classes were well filled, and visitors found pleasure in inspecting the charming collections. The plants for table decoration shown by Mr. Sutherland, Lenzie, made a very effective display, and the Dahlias from Auchinraith, Biantyre, sustain Mr. Campbell's reputation as a skilful cultivator of that delightful bloom. One of the finest features of the show was the display of Roses belonging to Messrs. James Cocker & Sons, Aberdeen. This well-known firm have taken the first prize six successive years at the Glasgow Show for Roses. There was a large and beautiful collection of pot plants, and also of cut flowers and bouquets, in the section open to gardeners and amateurs. Mr. James Miller, gardener, Castlebank, was awarded first prize for his table of plants arranged for effect. His collection included twenty different

varieties of extra fine quality. Mr. Hugh Miller, Auchinraith, Blantyre, who obtained second place, had also an exceedingly well arranged and effective table. Fruit formed an attractive exhibition, the prize stands of Grapes and Peaches being of specially fine quality.

The collections of plants were of more than average merit. Messrs. J. & R. Thyne, Great Western Nurseries, showed in the large hall a choice variety of plants for table decoration. They have also on view a tastefully arranged bank of Liliums, Palms, and Ferns. Messrs. Smith & Simons, Kennishead Nurseries, were well represented by a choice collection of plants. Messrs. Austin & M'Aslan, Cathcart Nurseries, having a charming display on the platform of the hall. In the Octagon Hall, Mr. Campbell, Blantyre, showed a beautiful assortment of Carnations, Picotees, and Dahlias. In the Berkeley Hall Mr. John Forbes, Hawick, had on view a large and pleasing collection, including Hollyhock, Phloxes, Pentstemons, Carnations, and French Marigolds. Mr. M. Cuthbertson, Rothesay, showed a splendid group of herbaceous specimens. Messrs. Dobbie & Co., Rothesay, exhibited the single Cactus, a new type of Dahlia which is certainly one of the distinctive features of the show so far as novelty is concerned. For this exhibit they were awarded a first-class certificate. Mr. James Smellie, Busby, showed a splendid collection of Pansies, Carnations, and Violas. Messrs. Cocker and Sons show, in addition to their prize Roses, a varied collection of herbaceous plants and Tea Roses.

The excellent arrangements for the show were efficiently carried out by Mr. Charles Macdonald Williamson, Secretary and Treasurer, and his staff.—("North British Mail.")

WIRRAL AND BIRKENHEAD.—SEPTEMBER 5TH AND 6TH.

THE annual exhibition of the above Society was held in connection with the Wirral and Birkenhead Agricultural Society, which is famous throughout every part of Lancashire, Cheshire, and Wales, and possesses exhibitors from almost every part of the United Kingdom. There is no question about success being assured, for the show on Wednesday and Thursday last was visited by thousands of visitors. The horticultural exhibits, too, were of greater superiority than has ever been seen at any previous show, the two large tents being completely taken up with produce of the highest quality. Entries were more numerous, consequently the competition in many classes was very severe.

For a group of five foliage and five flowering plants Mr. A. Brown, gardener to Geo. Webster, Esq., Overchurch Hill, Upton, was a good first, Mr. J. W. Tottey, gardener to Wm. Laird, Esq., Birkenhead, being second. There was only one exhibitor in the class for group arranged for effect, viz., Mr. J. Williams, gardener to C. J. Proctor, Esq., Nocton, Birkenhead, but he succeeded in placing before the public a very pretty effect. Mr. Brown was an easy first with three stove or greenhouse plants in flower, having *Statice profusa*, *Ixora Pilgrimi*, and *Vinca rosea*, very choice. The same exhibitor took honours for three foliage plants, one stove plant in bloom, with a handsome *Dipladenia amabilis*; three Ferns, having *Davallia Mooreana* and *Adiantum farleyense* as his best; three tuberous Begonias, and three Zonal Pelargoniums; Mr. J. W. Tottey winning with one Palm, one foliage plant, three *Coleus*, one *Fuchsia*, and one Fern. In the class for three table plants in 7-inch pots the schedule was ignored by the judges, the prizes being awarded to plants in 5-inch pots. In fairness to other exhibitors it would be quite as well on another occasion if the judges would read their schedule carefully and keep to it, or the Committee really say what they mean. Mr. J. Bounds, gardener to A. L. Jones, Esq., Oaklands, Aigburth, won in this class.

Cut flowers made a most imposing display, more particularly the Dahlias, both double and Cactus varieties, being in a word magnificent. For twelve Cactus, not less than three varieties, Mr. A. J. Stanley, gardener to J. R. Callender, Esq., Lunt House, Sefton, was first with superb examples of *Black Prince* (2), *Baron Schröder*, *Countess of Pembroke*, *Countess of Gosford*, *Harry Freeman*, *Continental*, *Delicata*, *Kynerith*, *Robert Mayher*, *Mrs. H. Carter*, and *Duke of Clarence*. For twelve distinct, other than Cactus, Mr. Henry Banks, Lathom, near Ormskirk, took the lead with blooms of fine form and colour, Mr. H. Holford, gardener to C. MacIver, Esq., Beechfield, Heswall, being an excellent second. The prizes for Asters went to Messrs. T. Woolrich, Wrexham, and F. Davies, gardener to J. H. Howell, Esq., Lynkburst, Rock Ferry. Roses were well staged by Messrs. J. Saxon, gardener to C. G. Cowie, Esq., Oxtou, and Wm. Lancelotte, Mollington. Messrs. A. Brown and R. Pinnington, gardener to Mrs. Banner, Blacklow House, Roby, showed greenhouse flowers in creditable form, and Messrs. Littlemore and Moore, hardy flowers. Bouquets, sprays, and buttonholes were capital throughout, the winners being Messrs. S. Johnson, Oxtou; W. L. Mound, Seacombe; and J. Moore, Oxtou.

In every class for fruit there was nothing staged but what was of the highest quality, large entries being the rule in every case. For a collection of six distinct kinds, Pines excluded, Mr. T. Ferguson, gardener to Mrs. Patterson, Kirklands, Rock Ferry, was placed first, his best being grand *Black Hamburgh* and finely finished *Muscat Grapes*, huge *Princess of Wales Peaches*, and a good dish of *Figs*. Mr. J. McCreadie, gardener to J. W. Haigh, Esq., Ledsham, was second with a fine Melon and good Grapes, and Mr. R. Pinnington third. Mr. C. Worker, gardener to Mrs. Blomfield, Mollington Hall, Chester, was an excellent winner against twelve competitors for six dishes of hardy fruit. The Shrewsbury winner, Mr. R. Brownbill, won again with *Black Hamburghs*, being closely followed by Mr. J. Barker, gardener to J. W. Raynes, Esq., Rock Ferry. For two bunches black Grapes Mr. J. Barker was first with *Madresfield Court*, and Mr. R. Pinnington second

with *Alicante*. Mr. Ewbank, gardener to Jos. Heap, Esq., Claughton, won with well finished *Muscats*, Mr. J. Bounds winning for any other white with *Golden Queen*. Peaches and Nectarines were very good, Messrs. Ferguson and Stephenson, gardeners to executors of R. F. Leyland, Woolton Hall, winning, Mr. R. Pinnington being second in each class. The prizes for Melons, Apricots, and Plums went to Messrs. Ferguson, Barker, F. Mousley, and S. Woolrich. Apples and Pears made a splendid display, the winners being Messrs. Jno. Wynne, J. Jackson (gardener to R. T. Richardson, Esq.), W. B. Burnham, J. Stephenson, and F. Mousley.

Vegetables are always shown above the average in this show, and this year there was not a faulty exhibit throughout. The collections staged by Mr. Salisbury, gardener to W. Carson, Esq., and Mr. Lancelotte being capital. Tomatoes were fine, the winners being Messrs. Littlemore and Moore and J. Stephenson. Potatoes were clear and shapely, Messrs. Winkworth, G. H. Clarke, and Mrs. Cooke winning. Onions were equal to any Spanish varieties, with Leeks admirable, the winners being Messrs. McCreadie, Jno. Clarke, and J. Williams. Runner Beans, Peas, Celery, Cucumbers, and Cauliflowers were all well represented, Messrs. McCreadie, G. H. Clarke, T. Winkworth, Jno. Davies, and T. Watkinson being among the successful competitors.

Trade exhibitors were not so numerous. Messrs. Dicksons, Limited, Chester, had a fine collection of cut blooms of choice Dahlias and herbaceous flowers, also miscellaneous stove and greenhouse plants. Mr. H. Middlehurst, Manchester Street, Liverpool, gained the medal with an admirably furnished stand containing many choice collections, while Messrs. Dickson & Robinson, Manchester, were mainly conspicuous by a handsome collection of Potatoes.—R. P. R.

NATIONAL DAHLIA SOCIETY.—CRYSTAL PALACE.

SEPTEMBER 7TH AND 8TH.

THE annual exhibition of the National Dahlia Society was held at the Crystal Palace on the above dates, and so far as the quality of the blooms went must be deemed a success. Most of the classes, too, were fairly well filled, although some spare tabling was noticeable. Taken as a whole the Show and Fancy Dahlias were clean and of excellent form, faulty blooms being the exception rather than the rule. The Cactus and decorative types, however, made the best display, a large number of these being arranged. It was also noticed that the single Dahlias were well represented, though not quite so extensively shown as we have seen them at this exhibition. The system of arranging the tables now generally adopted at the Crystal Palace shows is to be commended, as it enhances the appearance of the exhibition considerably. It seems a pity, however, that a better method of naming the flowers cannot be brought into use, such for instance as used for Roses, and this is a matter that might advantageously be considered by the National Dahlia Society. We append the names of the prizewinners in the various classes.

NURSERYMEN'S CLASSES.

The principal class in this division was for five dozen Show and Fancy Dahlias, in distinct varieties, five stands being staged. The quality of the flowers was very high, that of Mr. Chas. Turner, Royal Nurseries, Slough, which was accorded the premier prize, being a grand exhibit. The stand comprised *Rebecca*, *Jas. Vaughan*, *Hy. Walton*, *Colonist*, *Alice Emily*, *Arthur Ocock*, *T. W. Girdlestone* (self), *Duchess of York*, *Diadem*, *T. W. Girdlestone*, *John Bennett*, *Wm. Keith*, *Clara*, *Wm. Rawlings*, *Mrs. C. Noyes*, *Geo. Rawlings*, *J. Hickling*, *Statesman*, and two seedlings, back row; *Maud Fellowes*, *George Gordon*, *Mr. Wm. Slack*, *Mrs. Langtry*, *Jas. Cocker*, *Plutarch*, *John Forbes*, *Prince Bismarck*, *Queen of the Belgians*, *Agnes*, *Jas. Vick*, *Willie Garrett*, *R. J. Rawlings*, *Burgundy*, *J. T. West*, *Wm. Powell*, *Miss Cannell*, *John Standish*, *Mrs. Gladstone*, and one seedling, middle row; *Florence*, *Comedian*, *J. N. Keynes*, *Hugh Austin*, *Mrs. Hodson*, *Octavia*, *Hugh Hodson* (self), *Herbert Turner*, *M. Campbell*, *Shirley Hibberd*, *J. Wyatt*, *Hope*, *Imperial*, *Flag of Truce*, *Glow-worm*, *Ethel Britton*, *Arthur Rawlings*, *Mrs. S. Hibberd*, and *Warrior*, front row. Messrs. Keynes, Williams & Co. were accorded the second position with a highly creditable exhibit, Mr. J. Walker, Thame, being placed third, and Mr. Mortimer, Farnham, fourth.

In the class for forty-eight Show and Fancy varieties, distinct, there were five exhibitors, Mr. Chas. Turner being again placed first with a stand of even, fresh, and well coloured examples of *Clara*, *Wm. Powell*, *Jas. Cocker*, *Duchess of York*, *Prince Bismarck*, *Miss Cannell*, *Arthur Ocock*, *J. T. West*, *Willie Keith*, *Colonist*, *G. Rawlings*, *Mrs. Wm. Slack*, *Eldorado*, *John Bennett*, *Wm. Rawlings*, and *Maud Fellowes*, back row; *Willie Garrett*, *Mrs. Langtry*, *Fred. Smith*, *Burgundy*, *Constancy*, *Glow-worm*, *Queen of the Belgians*, *Statesman*, *J. Hickling*, *T. W. Girdlestone*, *M. Campbell*, *Rebecca*, *Hy. Walton*, *J. Standish*, *R. T. Rawlings*, and *J. Vick*, middle row; *Alice Emily*, *E. Britton*, *Purple Prince*, *Mrs. S. Hibberd*, *Hope*, *Flag of Truce*, *Florence*, *Comedian*, *J. Walker*, *A. Rawlings*, *J. N. Keynes*, *Shirley Hibberd*, *Mrs. Gladstone*, *Diadem*, *Octavia*, and a seedling, front row. Mr. J. Walker was second with a charming stand of blooms, Mrs. Mortimer being third, and Messrs. Keynes, Williams & Co. fourth.

For thirty-six Show and Fancy varieties there were three entries only, Mr. G. Humphries, Kington Langley, Chippenham, being first with *Thos. Hobbs*, *Dorothy*, *H. Keith*, *H. Walton*, *Duke of Fife*, *J. T. West*, *Mrs. D. Saunders*, *J. Walker*, *A. Rawlings*, *R. T. Rawlings*, *A. Ocock*, and *T. W. Girdlestone*, back row; *Mrs. Langtry*, *H. Bond*, *Mrs. Saunders*, *Rebecca* (self), *Wm. Powell*, *Wm. Rawlings*, *Mrs. J.*

Downie, Colonist, Ethel Britton, J. Ashby, J. Hickling, and Earl of Ravensworth, middle row; Duchess of Albany, Mrs. Hurst, Miss Cannell, Alice Emily, Mr. Harris, M. Campbell, Mrs. Dodds, Mrs. Gladstone, Shirley Hibberd, Goldfinder, and two seedlings, front row. Messrs. Saltmarsh & Son, Chelmsford, were a good second and Messrs. Kimberley & Son, Stoke Nursery, Coventry, third. In the class for twenty-four Show and Fancy, distinct, Messrs. Saltmarsh & Son were a capital first with W. Rawlings, J. T. Saltmarsh, J. Cocker, Perfection, Hero, Harrison Weir, A. Rawlings, J. Walker, Coronet, R. T. Rawlings, Colonist, Pandore, Mrs. Langtry, Mrs. W. Slack, J. T. West, Ethel Britton, Countess of Ravensworth, Mrs. D. Saunders, Mrs. Gladstone, Prince of Denmark, H. Keith, Alice Emily, Lord Chelmsford, and Mrs. J. Downie. Messrs. Kimberley & Son were a close second, Mr. G. Humphries third, and Messrs. Perkins & Sons, Coventry, fourth.

Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, were a splendid first in the class for twelve Show and Fancy, distinct, staging grand examples of Hercules, Dandy (self), J. Walker, Duke of Fife, J. Hickling, Wm. Rawlings, Harrison Weir, H. Keith, Ethel Britton, Willie Garrett, Herbert Turner, and Prince of Denmark. Mr. J. R. Tranter, Henley-on-Thames, was second, and Mr. H. Harris, Chelmsford, third.

Cactus Dahlias were grandly shown, especially by Messrs. J. Cheal and Sons, who gained the premier position in the class for eighteen distinct varieties—Beauty of Wilts, Baron Schröder, Kaiserin, Matchless, Apollo, Countess of Radnor, Ernest Cannell, Josephine, Delicata, Countess of Gosford, Duke of Clarence, Lady Penzance, Duchess of York, Violet Morgan, Bertha Mawley, Beauty of Eynsford, Kynerith, and May Pictor. Messrs. Keynes, Williams & Co. were a very good second with a stand composed of fresh even blooms, Mr. Chas. Turner being third. In the class for twelve bunches of Cactus varieties, Messrs. J. Cheal & Sons were again a splendid first. The sorts staged were Mary Hillier, Matchless, Apollo, Kaiserin, Delicata, Lady Penzance, Robt. Cannell, Countess of Radnor, Countess of Gosford, Bertha Mawley, Miss Violet Morgan, and May Pictor, all in superb condition. Messrs. Keynes, Williams and Co. were second, and Mr. M. V. Seale third.

The first prize in the class for twelve bunches of Cactus and decorative varieties Messrs. J. Burrell & Co., Cambridge, were first—Apollo, Kaiserin, Matchless, Countess of Radnor, Purple Prince, Professor Baldwin, Lady Penzance, Countess of Gosford, Robt. Cannell, Juarezi, Mary Hillier and Delicata being represented. Mr. M. V. Seale, Vine Nurseries, Sevenoaks, was second, and Messrs. Paul & Son, Old Nurseries, Cheshunt, third. Pompon varieties were very beautifully exhibited in the two classes devoted to them. In the principal one, which was for twenty-four distinct, Mr. Chas. Turner was first with a stand of even, well coloured bunches of Arthur West, Phoebe, E. F. Jungker, Isabel, Cecil, Whisper, Little Lady, Lady Blanche, Bacchus, Mabel, Darkness, Rowena, Eric, Hector, Boule d'Or, Captain Boyton, Red Indian, Mars, Little Duchess, George Brinckman, Tommy Keith, Crystabella, Lilian and Sunset. Messrs. Keynes, Williams & Co. were placed second, and Messrs. J. Cheal & Sons third. In the class for twelve bunches of Pompons, distinct, Mr. M. V. Seale was first with Phoebe, Lilian, George Brinckman, Crimson King, Whisper, Favourite, Eurydice, Eva, Mary Kirk, Fanny Keith, and Bacchus. Messrs. J. Burrell & Co. were a close second, and Messrs. Paul & Son third.

Single Dahlias were admirably shown and in fair numbers. In the class for twenty-four distinct varieties, in bunches of ten blooms, each, Messrs. J. Cheal & Sons were first with beautiful examples of Evelyn, Mrs. Wythes, Golden Locks, Jack, Mrs. Conninck, Lowfield Beauty, Annie Hughes, Jas. Scobie, Duke of York, Duchess of Fife, Amos Perry, Marion Hood, M.C.C., Phyllis, W. C. Harvey, Victoria, Rosebank Cardinal, Little Snow White, Miss Henshaw, Duchess of Anhalt, Demon, Formosa, Mrs. Parrott and Northern Star. The second prize in this class went to Mr. M. V. Seale for a stand of smaller and somewhat less fresh examples. Messrs. Paul & Son appeared to be the only exhibitors in the class for twelve bunches of single Dahlias, distinct varieties, and were accorded the first prize, Aurora, Ruby, Kitty, Gulielma, Amos Perry, Scarlet Perfection, Miss Roberts, Victoria, Duchess of Westminster, The Bride, Miss Linaker and Daisy.

AMATEURS' CLASSES.

There were ten competitors in the class for twenty-four blooms of Show and Fancy Dahlias, distinct, and the competition was consequently very keen. The first prize, however, was awarded to Mr. J. T. West, gardener to W. Keith, Esq., Cornwall, Brentwood, who staged a splendid stand of neat, even blooms. The following varieties were shown by the exhibitor:—William Rawlings, John Walker, Prince of Denmark, Alice Emily, W. H. Williams, Frank Pearce, Arthur Rawlings, R. T. Rawlings, James Cocker, Mrs. Gladstone, Harry Keith, Ethel Britton, Duke of Fife, Mrs. Langtry, Willie Garret, William Powell, Prince Bismarck, Miss Fox, Arthur Ocock, Maud Fellows, Glow-worm, George Barnes, Shirley Hibberd, and John Hickling. The second prize was awarded to Mr. Knobbs, St. Mark's Road, Easton, Bristol, whose best blooms included Mrs. Gladstone, Perfection, Duchess of Albany, T. W. Girdlestone, and W. Rawlings. J. Gurney Fowler, Esq., Glebelands, South Woodford, Essex, was third, and Mr. Benjamin Brain, Florence Longton, Staffs, fourth, both the latter showing well.

In the class for twelve Show Dahlias there were eight competitors, and the first prize was awarded to Mr. T. Vagg, gardener to Mrs. Theobald, The Bedfords, Havering, who staged good blooms. These comprised Mrs. W. Slack, Arthur Ocock, John Walker, T. W. Girdlestone, John Rawlings, W. Rawlings, R. T. Rawlings, Prince Bismarck, Mrs. Gladstone, Harry Keith, Mrs. J. Downie, and Miss Cannell. Mr.

Sidney Cooper, Hamlet, Chippenham, was a good second. Mr. William Mist, Collingwood, Ightham, Kent, was third; and Mr. Lewis Fewkes, Castle Bromwich, Birmingham, fourth. Mr. J. T. West was first with a dozen Fancy Dahlias, showing Hugh Austin, Peacock, John Britton, Salamander, John Cooper, Dazzler, Frank Pearce, Egyptian Prince, John Forbes, Harry Glasscock, Professor Fawcett, and Mrs. N. Halls. Mr. T. Hobbs, Bristol, was second in this class, the third and fourth prizes going to Mr. A. Ocock and Mr. William Mist respectively. Only four competitors were forthcoming with six Show blooms, and here Mr. T. Mott, Market Place, Henley-on-Thames, was adjudged first, staging Harry Keith, Mrs. D. Saunders, Mrs. Forman, Mrs. W. Slack, Arthur Rawlings, and Harrison Weir. The second prize went to Mr. Ernest Jeffries, Langley Burrell, Chippenham, for an excellent stand; Mr. W. Wheeler and Mr. J. Barker being third and fourth. Mr. T. Mott was first with half a dozen Fancy Dahlias, staging Rev. J. B. M. Camm, Dorothy, Professor Fawcett, Prince Henry, Peacock, and Mrs. J. Downie. Mr. Wheeler was second in this class, and Mr. Sidney Cooper third.

As before remarked, the Cactus and decorative were numerous and well shown. In the amateurs' section Mr. E. Mawley, Rosebank, Berkhamstead, was awarded the first prize for six varieties, shown in bunches of three blooms. The flowers staged were fresh, and comprised Professor Baldwin, Lady Penzance, Bertha Mawley, Matchless, Delicata, and Juarezi. Mr. Sidney Cooper was second with rather smaller flowers, the third prize going to Mr. J. Hudson, Gunnersbury House, Acton; and the fourth to Mr. W. C. Pagram, The Whin Gardens, Weybridge.

There were four exhibitors in the class for twelve varieties of Cactus or decorative Dahlias, shown in bunches of six blooms each. These made an imposing display, and was one of the most interesting classes in the show. The varieties comprised Professor Baldwin, Delicata, Lady Penzance, Countess of Radnor, Kynerith, Harry Freeman, Countess of Gosford, Beauty of Wilts, Beauty of Arundel, St. Catherine, Duke of Clarence, and Bertha Mawley. Mr. J. T. West was a close second, showing a very fine stand. The third prize went to Mr. James Stredwick, Silver Hill, St. Leonards-on-Sea. The first prizes in the two preceding classes were presented by Messrs. Keynes, Williams & Co., Salisbury.

Mr. E. Brown, gardener to M. W. Morris, Esq., Oak Lodge, Horley, Surrey, was awarded the first prize for six varieties, arranged in bunches of six blooms each. These varieties were Lady Marsham, Beauty of Eynsford, Juarezi, Cannell's Favourite, Marchioness of Bute, and Mrs. J. Douglas. Mr. J. T. West was a good second; the third prize going to Mr. J. Hudson, who had fine flowers. The prizes in this class were presented by Messrs. H. Cannell & Sons, and the varieties shown were originally sent out by this firm.

Pompon Dahlias made a fine display in this section. Mr. West won in the class for six varieties arranged in bunches of ten blooms in each. The flowers shown were fresh and beautiful, and comprised Sunshine, Eurydice, Mary Kirk, Gipsy, Tommy Keith, and Phoebe. Mr. W. Mist was second with creditable flowers, the third award being granted to Mr. J. Stredwick, and the fourth to Mr. John Henshaw, Rothamstead Cottage, Harpenden. There were eight exhibitors in the class for six bunches of Pompons, and here Mr. S. Cooper was placed first, showing E. F. Junker, Whisper, Eva, Little Sweetheart, Phoebe, and Captain Boyton. Mr. W. C. Pagram was second, Mr. A. Taylor third, and Mr. J. S. Wilson, Keeps Cottage, Greenhithe, fourth.

Single varieties were not so numerous as one might have expected, although the blooms were good in quality. For half dozen bunches, ten blooms in each, T. W. Girdlestone, Esq., Sunningdale, Berks, was awarded the first prize, staging grand flowers of Little Frank, Annie Hughes, Demon, Psyche, Evelyn, and Yellow Satin. Mr. J. Henshaw was second with a fine stand, Mr. C. Osman, Sutton, being third. Mr. Girdlestone was also first in the class for twelve single Dahlias in bunches of six blooms, the prizes being presented by Messrs. J. Cheal and Sons. The varieties shown were Scarlet Runner, Gaiety Girl, Jack Splash, Phyllis, Kittie, Sunningdale Scarlet, Orange Girl, Aladdin, Little Chum, Golden Locks, and Puck. There was apparently no other exhibitor in this class. Mr. E. Mawley won with six bunches of that number of blooms, staging Rosebank Cardinal, Sunningdale White, Amos Perry, Northern Star, Miss Roberts, and Victoria. Mr. G. Wyatt, gardener to G. Hilditch, Esq., Walderane Park, Twickenham, was second.

OPEN CLASSES.

Eight classes opened to all exhibitors were provided, and in these some excellent blooms were to be seen. For twelve bunches of Fancy single Dahlias, that is varieties with tipped, striped or edged blooms, Messrs. J. Cheal & Sons, Crawley, were awarded the first prize in a good competition. The varieties shown were James Scobie, M.C.C., May Sharpe, Miss Glasscock, Dearest, Fred Leslie, Mrs. Harris, Phyllis, Mrs. Wythes, Jack Sheppard, Victoria and Northern Star. Mr. T. W. Girdlestone was a good second, the best flowers in this stand being Tommy, Fred Leslie, Phyllis and Splash, not an elegant name for a beautiful flower. Mr. F. V. Seale, Sevenoaks, was awarded the third prize for an excellent stand.

There were ten exhibitors in the open class for six blooms of any dark Show or Fancy Dahlia, and the competition was very keen. Messrs. Saltmarsh & Son, The Nurseries, Chelmsford, were awarded the first prize for half dozen magnificent blooms of Arthur Rawlings. Mr. J. Walker, Thame, was second with James Cocker, and Mr. R. West third with Arthur Rawlings. Mr. S. Mortimer, Rowledge, Farnham, secured the premier award for six blooms of a yellow variety, showing John Hickling in splendid condition. Mr. J. Walker was second with

the same variety, and Mr. C. Turner, Slough, third, with R. T. Rawlings.

Light-coloured Dahlias were admirably shown, Mr. J. W. Seale securing the first prize for half dozen blooms of Mrs. Gladstone. Mr. C. Turner was second with Queen of the Belgians, the third prize going to Mr. J. Walker, who staged fine blooms of Mrs. Gladstone. The last-named exhibitor was first with six blooms of any edged Dahlia, staging excellent examples of H. W. Ward. Mr. Seale was second with Mrs. Langtry, and Messrs. Saltmarsh & Sons third with the same variety. Mr. Seale had the best six blooms of any tipped Dahlia in Mrs. Saunders, Mr. W. Heasman, and Messrs. Kimberley & Sons, Coventry. Mr. J. Tranter was first with Rev. J. B. M. Camm in the class for six blooms of any striped Dahlia. Mr. J. Walker was second with the same variety, Mr. Mortimer being third with Dandy.

Miscellaneous exhibits were not very numerous, though those shown made a good display. Messrs. J. Laing & Sons, Forest Hill, S.E., had an extensive collection of hardy flowers and a group of stove and greenhouse plants. Messrs. H. Cannell & Sons, Swanley, staged a large number of Cactus and Pompon Dahlias. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, made a very fine show of Pompon, Cactus, and single Dahlias. Mr. J. Walker, Thame, sent a box of Show and Fancy Dahlias. Messrs. W. Paul & Son, Waltham Cross, sent a large collection of cut Roses, also a number of excellent fruit trees in pots, including Grapes, Peaches, Pears, and Figs. Messrs. Paul & Son, Cheshunt, had perennial Phloxes in variety.

CERTIFICATES.

First-class certificates were awarded for new seedling varieties to Messrs. Keynes, Williams & Co. for Cactus Dahlias Mr. Haskins, Harmony, Mrs. Barnes, and Henry Depresle; Mr. T. W. Girdlestone for single Dahlias Darling, Psyche, Gaiety Girl, Puck, and Golden Locks; Messrs. Cannell & Sons for Cactus Dahlias Miss Irene Cannell and Mrs. H. Cannell, miniature Cactus Dahlias Cannell's Gem and Cannell's Velvet; Messrs. J. Cheal & Sons for decorative Dahlia Mrs. Horniman; Mr. Thomas Ware, Tottenham, for Cactus Dahlia Mrs. Francis Fell; Mr. G. Humphries, Chippenham, for Pompon Dahlia Iona; Mr. S. Mortimer, Farnham, for Fancy Dahlia Novelty; and Mr. J. R. Tranter, Henley-on-Thames, for Show Dahlia Mabel Stanton.



HARDY FRUIT GARDEN.

Gathering Fruit.—The necessity for attending to this important work daily is imperative, if fruit is required in the best condition and to keep sound for a prolonged period. A large number falls from the trees from various causes. This, owing to its bruised condition, and the consequent decay which rapidly sets in, is comparatively valueless, hence the necessity of gathering the best specimens before they become permanently injured. There are several well-proved tests which must be noted before gathering Apples and Pears. The frequent falling of fruit is a sure indication that the ripening period is advancing. The first yellow tinges appearing, and the green parts gradually becoming suffused with rich colour, is a well-known sign of ripening. The pips and seeds turning from white to brown is a general test, but not absolutely reliable in all cases. The surest test of fitness to gather lies in the easy separation of the fruit from the spur when lifted out of its natural position. If sufficiently mature to gather, the stalk is easily detached, but if not, and force has to be employed, with sundry twists and jerks, the fruit is far from being ready. Gathering should take place when the fruit is dry, placing it in baskets lined with soft hay or moss in single layers only, in order that no bruising may spoil the specimens. It is important to move it about as little as possible, and to see that no fallen or otherwise bruised fruit becomes mixed with the carefully gathered samples.

Storing Fruit.—When the gathering has been carefully carried out, so as not to break the outer skin of the fruit or to rupture the cells within, it is in the best condition for storing whether for long or short periods. A properly constructed fruit room is unquestionably the best place, but fruit will keep well in rooms that are moderately cool, but not too dry, and having a temperature ensured in the winter of 40° to 45°. Failing shelves on which to lay the fruit it may be placed in drawers and shallow boxes in such manner, especially with the choicest specimens, that the whole may be seen at a glance without having to constantly move it for examination. Moreover, all fruit keeps in a sounder condition as well as ripens better when stored in single layers.

The commoner kinds of Apples may, for early use, be stored three or four layers deep to economise room when heavy crops prevail, avoiding, however, heaps on the floor or shelves, whereby sweating takes place and decay sets in wholesale. When much fruit is stored at once there will be, at first, a certain amount of moisture evaporate from it, hence the need of almost continuous ventilation for a short period. Avoid straw or hay for laying the fruit on, as these materials gather and retain moisture, creating odours which are imbibed by the fruit. Clean white

paper is not objectionable, but on perfectly clean shelves nothing, as a rule, is needed.

Frequently examine all stored fruit, because there may be specimens decaying unnoticed. These must be removed without delay, or they will speedily contaminate their neighbours. The latest fruit should have the coolest position, those more forward in ripening the warmest. Some of the latter may, from time to time, as found advisable, be greatly accelerated in ripening by being placed in an increased temperature for a short time. Pears and Apples ought to be stored separately from each other, and the varieties of each occupy alone the boxes, drawers, or space required. Ventilating fruit rooms occasionally throughout the season is necessary to effect a change of air, but draughts are not good. A dark room is best for keeping fruit, and in conjunction with an equable temperature the process of ripening will be gradual and thorough.

Thinning Gooseberry Bushes.—The present is a very suitable time to go over both old and young Gooseberry trees, and cut out a quantity of superfluous wood. That which crowds the interior and prevents the main stems being seen, also obstructing light and air passing freely through, is worse than useless. The pendulous varieties have a great tendency to become crowded with growth near the ground line. If long neglected the growths thus produced take root-hold after the manner of layers, and in their turn make wood, adding greatly to the rank undergrowth. By well pruning and thinning out now the trees may be made shapely and the wood well disposed to receive the ripening influences of the autumn. Old trees have frequently a free growth of suckers springing from the base that ought to be removed entirely. Cut out awkward growing branches and leave a fair amount of young wood unshortened at present. Aim at making the bushes so that they can be seen through, and the hand passed freely among the branches.

Autumn-pruning Bush Apple Trees.—Bush Apples growing in a free and open style are very productive with comparatively little trouble if the branches are kept thinned, cross shoots being cut out entirely, or shortened to form spurs. The trees may now be examined with a view to regulating the growth as well as improving the general symmetry of the trees. Shorten the longest shoots produced during the current year to half their length, chiefly those which have grown longer than 2 feet. Side shoots extending cut back to five or six good leaves, to be further shortened in the winter to one or two buds. Should there be any excess of side shoots cut some out entirely, preferably those growing inward. There are many advantages in autumn pruning. The foliage being present on the trees acts as a guide in thinning sufficiently, thus abundance of air and light are admitted, and the sap is directed to the perfecting of the remaining wood. These are important factors in securing promising fruit buds, strengthening weakly ones, and encouraging the formation of others now latent in the axils of the leaves.

FRUIT FORCING.

Pines.—Young Pine plants always present a luxuriant appearance at this season where the cultural conditions are favourable. Greater care is now necessary in the management to prevent the foliage becoming soft and drawn, as the sun's heat is waning, and air cannot be so freely admitted without having recourse to artificial heat. This is absolutely essential in the case of plants in a luxuriant condition, which should have air at 80°, above which ventilate liberally, especially on warm sunny days, with a view to consolidating the growth, and close the house for the day at 80°. The bottom heat being kept steady at 85°, or between 80° and 90°, the plants will not suffer any check, provided the ventilation be judicious and the treatment liberal and proper in other respects. The night temperature should be maintained at 65°, and 70° to 75° secured by artificial means in the daytime, effecting a change of air daily, even in dull weather, by a little top ventilation. Syringing will only be needed occasionally, and it should be done on the afternoon of bright days. Water must be given when absolutely necessary, then afford an abundant supply of weak liquid manure in a tepid state.

Fruiting Plants.—It is desirable to bring these together in a structure where they will have suitable conditions for finishing the fruits. Preparation for starting plants into fruit early in the year should now be made. This consists in selecting plants from those which were started last spring and have completed a good growth, making choice of the most promising, and arranging them not later than the end of this month where they can rest for six weeks. Plants with the fruit swelling should be encouraged with liberal heat and moisture, keeping the night temperature at from 70° to 75°, and that in the daytime from 80° to 90°, closing the house at 85° with sun heat.

Peaches and Nectarines.—*Earliest Forced Houses.*—The leaves being off, or nearly so, complete rest should be aimed at by keeping the ventilators open constantly, and if the roof-lights be moveable they may be withdrawn for a time. This prevents undue excitement of the buds, and has an invigorating tendency, as the trees get thoroughly cleansed of dirt, red spider, and thrips, and frosts prove destructive of brown scale, while the borders become thoroughly moistened by the autumn rains. If the roof-lights cannot be removed see that there is no deficiency of water at the roots of the trees, for though the impression prevails that dryness at the roots accelerates ripening of the wood it is fatal to the proper formation of the buds, and often gives a check causing them to fall later on. The soil should never be allowed to become dry at any time, but a much lessened supply of water will suffice when at rest than during growth. When the leaves have fallen the trees may be pruned. Only the strong growths that have not the points well

matured need be cut back. In all cases be careful to shorten to a wood bud, not being deceived by a double or triple bud, as these are all sometimes blossom buds, especially on trees of a floriferous habit induced through a somewhat stunted growth. Where ordinary attention has been given to disbudding, laying in no more wood than is necessary for the succeeding year's fruiting and for the extension of the trees, also removing fruited and other unnecessary parts after the fruit was gathered, very little pruning will be required. Thoroughly cleanse the house, and if the trees have been infested with red spider or other insect pests dress them with an insecticide, as many, especially red spider, will secrete in the rough portions of the bark and in the woodwork, applying the dressings with a brush. If the trees have been badly infested repeat the application before they are secured to the trellis. Remove the mulching or loose surface soil, and supply fresh loam, having a handful of some approved fertiliser sprinkled over each square yard of surface. This will be washed in either by rains or watering, and sustain the trees at blossoming time and the early stages of the fruit swelling. Partial lifting of weakly trees will be necessary, and should be done before the leaves have fallen. In the case of trees that do not ripen the wood well the roots should be carefully lifted and relaid in fresh soil near the surface. If the drainage be defective it should be rectified, and where the trees are altogether unsatisfactory lift bodily and replant in properly prepared borders.

Successional Forced Houses.—In those where the crops were ripened in June the leaves will soon be cast, and the trees and houses should be treated similarly to those earliest forced. Trees that ripened their crops in July and August will now have the buds plumped, and the wood being ripe the roof lights may, if moveable, be removed as soon as the leaves give indications of falling, or towards the close of the month. If the wood does not ripen well keep the house rather close by day when there is sun, and open the ventilators fully at night. Any weakly trees that do not plump the buds may be assisted with liquid manure. Trees from which the fruit has recently been gathered should not be neglected for removing the bearing wood of the current season, ventilating freely, watering inside borders, also outside ones as may be necessary, and occasionally syringing the trees and applying an insecticide, as insects must not be allowed to obtain and retain a hold on the trees.

Late Houses.—Trees swelling their fruit will need the borders moist and mulched, and those with the roots in outside borders must not be neglected if dry weather prevail, and if carrying heavy crops liquid manure may be given until the fruit commences to soften. When all the fruit has been gathered remove the shoots, not being extensions, that have carried the crop, and if the wood is not in a satisfactory condition as to ripening gentle fire heat with a circulation of air will be advisable, especially in the case of late varieties. The midseason kinds will ripen the wood if the autumn be favourable, but if wet and cold the trees are benefited by gentle warmth and a free circulation of air. This is necessary in cold localities, especially with the very late varieties.

Cucumbers.—The temperature should be maintained at 65° by night and 70° to 75° by day, with a rise of 10° to 15° from sun heat. Remove unhealthy leaves and old growths, and training the others as may be necessary. Employ the syringe sparingly, only damping the foliage on bright days, so that it may become dry before night. Damping will require to be done in the morning, and again in the evening. Pot seedlings as they become fit, and keep them near the glass to insure sturdy growth, pinching out the growing point of those required for covering low trellises at the second rough leaf; others train with a single stem, securing to a small stick, rubbing off the laterals to the extent of the stem required to reach the trellis. Be sparing with moisture to plants in pits and frames, maintaining the temperature by linings renovated as required, closing early, and employing a covering of mats over the lights on cold nights.

Strawberries in Pots.—The plants are making good progress, the earliest having the crowns sufficiently plumped for the detection of those that will not be available for early forcing. These for this purpose should be separated from the rest and given sufficient space for the foliage in the most favourable position—a sunny sheltered one—for maturing the growths. The others also must have the pots wide enough apart to allow of the sun and air having free access to the foliage. The crowns in some cases are numerous, and should be reduced to the central one where large fruits are desired, not deferring it until they have attained to a considerable size, but be attended to as soon as they can be detected and removed sideways with a bluntly pointed piece of hardwood stick. This will concentrate the vigour in the main crown, those will afford strong flower spikes, and then by selecting the largest and best formed flowers, and carefully fertilising them at the proper time, a crop of large shapely fruits will be insured. Any late runners may yet be potted, and with good attention they will be serviceable for late work in 5-inch pots, and may afford fine fruit and collectively as full a crop as these in larger pots. Worms and weeds are troublesome, also runners. Lime water will expel worms, and weeds and runners can be promptly removed.

PLANT HOUSES.

Zonal Pelargoniums.—Plants that have been standing outside may for early autumn flowering be placed in a light airy house. Give the plants full ventilation at first, and be careful not to overwater them, or they will make soft growth and fail to flower satisfactorily. The pots will be full of roots, and chemical manure may be applied to the surface of the soil occasionally, or weak liquid manure may be given each time the plants need water. The remainder of the stock for later

flowering may, if the weather prove fine, still be left outside. If very showery weather ensues the plants will be better in cold frames, where they can be protected. The lights should be thrown off whenever the weather is fine.

Ivy-leaf Varieties.—Well established plants of these that have been outside during the summer months should be secured to upright stakes, and the plants housed any time during the month. At first cool, airy treatment should be given, but the position they occupy must be such that the temperature at night can be maintained at 55° to 60°. In a light house where warmth can be given them they will grow and flower for a long time. The flowers are delicate and yet showy, and will be found invaluable during the dull dark days of the autumn and early winter.

French and Fancy Varieties.—Put all cuttings that are rooted in 2½-inch pots, and place them on a shelf in the greenhouse where they can be kept perfectly cool. Well established plants in small pots may have their shoots pinched, and as soon as they display signs of starting into growth the plants should be placed in 5-inch pots. These may be stood on the shelf of a cool house, where they will enjoy full light and abundance of air. For early flowering these plants must not be pinched again. Plants that have been cut back and have broken into growth may have the old soil shaken from their roots, and be repotted with fresh soil in smaller pots. After potting the plants should be placed in a frame and lightly syringed until they commence growth and root action. Water must be applied to the roots with care until they are rooting freely. These plants do well in fibrous loam, a little leaf mould, sand, and one-seventh of decayed manure. When placing the plants in their flowering pots leaf mould should not be used, and the soil must be pressed firmly in the pots.

Heliotropes.—It is not safe to leave these outside after this date, for one slight frost will ruin them, or they may be seriously checked by the temperature falling low at night. Place the plants at once in frames where they can be protected at night. During fine warm days the lights may be thrown off until the end of the month, when they can be removed to the position they are intended to flower in. A similar temperature to that advised for Zonal and Ivy-leaved Pelargoniums will suit them. The object is to keep the plants growing, and they will not fail to flower.

Fuchsias.—As these go out of flower the plants may be stood outside fully exposed to the sun to ripen and harden their wood. They will do in this position until the approach of frost, when they may be stored in a shed or other convenient place. During spells of very wet weather the pots may be laid on their sides.

Solanums.—Plants that are well berried and have been planted out may be lifted and placed in suitable pots. With care they will lift with fair balls, which may be reduced to suit the pots. Care is needed not to destroy the fibrous roots of the plants. After potting give the plants a thorough soaking, and stand them behind a north wall for about ten days, when they will have commenced root action, and can be stood in an open position, ready for placing in a frame or the greenhouse at any time. Plants that are setting berries freely should be left for a few weeks longer before they are lifted. Salvias, Eupatoriums, and other plants of a like nature may be lifted and treated in a similar way to Solanums.

Cinerarias.—The earliest plants will be well established in their flowering pots, and have commenced to show flower stems. These plants should not be crowded, and the foliage must be kept free from aphides by slight fumigations of tobacco smoke. Give the plants clear soot water each time they need watering. This is a quick stimulant, and imparts to the foliage a dark healthy appearance. Pot all later plants as they need more root room. Never allow young plants to become root-bound before they are potted, as if once checked by this cause they seldom do well afterwards. Plants growing in boxes for late spring flowering may be placed in 2½-inch pots. Late Cinerarias often prove extremely useful when the majority of bulbous plants are past their best.

Calceolarias.—Place the earliest plants that have been growing in boxes in 4-inch pots in a compost of two parts loam to one of leaf mould, a little coarse sand and one-seventh of decayed manure, and grow them in a frame shaded from the sun. Smaller plants that have been pricked into pans may be transplanted into boxes 2 to 3 inches apart, until they are large enough for the size pots given above. Be careful not to allow these plants to become dry, and keep the material on which they stand moist.



APIARIAN NOTES.

AT THE MOORS.

SEPTEMBER opened in a most promising manner, but to the surprise of everyone, shortly after midday rain fell heavily over a wide district. Everywhere farmers were "caught" with their hay. On that day my test hive gained 6 lbs. of honey. The 2nd and 3rd were also promising, but the long absence of sunshine so cooled the ground and the atmosphere that, although the bees appeared busy, 1 lb. only was gathered on the 2nd of the month,

and two on the 3rd. Twenty fair days since April came in are all we have had, and rain fell on some of these days. The 8th September opened with a hard frost, but otherwise was more promising of warmer weather, but we must be silent about the future, so mutable has the past been.

Bee-keepers during the beginning of September flocked to see their bees, in the hope of taking off filled supers, but they were disappointed. I have not heard from lower districts where the temperature is higher, but hereabouts from 4 to 8 lbs. is a fair average gathering. There are exceptions. Some of my hives are heavy, but their weights must be deferred till later, when I will give them. Again I invite those who wrote against Punics, young queens, and swarms to visit my bees, and if they are not what I have said about them I will pay all expenses. If apiarians travel in search of health here is the place to find it, and if geologically inclined there is ample scope for study. Mr. Wm. Millar, Leadhills, has a rare collection of all of the specimen minerals of the district, from the pure gold to the different pyrites, which he willingly shows to visitors.

I am in great hope that my next article will be more cheering, but meanwhile advise bee-keepers to make sure this month that all hives have ample stores for winter, youthful queens and good numbers of bees. For better wintering remove all solid floors. Substitute, therefore, perforated zinc, with a space beneath it, and where confidence is yet to be gained in that metal try a thoroughly dried peat sod; either will obviate the necessity of a "hooked wire," the bees will be alive when spring comes, and well-honeyed hives the reward in summer.—A LANARKSHIRE BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

J. Cheal & Son, Lowfield Nurseries, Crawley.—*Dutch Bulbs and Trees and Shrubs.*

Dobbie & Co., Rothesay.—*Dutch and Other Bulbs.*

Hogg & Wood, Coldstream and Duns.—*Bulbous Roots.*

E. H. Krelarge & Son, Bloemhof Nurseries, Haarlem, Holland.—*Bulbs for Autumn Planting.*

T. S. Ware, Hale Farm Nurseries, Tottenham.—*Catalogues of Lilies, Irises and Narcissus; Carnations, Picotees, Paeonies, and other plants; and the Autumn Bulb Guide.*



* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Stands and Box for Chrysanthemum Blooms (J. R.).—Stands for twelve blooms are usually 2 feet long, 18 inches wide, 6 inches high at the back, and 3 inches in the front, but some societies permit larger stands for Japanese blooms. A travelling box cannot be made clear without an illustration, and you may find an excellent one in Mr. Molyneux's book, which can be had by post for 1s. 2d. from this office.

Trapping Woodlice (Old Subscriber).—1, Procure some old half-rotten boards, cut them into lengths of a foot to 18 inches, place on damp ground, and when fairly moist place one of these boards on the floor or other part of the greenhouse where woodlice frequent, sprinkle a little oatmeal on its upper surface, and place another board on the first. If the boards are warped so as to admit the animals between them the bait is perfect, if not introduce a small stone at one end of the boards between them. Examine these baits every morning, and either brush the captured crustaceans into a pail of hot water or cast them before fowls. These relish them immensely for breakfast. 2, Wrap a boiled potato in a little hay loosely, put it in a small flower-pot not very tightly, lay the pot on its side where the woodlice visit, and shake those which are caught out of the hay every morning into boiling water. Persevere with either of these methods, and you will soon make the woodlice scarce in your greenhouse.

Flowering Tree (Sunbeam).—*Catalpa syriaca* is the tree to which you refer. It was introduced from North America in 1726, and attains a height of about 25 feet. We have seen many trees flowering with unusual freedom this year, in consequence probably of the prolonged heat of last year maturing the wood. The *Catalpa* grows well in the vicinity of towns in the south of England, and there are several trees in gardens adjoining the Houses of Parliament.

Yuccas Flowering (R. C. L.).—We are obliged by the excellent photographs. The plants must be very ornamental with their noble spikes, but the flowering of *Yucca gloriosa* is not at all uncommon. We know of old specimens having several growths, some of which rarely fail to flower—i.e., flowers can be seen on the plants almost every year. When the side growths, which will be produced by your plants, become strong enough they will flower. The time will depend on the vigour of the plants, but if the soil is good we suspect you will not have to wait half of twenty years for more spikes of wax-like flowers, but they may not be so fine as those of which you have reason to be proud.

"Complete" Books (F. W. W.).—There is little in comparison between some of the books you mention. Nicholson's work is the most complete of its kind. Thompson's is more complete culturally, having in view garden crops generally. The "Gardeners' Dictionary" is not expensive, and gives good cultural notes on useful plants and crops. The most complete work on fruit and its culture is the "Fruit Growers' Guide," in which nearly all methods of pruning are treated and illustrated. It is regarded as being "up to date" in varieties and methods, but cannot be had for less than a guinea a volume, or 3 guineas complete. If you want a cheap work on fruit try Wright's gold medal prize essay, free by post from this office for 1s. 3d. You will find your favourite method of pruning advocated in its pages.

Border of Lilliums Unsatisfactory (H. H.).—The season has been very unfavourable for Lilliums, which may account for their not doing so well as usual. As they have been planted a considerable time, it would be a good plan to lift them and, if possible, give them a change of ground, stirring it deeply and working in some well decayed manure. If you cannot do that lift the bulbs when the foliage has died down, trench the ground, and mix with it a good dressing of well decayed manure, adding some fresh loam or turf free from grubs and roots of perennial weeds, or some peat soil, and replant the best bulbs only with as little delay as possible, using sharp clean sand under, around, and over each bulb—say a handful each, covering with soil about 4 inches deep. The smaller bulbs may be planted elsewhere for stock, and they will gain strength, being usually the healthiest in the end.

Grubs in Lawn (E. H. L.).—The larvæ or grubs are correctly named by you in the Welsh language, in England are called the lesser May (or June) bug, the bracken bug and rose chafer (incorrectly). The proper name is *Phyllophaga horticola* (garden chafer). Starlings are the best natural corrective, and will clear all their stomachs allow them. Nitrate of soda crushed fine and applied at the rate of 2 lbs. per rod will paralyse the grubs and kill several. Gas liquor, if you can procure it, is the best of all remedies, and good for the grass. It may be had at gas works, and should be diluted with three times the quantity of water. It may be applied with a watercart with a back-spreader, or with a rose watering can, using about a gallon of the diluted liquor per square yard. It will make the grass grow sickly or brown for a short time, but afterwards cause it to grow thickly, and assume a deep green colour. Avoid gas lime. It will kill the grubs, however, but the grass will not grow well for a long time afterwards.

Bilberries and Cranberries (D. B.).—There is no doubt the fruit is wholesome, and enjoyed by some palates. The reason why the plants do not grow in your district is probably because, as you say, it is "high and dry." They like moisture. The berries are sub-acid, moderately astringent, and agreeably flavoured, and contain mucilage, sugar, malic and citric acid, and an astringent substance, which exercises a tonic effect. The common Bilberry or Blaeberry (*Vaccinium myrtillus*) grows abundantly on the moors of England and Scotland, and produces berries of the size of Currants, of a bluish-black colour, covered with a mealy bloom. They are eaten either raw or in tarts with cream, or made into jellies with sugar. In Devonshire they are eaten with clotted cream. With the juice of the berries mixed with the bark of Alder, powdered and mixed with alum, the inhabitants of Northern Russia dye their hair of a bright red colour. The fruit of the Great Whortleberry (*V. uliginosum*) is large and black, but less juicy than the preceding, and neither so agreeable nor so wholesome, on account of its narcotic properties, which, when the fruit is eaten to any extent, cause headaches and vertigo; they are sometimes put in beer to make it heady, and, when fermented, they make an intoxicating liquor. The Cowberry, or Red Whortleberry (*V. vitis idæa*) is abundant on the dry barren moors of Scotland. The berries are dark red, acid, and austere, and not so agreeable as either the Cranberry or Bilberry. They make an excellent jelly, which is esteemed for colds and sore throats, or to eat with roasted meat, for which latter purpose the Swedes use it extensively to venison, and consider it superior to Currant jelly. In Wales it is eaten with roast mutton. The common Cranberry (*Oxycoccus palustris*) grows in mountainous districts in the northern regions of the Old and New World, and is also found in many parts of Britain. The berries are Pear-shaped, globular, often spotted, crimson, of a peculiar flavour, with a strong acidity. They are much esteemed in tarts. The American Cranberry (*O. macrocarpus*) produces fruit much larger than the preceding, and of a brighter red colour. The plant grows wild in many parts of America, but is also cultivated for its fruit.

Rose Cuttings (Amateur).—You are right in saying that the cuttings are often inserted too late in the year. The following note by a successful grower will exactly answer your question:—If cuttings of half-ripened wood are taken off with the foliage attached, cut into lengths of two or three joints, and inserted in sandy soil before they flag, nearly every one of some kinds will root. The cuttings should be inserted in hand-lights placed in a shady position, and the top eye only left above the soil. After insertion a good watering should be given, and the hand-lights kept as airtight as possible. In about a month they will be well rooted, and may be carefully lifted and placed singly into 4-inch pots. If encouraged to grow under glass afterwards they will become well established before the winter, and will make excellent plants the following season, whether they are planted out or kept in pots. Such kinds as Gloire de Dijon, William Allen Richardson, and others of similar growth will, if well grown under glass the following season and placed as they need it into 8 and 10-inch pots, make good plants for forcing the following spring. Nearly all Tea Roses do well grown in pots, which is advisable if required for flowering under glass. Hybrid Perpetuals do better, and make greater progress if planted out in the spring in deeply dug and liberally manured ground. Many Teas and Hybrid Teas grown under glass the whole of the first season will give a bountiful supply of blooms in the autumn, when they are scarce outside, and often prove as valuable as if produced during the spring months.

Horse Mushrooms (G. R. B.).—The specimens sent are fine examples of the Horse Mushroom (*Agaricus arvensis*). This fungus is nearly allied to the common Mushroom, and has a dome-shaped pileus, bell-shaped in youth, expanding in maturity, generally of a pure white colour and cottony texture, but losing its downy appearance in age; and a veil consisting of a double membrane, thick, woolly, falling from the edge of the pileus, and hanging loosely round the stem; the gills are free, pale pinkish brown, becoming darker as they get older; the stem is cylindrical, the cavity filled with cottony pith. The flesh turns yellow when bruised. Occasionally the pileus is tinged with brown. It attains a large size. Authorities are at variance as to the manner of its growth. Mr. Berkeley describes it as growing in rings, and Mrs. Hussey does not number it among those addicted to circular growth. When it does grow in rings they are of a very large size indeed, and as they are seldom perfect it is easy to overlook the relation which one group has to another. Fields and woods are the habitats of this Mushroom; those growing in the former are the most wholesome. They should not be taken in the button stage like the *A. campestris*, but are in perfection just as the veil has broken away from the pileus, and the bell-shape is merging into the dome. In this stage, and later if free from larvæ, the Mushroom is excellent fried or stewed, and for this purpose is sold in Covent Garden Market. It is one of the best Mushrooms for making ketchup, its large size being a great desideratum in this matter.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (H. H.).—1, Unrecognisable from the poor specimen sent; 2, Denbigh; 3, Yellow Magnum Bonum; 4, the fruit sent of this was rotten, and it could not be named from the shoot alone; 5, Blue Perdrigon; 6, Grand Duke. (W. S.).—1, The Plum The Czar. (J. G.).—1, If the Pear ripens in ten days or a fortnight it is Beurré d'Amanlis. (W. L.).—Kindly read the reference to naming Plums in our last issue. The varieties sent are probably—1, Black Diamond; 2, Victoria. (S. G.).—1, Devonshire Quarrenden; 2, Duchess of Oldenburg; 3, Worcester Pearmain. The Pears are not sufficiently matured for identification.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (Flower Gardener).—1, *Sedum spectabile*; 2, *Helianthus rigidus*; 3, Asters are florists' flowers, which can only be named by comparison. (A. G. B.).—The *Cattleya* sent is a very good form of *Harrisoni*. (Amateur).—1, *Adiantum pubescens*; 2, *Pteris cretica albo-lineata*; 3, *Asplenium bulbiferum*; 4, *Davallia Mooreana*; 5, *Nephrolepis exaltata*; 6, *Selaginella cæsia*. (F. G.).—1, *Helenium pumilum*; 2, *Rudbeckia Newmanni*; 3, *Aster bessarabicus*; 4, *Heuchera sanguinea*; 5, *Monarda didyma*; 6, *Anemone japonica*.

COVENT GARDEN MARKET.—SEPTEMBER 12TH.

THE supply of goods has been lighter the past week, and prices have been firmer.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, per half sieve	1	6	to	2	6	Peaches, per doz.	1	0	to 6 0
Grapes, per lb.	0	6		1	6	Plums, half sieve	1	6	3 0
Cobs per 100 lbs.	25	0		0	0	St. Michael Pines, each	2	0	6 0
Lemons, case	10	0		15	0	Strawberries per lb.	0	0	0 0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Beans, Kidney, per lb.	0	2	to	0	3	Mushrooms, punnet	0	9	to	1	0
Beet, Red, dozen	1	0		0	0	Mustard and Cress, punnet	0	2		0	0
Carrots, bunch	0	3		0	4	Onions, bushel	3	6		4	0
new, bunch	0	9		1	0	Parsley, dozen bunches	2	0		3	0
Cauliflowers, dozen	1	6		3	0	Parsnips, dozen	1	0		0	6
Celery, bundle	1	0		1	3	Potatoes, per cwt.	2	0		3	6
Coleworts, dozen bunches	2	0		4	0	Salsafy, bundle	1	0		1	5
Cucumbers, dozen	1	6		3	0	Scorzonera, bundle	1	6		0	0
Endive, dozen	1	3		1	6	Shallots, per lb.	0	3		0	0
Herbs, bunch	0	3		0	0	Spinach, bushel	1	6		3	0
Leeks, bunch	0	2		0	0	Tomatoes, per lb.	0	2		0	4
Lettuce, dozen	0	9		1	0	Turnips, bunch	0	3		0	4

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arum Lilies, 12 blooms ..	1	6	to	3	0	Mignonette, 12 bunches ..	1	0	to 3	0	
Asparagus Fern, per bunch	1	0		2	6	Orchids, per dozen blooms	3	0		12	0
Asters (English) doz. bunch	3	0		6	0	Pansies, dozen bunches ..	1	0		2	0
(French) per bunch	0	6		1	0	Pelargoniums, 12 bunches	4	0		6	0
Bouvardias, bunch	0	6		1	0	Pelargoniums, scarlet, doz.					
Carnations, 12 blooms ..	0	6		1	6	bunches	2	0		4	0
doz. bunches..	2	0		4	0	Poppies, various, dozen					
Chrysanthemums ..	3	0		9	0	bunches	0	6		1	0
doz. blooms	0	6		1	0	Primula (double), dozen					
Cornflowers, doz. bunches	1	0		2	0	sprays	0	6		1	0
Dahlias ..	2	0		4	0	Pyrethrum, dozen bunches	2	0		4	0
Eucharis, dozen	1	6		3	0	Roses (indoor), dozen ..	0	6		1	0
Gaillardia, dozen bunches	1	0		2	0	(outdoor), doz. bunchs.	3	0		8	0
Gardenias, per dozen ..	1	6		3	0	Tea, white, dozen ..	0	6		1	6
Gladiolus, dozen sprays ..	0	9		1	6	Yellow, dozen	1	0		1	6
Lavender, dozen bunches	4	0		6	0	Safrano (English), doz.	1	0		2	0
Lilium lancifolium, dozen						Maréchal Niel, doz... ..	1	6		4	0
blooms	1	0		2	0	Smilax, per bunch	1	6		3	0
Lilium longiflorum, dozen	2	0		4	0	Stephanotis, dozen sprays	2	0		3	0
Maidenhair Fern, dozen						Stocks, dozen bunches ..	2	0		4	0
bunches	4	0		6	0	Sunflowers, various, dozen					
Marguerites, 12 bunches ..	1	6		3	0	bunches	1	0		3	0
Myosotis or Forget-me-						Sweet Peas, dozen bunches	1	0		2	0
nots, dozen bunches ..	1	6		2	0	Tuberose, 12 blooms.. ..	0	4		0	6

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arbor Vitæ (golden) dozen	6	0	to	12	0	Ivy Geraniums	4	0	to 6	0	
Aspidistra, per dozen ..	18	0		36	0	Lilium auratum, doz. pots	12	0		18	0
Aspidistra, specimen plant	5	0		10	6	„ Harrisi, per dozen	12	0		24	0
Cockscombs, per dozen ..	3	0		4	0	„ lancifolium, dozen					
Coleus, per dozen	2	0		4	0	pots	9	0		15	0
Dracæna terminalis, dozen	18	0		42	0	Lycopodiums, per dozen ..	3	0		4	0
Dracæna viridis, dozen ..	9	0		24	0	Marguerite Daisy, dozen ..	6	0		12	0
Euonymus, var., dozen ..	6	0		18	0	„ yellow, doz. pots	6	0		10	0
Evergreens, in var., dozen	6	0		24	0	Mignonette, per doz.	3	0		6	0
Ferns, in variety, dozen ..	4	0		18	0	Myrtles, dozen	6	0		9	0
„ (small) per hundred	4	0		6	0	Nasturtiums, per dozen ..	1	6		4	0
Ficus elastica, each	1	0		7	6	Palms, in var., each	1	0		15	0
Foliage plants, var., each	2	0		10	0	„ (specimens)	21	0		63	0
Fuchsia, per dozen	3	0		6	0	Pelargoniums, per dozen ..	6	0		12	0
Heliotrope, per dozen ..	3	0		6	0	„ scarlet, per doz.	2	0		4	0
Hydrangea, per dozen ..	9	0		18	0						



DAIRY FARMING REFORM.

CO-OPERATIVE dairy factories, for which we have so long asked for in vain in England, yet which are answering so well in Ireland, are in full force in Denmark, some 1500 co operative dairies being in full action in that small country of 14,789 square miles, with a population of only a little over two millions. Very interesting is the lucid account which Mr. Dunstan gives of them in his pamphlet, and he says well, "I see no reason why in this country a similar system should not be adopted with the result of producing greater profits from second and third-class land than could ever be obtained by the growing of Wheat and the raising of meat." He goes on to point out that a difficulty in the way would be the objection of our farmers to submit to feeding cows under inspection and penalties. Of course they would object, and will object till bad feeding is made penal. They object to factories, to reform of any sort; they will

neither be helped in the right way, nor will they help themselves. We have told in a former article how a Midland landlord went to Denmark, inspected the dairy farming, was convinced of the value of the factory system, and on his return offered to build a factory for his tenants, but they would have none of it. They continue to sell their milk, to be easy-going, to grumble, and to ask for abatement at the rent audit, or a permanent reduction of rent.

The retailer of milk continues to beat down their price, to keep up his own, to keep his own counsel; but he certainly must indulge in a quiet chuckle occasionally at the folly which thus plays into his hands, and which renders the retail milk trade one of the most profitable business concerns of the day. Under the depression a cry for State aid has been raised repeatedly by agricultural chambers and kindred associations. If State aid could be accorded in such a manner as to protect the farmer against himself, and to induce him to adopt the factory system under skilful supervision, it would indeed be a step towards renewed prosperity.

The Danish Factory Association, we are told, arranges for the purchase of suitable food stuffs, and at all times the manager or one of the directors may inspect the feeding houses and dairies, so that, if the credit of the factory to which a farmer belongs is not a sufficient inducement to make him careful to produce the best milk he can, he is always under the inspection of the directors, and if found to be often an offender he can be expelled from the Association.

There are in Denmark both factories owned by companies and those owned by the farmers themselves by combination, very much on the same lines as the flourishing co-operative factories in the south of Ireland. One of them visited by Mr. Dunstan at Ringe dealt with the milk of 500 cows, the property of 225 farmers, members of the Co-operative Association. There was nothing novel in the arrangements or implements, but it is claimed that the advantage of the Danish separator is that it can be controlled when running; it lifts the skim milk to a considerable height, facilitating its delivery into the trough for its reception; it can also be fitted with a Fjord's centrifugal testing apparatus for the determination of cream in milk.

The health of the cows is looked after so closely by the Association's veterinary surgeon that there is no possibility of milk from animals suffering from tuberculosis being used. This is to the advantage of all concerned—the consumer has pure milk, the farmer suffers no loss. He is obliged to give notice to the Association of any outbreak of disease; the milk from the afflicted animal is received by the Association, paid for at full market price, and is not used for human food. The animal is isolated; if the disease proves incurable it is slaughtered, compensation being paid to the farmer for his loss. Equally just and sensible is the treatment of employes of the Association who may be attacked by infectious disease. They, with their families, are sent to a sanatorium, have full pay, and are kept there till quite free from infection.

The system of purifying milk described is worthy of special attention. It is filtered when received through sand, and the amount of filth which accumulates in the filters from milk with which the utmost precaution has previously been taken is said to be astonishing. Thus is pure milk guaranteed—and it is this thoroughness, this close attention to every detail of manufacture and of selling that has given its prominence to Danish butter. "We send directly to Denmark for our butter, and delicious butter it is," said the agent of a large Midland provision firm to us recently. Yet in his county and adjoining counties so-called dairy farmers are numerous enough, but they are beaten by the foreigner because of their incompetence, want of enterprise, and conceit.

WORK ON THE HOME FARM.

Since writing our last note corn ricks have been built, bare stubbles are visible everywhere, and what is more to the purpose even, is the commencement of autumn tillage in good earnest. Under present and prospective prices it is better to clean the land for spring corn than for sowing Wheat. It is only under exceptionally favourable conditions of soil, local demand for straw, and freedom to sell it, that Wheat can now be made to answer. Failing a prospect, or promise of possible profit, every farmer should now well consider every point bearing on the matter before deciding to sow any Wheat at all. There was a time when the possibility of Wheat falling to £1 a quarter was discussed, and very generally scouted as ridiculous. It has now fallen below that price, and its tendency is still downwards. Wheat for flour there always must be, but its cultivation for that purpose in Great Britain has become absolutely ruinous. From the colony of Victoria in Australia comes an interesting statement of an experiment in feeding pigs with crushed Wheat. For this experiment 170 pigs were purchased at 13s. 6d. each. They had crushed Wheat charged at the rate of 1s. 6d. per bushel, some of the Wheat husks termed cavings, and a run in a 10-acre field. All expenses were charged, including freight to Melbourne, attendance, and losses. They were sold for 3d. a pound, and the profit was £42 8s. 11d. Even at this price, if 2s. a bushel had been charged for the Wheat, which is 16s. per quarter, there would still have been a good profit, which in this country would have been greater because of the higher price which the pigs would realise.

Where Wheat straw must be had, while we hear of prices for new Wheat ranging from 18s. down to 14s. per quarter, its use for feeding live stock would certainly appear preferable to grinding for flour. Therefore this autumn increase the area of your Winter Oats, but curtail that intended for Wheat.

Crushed corn may now be given out on pasture to bullocks to finish them for the butcher. Herbage is abundant on pastures, but if we would avoid having fattening beasts in yards, it is well now to force them a bit by pan feeding, as so much good may be done during the next three or four weeks in this way.

OUR LETTER BOX.

Potting Butter (*Enquirer*).—For potted butter to keep well it must be made well. The chief points are cream well ripened, the churn carefully ventilated, the churn lid washed with cold water as soon as the butter begins to break. The buttermilk drawn off when the butter grains are of the size of small shot. The butter so thoroughly washed in the churn that the last water runs out quite clear, three or four waters may be necessary. Brining in the churn with strong brine, 2 lbs. of salt to a gallon of water, poured in through a muslin sieve or bag, and left in twenty minutes. Removal from the churn with a spoon on to the butter-worker, pressing—not rubbing—with the grooved roller till all the moisture is out of it. There must be no touching with the hands. Then put the butter in glassed pots or jars, having close-fitting lids or any reliable contrivance for the exclusion of the air. If the buttermilk is quite washed out the butter keeps sweet for use in the winter, but if any buttermilk is left among the butter grains the butter becomes rancid and unfit for use. We will give some general hints for cheese-making shortly.

METEOROLOGICAL OBSERVATIONS.

OAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet

DATE.		9 A.M.				IN THE DAY.				Rain.	
1894. September.	Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature			
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.		
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday ..	2	30.114	57.0	55.1	N.	59.8	68.2	49.2	97.4	42.9	—
Monday ..	3	29.918	53.7	51.7	N.E.	59.6	57.1	52.3	98.1	48.0	0.29
Tuesday ..	4	30.061	55.8	50.9	N.	57.6	61.4	42.3	113.6	35.9	0.042
Wednesday	5	30.053	52.3	48.7	N.	56.9	63.3	39.8	109.1	34.1	—
Thursday ..	6	30.77	52.7	49.1	N.	56.1	59.9	41.7	107.8	34.7	0.14
Friday ..	7	30.121	52.1	49.0	N.W.	55.1	61.9	42.6	84.7	35.9	0.271
Saturday ..	8	29.838	50.9	49.2	N.	55.0	60.4	46.4	107.4	39.2	—
		30.030	53.6	50.5		57.2	62.0	45.0	102.6	38.7	0.156

REMARKS.

- 2nd.—Misty early, bright sunshine till about 4 P.M.; hazy later, and cloudy evening.
3rd.—Overcast and dull all day with frequent drizzle and rain from 11.30 A.M. to 1 P.M.
4th.—Generally bright and sunny till 4 P.M.; rain at 6 P.M., and overcast evening.
5th.—Sunny till 1.30 P.M.; spots of rain at 2 P.M., and generally overcast in afternoon and evening.
6th.—Occasional sun early; cloudy morning; rain from 0.20 P.M. to 3.30 P.M.; sunshine at times later, fine night.
7th.—Cloudy day, with occasional gleams of sunshine.
8th.—Steady heavy rain from 1.30 A.M. to 8 A.M.; bright sunshine from 10 A.M. to 3 P.M.; cloudy evening.

A variable and cold week; frequent showers, but a good deal of sunshine. Temperature 8° below that of the preceding week, and about 6° below the average.—G. J. SYMONS.



FACTS ABOUT FRUIT.

— x —

DURING the past few weeks several newspapers have announced in all seriousness that owing to the glut of Plums in the market this year the prices have been so low that many growers preferred to allow the fruit to decay rather than run the risk of a loss incurred by the cost of gathering and railway tariff. Further, readers of the daily press have been informed that this plethora of Plums is the outcome of an error on the part of the growers last year, when, being in a similar predicament, they used the fruit as "manure," and the trees were stimulated to such an extent as to produce a heavier crop than usual this season. There may be some truth in these statements, but practical growers will at once form an estimate as to their correctness and value. It is, however, such assertions as these that do much to retard the fruit-growing movement, which is destined in due course to become one of Britain's greatest industries. That it will reach this distinction there seems to be no doubt, judging by the progress made recently, and the activity of the primary movers in the work. Everyone who has a practical knowledge of fruit culture is well aware of the difficulties that arise in connection with the business; but these apparently do not prevent others entering the arena, making the competition keener than ever, and some may say lowering the commercial value of the crops. The latter might possibly occur in a few instances, and to the advantage of the thousands of toilers in large towns, where the bulk of the fruit is sold; but it is generally admitted by growers and salesmen that choice samples, tastefully packed, always realise moderate prices. This is the phase of fruit culture that makes the business a remunerative one, there being a steady but constant demand among the affluent for superior produce, and even good sound fruit of an ordinary character finds ready purchasers in the masses, who perhaps constitute the principal consumers.

Whilst admitting the glut of Plums which has occurred in the leading markets this year, and the consequent poor prices realised by the bulk of produce, there is no gainsaying the fact that exceptions to the rule exist even among fruit growers. At the time ordinary Plums were, according to a daily newspaper, selling in Covent Garden Market for "6 lbs. a 1d." the writer visited a well-known fruit grower in a south-eastern county, and found he, too, had an unusually heavy crop of fruit. Some Plum trees were laden with large luscious fruit which would not ripen, the owner proudly pointed out, until the main supplies to the market were exhausted. This was an undoubted advantage, and the grower anticipated handsome returns for his crop. Indeed, so sanguine is he of the future that he is about to increase his plantations, and without hesitation recommends the extended culture of Plums for profit. This by no means coincides with the experience of those who, as we are told, "allow their Plums to decay rather than gather and consign them to the market!" and if only as an object lesson is worthy of record. The same grower also makes a specialty of early Plums, and finds these equally as profitable as the late varieties, the trees scarcely ever failing to produce enormous crops of splendid fruit. He is, moreover, of a progressive turn of mind, and is not without hopes of seeing the fruit drying and preserving industry develop in this country. We have already numerous growers owning jam factories, but as yet the methods of drying, crystallising, bottling, and canning fruits, so common in

America and on the Continent, are not generally adopted in Britain. It has been mentioned in these pages how easily Plums may be dried for winter use in any ordinary oven, while even Apples and other fruit can be evaporated at a comparatively small cost. So far as the writer's experience goes, however, these methods are not usually practised, there being only one private garden known to him where an evaporator is in use. Last year at the establishment alluded to the gardener evaporated bushels of Apples, Apricots, and Plums, and has dried much of the latter fruit this season. Thus, when the crops are abundant, instead of allowing the fruit to spoil, or dispose of it at unremunerative prices, it is preserved for home consumption, and can, if necessary, be placed on the market at any period when most profitable to the producer. These matters are worthy of consideration.

As most growers know, the fruit crops this year vary considerably. Plums have been generally abundant, as already remarked, the same applying to Pears; but Apples are exceedingly scarce in some parts of the country. In Kent, Hampshire, and Essex some good average crops are noticeable; though as far northwards as Lincolnshire the trees are certainly less burdened, while in many orchards and gardens the fruit appear to be small and of an inferior quality. Whether this is the result of the attacks of insect pests, imperfect fertilisation, or want of sunshine some growers are in doubt, but it is evident that the samples now seen will bear no comparison with those of last year. This applies particularly to Apples and Pears, the former of which were remarkable for their colour in 1893, whilst this season they are practically devoid of that attraction. With a fine September, however, the fruit will doubtless improve in appearance, especially where the branches of trees are well thinned and exposed to the sun. This reminds one that all fruit trees are not treated in such a rational manner. Notwithstanding the literature on fruit cultivation which practical growers have contributed to the gardening papers during the past decade, there are thousands of mismanaged trees in some gardens and orchards of this country. These perhaps are more conspicuous because improvements are manifest in most places, and it is gratifying to be able to make this announcement. Well-managed trees are fortunately the rule now, and it is by no other means that profitable crops can be obtained, the neglected ones being exceptions. The latter, though, ought never to be tolerated, and it behoves everyone who has old, decrepit, moss-encrusted trees under their charge to replace them at the earliest opportunity with young and fruitful trees. Some discretion, however, in this matter is needed, and young gardeners should not hastily destroy old trees if they bear fairly good crops until the young ones become fruitful. Errors of this kind are not uncommon, they being no doubt the result of a want of foresight, but they are easily avoided as directed.

There seems to be a diversity of opinion among growers as to what kind of trees are the best for ordinary planting. Many persons have recommended standards for orchards, with an undergrowth of bush fruit or some other crop. The authority above mentioned, however, and who has many acres of Apples, Plums, Pears, and other fruits, advocates the planting of dwarf trees, such as bush-trained or pyramids. He avers, and with some justification, that the gathering of the crops from high standards involves much labour, besides damaging the trees. On the other hand the grower in question says the fruit can be readily picked from dwarf trees, and, as a rule, they produce as heavy crops as the larger ones. If the trees grown on his farm are any criterion to go by the contention is a sound one, but the general planting of such trees would probably meet with some opposition. We know where space is limited, as in small gardens, dwarf Apple trees on the Paradise and Pears on the Quince are the best that can be planted, provided the soil and other conditions are suitable. From such trees as these the finest of fruit may be

obtained if the trees are judiciously managed, and there is much to be said in their favour. Whether bushes and pyramids are likely to be extensively planted for the formation of orchards is an open question, but the opinions of the leading growers on the subject would certainly be interesting and of much value to other readers. Meanwhile preparations for the planting season may be advanced as the weather permits, for the sooner this is done the better. Thousands of fruit trees are planted late in October, almost before the leaves have fallen, and better results usually accrue thereby than from those placed in the ground when latter is wet and cold, as during the winter.

With reference to established unfruitful trees in gardens and orchards the present month is an excellent time for renovating these, and much may be done to improve their condition. When they have produced vigorous growth at the expense of fruit there is no doubt in some instances root-pruning is beneficial, but the work must be well done. It is useless cutting a trench around a tree, severing all the smaller feeders and leaving the tap roots untouched. Growth may be restricted, however, and fruitfulness induced by another and perhaps better method. This is by judicious pruning or pinching the shoots during the summer, allowing the branches retained to be thinly disposed. Not many years ago the writer saw some fruit trees which made undue growth in summer, and the shoots were pruned closely in the winter. Every year the trees grew strongly but bore no fruit, until one autumn it was advised to thin out the shoots and leave a limited number only to each tree. These were not pruned during the following winter, but all the young shoots that commenced to grow the next summer from the base of those cut out the previous year were rubbed off. By adopting this plan growth was restricted, and the succeeding year the trees bore a fine crop of fruit. Trees that contain weak and worthless branches should also now receive attention. All such shoots ought to be removed, thereby concentrating the sap on to the more useful branches. The removal of wood of this nature during the autumn is of far greater importance than is generally supposed, and it would be well were the method adopted by all fruit growers.—C.

HARDY FLOWER NOTES.

THERE is much to be seen in most gardens when September comes. Dahlia growers are enjoying their annual feast of flowers, a feast no longer confined to the great ball-like show and fancy blooms, but having the welcome addition of the single flowers, besides the Cactus forms, many of which are of great beauty. Annuals, too, are charming, and are indispensable, even where a large collection of hardy perennials is grown, filling as they do many a bare space and brightening spots which at this season would be dull without their aid. Gladioli also, with their stately beauty, are called into service to give colour where earlier flowers have spent their bloom, and to charm one with their beautiful flowers of brightest or most delicate hues. It seems a pity that the grand varieties of *G. gandavensis* do not appear to increase in popularity, for it will be long before the newer hybrids reach the same perfection of colour and form. Here none but *G. segetus* and *G. byzantinus* is to be depended on for hardiness, and even in years where they have remained in the open unprotected, and have made their appearance in the spring, the disease has made greater ravages than among those which had been lifted. So far I have not found the *Lemoinei* varieties subject to the disease, but they are no hardier here than the hybrids of *gandavensis*.

If, however, the Gladioli are not quite hardy in my garden, the *Montbretias* have the virtue of withstanding our most severe winters, and very beautiful they are with their Iris-like leaves and spikes of pretty flowers. Of the better-known kinds *M. crocosmæflora* is my favourite, but the red flowers of *M. Pottsi* are very useful too; while an especially charming one is *M. Gerbe d'Or*, which is a bright golden yellow. They soon grow into great clumps if left alone, but flower more profusely if lifted occasionally and replanted a few inches asunder. The varieties are now becoming rather too numerous, and the differences between many of them are extremely small.

Chrysanthemum maximum is one of the autumn flowers which

are almost indispensable, and new forms of so useful a flower are much to be desired. Several of these have now been raised, and among the best is one which has been named *C. maximum filiformis*. I understand it originated in an Irish nursery, but whatever its origin may have been it will be found a desirable plant. There is practically no difference in habit, but the flowers themselves have the petals very narrow and pointed. We have thus a pure white flower with a yellow centre, and approaching in style to some of the single *Chrysanthemums*, which are so much admired in our greenhouses later in the year. This variety is valuable not only in itself, but as holding out the promise of even better forms, which will break still farther away from the stiffness of the type, and give us blooms of almost thread-like formation. This flower is so hardy and easily grown in any good soil that no one need fear to enter on its cultivation.

Among the most brilliant of our autumn flowers is *Monarda didyma*, the best forms of which are of a deep yet brilliant scarlet. It is well known, but the pink *Monarda* is seldom met with. It is worth growing, although inferior in brilliancy to *M. didyma*, and is immensely superior to the white form of the latter. I understand its correct name is *Monarda fistulosa mollis*, although I obtained it under the name of *M. mollis*—one of the rather numerous synonyms under which it labours. The others are said to be *M. Lindheimeri*, *M. menthaefolia*, and *M. scabra*. The flowers are smaller and less numerous than those of *M. didyma*, and the plant is of taller habit. The colour is said to vary from flesh colour to lilac, and I should call mine pink. This wild Bergamot is deserving of a place in a good collection, although not a showy plant.

One of the plants to which I referred last year seems to be coming into general favour among growers of choice hardy flowers. This is *Helenium autumnale striatum*, or *grandicephalum striatum*, as it is sometimes called. Having spoken of this plant before, it is unnecessary at present to allude to it at length. *H. autumnale striatum* seems to be improving as it becomes established, and should certainly be secured by those who wish to have their gardens abreast of the times.

In going through the garden of Mr. Robinson-Douglas at Orchardton, Castle Douglas, N.B., I was much pleased to see a considerable number of plants of that fine biennial *Michauxia campanuloides*, which one sees far too seldom. It is true its biennial character is a drawback to the extended cultivation of this Bellwort; but growers never seem to tire of Canterbury Bells and Sweet Williams, and the very beautiful *Michauxia* deserves some attention. It will grow to 4 feet or more in height, and its fine white flowers are extremely attractive. I had just seen *Passiflora Constance Elliot* in bloom, and was astonished with the resemblance of the flowers of *M. campanuloides* to those of the Passion Flower. There were many very interesting flowers and shrubs at Orchardton, but I was more interested in the Water Lilies than in anything I saw. It is not everyone who has a lake or pond in which these charming aquatics can be grown; but many persons can imitate the conditions under which they succeed at Orchardton, and I fancy a little space may be most profitably devoted to a description of their quarters.

Mr. Robinson-Douglas has had constructed a rock garden, and in the centre of this a series of small pools have been formed for the growth of aquatic plants. These are made with concrete about 3 inches thick. When this was quite dry strong cement was thinly painted over with a brush before letting in the water. The pools vary from 2 to 3 feet in depth, and some very rich soil, in which is a large proportion of cow manure, occupies the bottom. After this was placed in position the plants were carefully fixed in and a layer of pebbles and gravel strewed over all to keep down the soil. The pools are supplied with water from the supply for the mansion, and this kept constantly running. The amount required is not large, as the pools communicate with each other, the overflow finding its way into a small bog in which are plants which enjoy a wet situation. These little pools vary in size, and some are margined with grass and others with rockwork. They are of irregular outline, and reminded me of some I can see any day on the shore near my home. A useful hint in the formation of concrete work of this kind was given me by Mr. Robinson-Douglas, who has also most kindly favoured me with the other particulars of the method of construction. This is to form a "collar" in the concrete below the water level on which the stones can be rested—i.e., a flat terrace-like piece of concrete with a back of the same material coming up to the water line. This makes the pool look more natural than if the concrete came up to the surface of the water, the rockwork placed on the "collar" hiding the cement. I hope I have made myself understood, but it is difficult to explain it without the aid of a diagram.

For several days before my visit the weather had been unsettled,

dull and cloudy, which made me fear that I might not see any of the Water Lilies in flower; but I was not only fortunate enough to see the large flowered variety of *Nymphaea odorata* in bloom, but also the newer *N. Leydekeri rosea*, with which I was enchanted. It is a charming rose-coloured flower of the greatest beauty. The little pool in which it grew formed a delightful picture with its margin of grass and stones, its placid water, and the sun shining on the floating leaves and bright flower of this Water Lily. I understand we are indebted for this to Mons. Latour Marliac, who has raised many other new kinds. These Water Lilies can be grown in tubs, but little pools such as these are easily constructed, and look so natural that the flowers seem quite at home. The problem we have now to propose for solution is this: Can these delightful flowers be grown where there is not a constant flow of water? In my garden the pump is quite convenient for an experiment of this kind, and I mean to try if by its aid a few Water Lilies cannot be grown. There are now many varieties, and such a tiny plant as *N. pygmaea*, which I also saw, could be grown in an extremely small space.

Tropaeolum speciosum is now attracting so much attention that one cannot refrain from writing a few lines on this most beautiful climber, which grows so well in this district. Very effective is it with its scarlet flowers and elegant leaves. There is no great mystery about growing it, the one thing needful being a cool exposure and moisture. The best time to plant is in the spring shortly after it has commenced to grow. The soil should be made firm and hard before planting, and after the roots have been placed in the ground the earth above should be well trodden down. Never mind if some of the roots show no growth, as they will probably send up shoots later. The first season comparatively little growth will be made, but when established the plants will grow rapidly. Some charming effects are produced by this fire-like flower, which is seen to perfection against a dark background. I think I shall never forget *T. speciosum* as I saw it a few years ago in a manse garden a few miles away, where it had made itself at home, and was rambling over some Yew trees in the most charming manner imaginable.—S. ARNOTT, *Dumfries, N.B.*

LIFTING PEACH TREES.

HOWEVER well borders for Peach and Nectarine trees may be made and drained they will not last in a perfectly healthy condition for an indefinite period. The soil in time becomes worn out and too close to admit of the free access of air, in fact is often sealed against its admission by being in a saturated condition. Old borders will become sour if left alone, ill health and partial failure of the trees being the inevitable results. Either the blossom buds fall, or the fruit at the critical period of stoning, or if the fruit passes through this trying stage it never attains perfection, being small and flavourless.

The longer trees are left in borders of this description the worse they are; the few roots they possess soon become bare, dark in colour, and almost destitute of fibre. Trees are often found in this deplorable condition, and cultivators seem loath to commence their renovation by lifting. It is surprising what can be done in one season towards bringing unsatisfactory trees into a fair way for recovery. Probably no trees answer so quickly or recover more rapidly by the aid of a little fresh soil or good treatment than Peaches. At any rate, if not too far gone they can be so far recruited to yield fairly good, if not first-class, fruit until young trees can be established. It is wonderful the vitality old Peach trees possess, and how freely they yield fruits, sometimes in such numbers as to necessitate care in removing the surplus sufficiently early to allow newly lifted trees to be master of what fruit is allowed to remain on them. It must be borne in mind that a few really good fruits are to be preferred to a greater number of poor flavourless ones.

No time should now be lost in operating on trees in early and second early houses that are in an unsatisfactory condition at their roots. It is often impossible to renew the whole of a series of borders at one time, nor is this necessary, for much can be done the first season with less soil than would be required to renew thoroughly one border. A heap of turfy loam should be roughly chopped up, and to every seven cartloads one of old lime rubbish must be thoroughly incorporated. This is necessary even if the loam is light, that is for the majority of soils. Failing this, however, about half a bushel of lime reduced to powder may be mixed into each load of the soil, and if the latter is light the same amount of clay as lime rubbish may be added. For this purpose the clay must be dried and broken small, as this greatly facilitates the incorporation. Wood ashes are not to be despised, and where

they can be had or preserved for the purpose a bushel to each cartload of loam will prove highly beneficial.

Simultaneously with the preparation of the soil the drains should be examined, and if these are not clear provision must be made for putting in fresh ones. We have found more than once that, though the drains were perfectly clear, a saturated condition of the border has arisen through the soil becoming too close over the surface of the broken material used for drainage. Very often if loam is used in rather wet condition, and the orthodox system of turning a sod grass side down is practised, water does not pass through with sufficient freedom for the well-being of the trees. If the occupants of the border have been left to their own resources for years, a trench should be cut 5 or more feet from the stem according to the size of the trees. The soil should be carefully worked out to within a few inches or a foot all round the stem, and the bottom of the border be well picked up from amongst the drainage. Some of the old soil may be placed again in the bottom, mixed with old building refuse, to insure it being open and porous. If the operator has abundance of soil on hand the old compost may be dispensed with altogether. The roots should be cleanly cut back to where they have fibres on them. Each layer of roots should be carefully laid amongst the fresh soil with their points pointing slightly to the surface, so that when the soil is pressed firm the roots will be horizontal. When planting is finished the top layer or tier of roots should not be more than 4 inches below the surface of the soil.

Directly the tree is planted it should be freely syringed two, three, or more times daily to preserve the foliage fresh and healthy as long as possible. No water will be needed at the roots if care is taken to have the soil used in an intermediate state for moisture. It is in soil of this nature that the cut portion of the roots callus quickly and new fibres are freely emitted. The trees must be shaded from bright sunshine, and the surface of the border covered with littery manure to prevent evaporation, and thus the necessity for watering. The house should be kept closed for ten days or a fortnight to induce the trees to partially establish themselves. If the foliage can be preserved, and this only needs care, roots will be freely produced before the foliage falls, plump up their buds considerably, which invariably "stick on," and thus be in a capital condition for a start the following season.

The remaining portion of the border can be greatly improved by thorough trenching and the liberal addition of slacked lime. Wood ashes and old lime rubbish will do if lime cannot be had; but the former is decidedly the better, and will quickly change the character of the soil. Care is necessary to break up the base so that when water is needed it will pass freely away. By these means the soil will soon become aerated and sweetened and be quite safe for the roots of the trees to penetrate again. I have known trees lifted, laid outside until the borders have been well broken up, limed, and open porous material incorporated, replanted, that have then carried a fairly good crop of fruit the next season.

In cases like this the object is to thoroughly sweeten the soil and expose it to as much air as possible. Where no fresh turf is used the trees must be liberally fed during the growing season from the surface. If turf can be had annually or periodically it is a good plan to dig round the trees, remove roots that are straying from home, and lay the fibry portions in a little fresh compost. Two or three good barrowfuls is ample for each tree when the digging round them is not deferred too long.

Timely attention and a little fresh material will not only keep trees in a healthy condition, but will insure large, well-flavoured fruits. Trees that are dug round annually or every second year do not give much trouble from bud-casting; it checks the luxuriance of the trees, and prevents this. Those that can extend themselves freely, once they have attained age, do not as a rule, if well cropped, often grow too strong, but those limited to space frequently need attention in this respect. Young, vigorous trees that have been encouraged to grow and extend rapidly should not be allowed to pass the third year without digging round them, as if they are not root-pruned they attain undue strength, and often fail to fruit freely. Nor is this all, for they are making strong useless roots, which if stopped in time would branch freely and make abundance of those fine feeders all good cultivators desire to see. We have had to dig round young trees annually when planted in good material to keep them in due bounds, and it is surprising what masses of fibre they have made.

The early lifting of such trees as need attention is a great advantage in more ways than one. It proves beneficial to the trees, and they scarcely feel it the following season; besides, the houses are at liberty when cold weather renders the housing of various plants necessary.—WM. BARDNEY.

NOTES FROM TRINITY COLLEGE BOTANIC GARDENS, DUBLIN.

AN invitation from the genial chief of these gardens, with the previous intimation, "You should come and see the Lilies," results in these few notes. Towards eleven by the clock this August morning I pull vigorously at the bell. "Pull again," say several jaunting car drivers, who watch my efforts to call attention; "they often ties it up to-day." It happened to be the day when other bells denote in deep tones that they are not tongue-tied. Finally a meek-faced terrier heralds the approach of "F. W. B.," who allays my fears that the pulling may have ruptured the bell wire. And now for the Lilies. A deep fringe of many things round the pond curtains them from view till near the margin, and these beautiful water nymphs in their bath are revealed. Of the large varieties two only display their charms to-day—*N. marliacea carnea*, a massive waxy flower with a pale rosy blush stolen from *N. rubra*, one of its parents; the other, *N. marliacea chromatella*, the deep gold in the base of its ivory cup being reflected through the petals. Watching the goldfish sporting through buds and foliage, I listen to the story of these Lilies raised in France, which worthily bear the name of the raiser.

Crossing a miniature bridge over a tiny creeklet densely carpeted with the Lycopod-like *Azolla*, "F. W. B." fishes up some with his umbrella, which I duly pocket with the good resolution to keep it from going down the overflow pipe of the tank, a catastrophe which happened to the last he gave me. An old friend is inquired for, viz., *Dittany* of Crete. Yes; here it is, and a lighted match applied produces miniature guncotton-like flashes; but the plant in my mind's eye had no such combustible vagaries, and I recollect after getting home that the old friend I should have asked for was *Origanum dictamnus*. Here and there I recognise old friends with their peculiarly happy power to revive old memories. These pots of *Marsilea* in pans of water, their quaint pollen pods all but hidden in the Clover-like foliage, obliterate many miles and many years. I am a boy again listening to the story told by an honoured master of this—the *Nardoo* plant of Australia, the food resource of Burke and Wills, the early explorers. A large clump of *Crinum Powellii* carries fifteen spikes of its striking pink flowers set amongst the vigorous strap-like foliage. The white variety afterwards seen in a cool house is very chaste and beautiful. The Himalayan *Primula capitata* has purplish blue heads set on slender shafts rising from a farinose tufted foliage.

A series of rectangular beds cut in the turf rather savour to a casual visitor of that heterogeneous planting pertaining to the children's department, which indeed they are, but of the children of science. The formidable array of nomenclature in which their orders and titles are set forth, brings up the reflection that "A little learning is a dangerous thing," so I feel safer in getting away to admire some of the old Painted Lady Carnations near at hand. These are the original type of these fair demoiselles, heavily rouged on a white ground, with their beauty but skin deep. *Androsaces* are profusely luxuriant in various positions, dry quarters appearing to suit them best. Perched far up on the top of a wall is the Campanula-like *Syphomandra Hoffmanni*. A clump of the Japanese Wineberry in fruit, flower, and bud, is rather a handsome plant. *Calystegia sylvatica*, the large Hungarian Bindweed, twines gracefully up a Bamboo, and near by is *Polygonum Seychellense*, bold and striking in its annual growth. These *Polygonums* are tempted to rise too early from their bed in the spring, suffering for their temerity should frost prevail. A smaller variety was badly burned with me this year, and this, too, where a breadth of Potatoes hard by escaped. The three plants above mentioned should be acquisitions to the semi-wild gardening of a large demesne.

A group of *Prunus Pissardi* contrasts favourably with the sombre-hued purple *Filbert*. A fine tone of colour obtains with this purple-leaved Plum. One thinks what might be done with this, the Golden Elder and silver-foliaged *Acer*, clumped—not dotted—amid the evergreens of a landscape. Here a wall runs parallel with the palisade, enclosing a strip in which Nature has pretty much her own way, with nought to savour of the teeming city life but the tinkling bells of unseen trams passing within 50 feet. The curious *Orabanche hederaceæ* is pointed out, preying on the Ivy roots beneath the soil. *Bambusa palmata* is a bold plant, but stiff withal. Many alpine on the low wall, built for their accommodation, have grown apace since I last saw them on that never-to-be-forgotten day when the glory of countless *Narcissi* monopolised attention. Near the wall is a bed of *Omnium gatherum*. The idea, which is novel and useful, is this: oftentimes a pod of seed is gathered which does not demand special care in papering and labelling; here they are interred without ceremony

or distinguishing mark, and as their growth develops to be transferred to such position as merit entitles. The shining bright red fruits of *Sambucus racemosus* claim attention, and many fine specimen Hollies are prominent amid the varied shrubs and trees. We pause before a purple Beech and note the part below the graft is infested with some species of woolly aphid, which does not advance above the ring of union. Why is this? A portion is scraped and marked with a knife, but the torture reveals nothing.

On for a peep through the houses. The air of one is heavy with the ripening fruit of *Monstera*. Instances of scientific research continually crop up, giving rise to much questioning and debate, absorbing the all too quickly passing time. Here is *Pontedera crassipes* transferred from its liquid element to the dry position of a shelf and ordinary plant treatment. "See," says the guide, "how the inflated bladders are in process of reduction to ordinary leafstalks." "Why is that?" I ask. "Oh, because they are no longer required," is the answer. In this practical Darwinism evolution is made easy; no disembowelling the fossil remains of prehistoric ages. Here the process is going on under one's eyes, and seeing is believing.

Here is the rarest plant in the gardens—viz., *Xanthorrhœa quadrangularis*, the Grass Gum. Tradition says the first postage stamp which came to the gardens brought this plant, so I take particular note of it, but can only say it is very small for its age, and interesting from the pitch-like exudation, which all but flames when a lighted match is applied to it. High up on the roof is *Stigma-phyllum ciliatum*, bright with golden *Oncidium*-like flowers. A new house has just been erected for Tree Ferns, to which they have lately been removed, to the mutual advantage of themselves and other occupants of the crowded houses. Half of this house has been longitudinally excavated, forming a natural looking gully, in which the fine specimens are displayed to advantage. *Ficus repens*, with other creepers and clingers, will soon transform the whole into a prominent feature of the gardens. But nigh on four hours have elapsed since I wrestled with the bell-pull, so we pass out of a side gate across the tram tracks to "F. W. B.'s" private residence, gained through a garden at the rear, the chief feature of which appears to be some rather scraggy Apple trees devoting their lives to nursing in their bosoms some plants of Mistletoe, and this in the heart of Dublin. I poise a heavy Bornean spear, and think what Bornean muscle must be to wield such weapons. Books, books everywhere, from pocket manuals to the stately tomes of *Reichenbachia*, the plates of which I am absorbed in when the cheerful rattle of other plates suggest that man cannot live on science alone.—E. K., *Dublin*.

OLD VERSUS YOUNG FRUIT TREES.

THE comparative earliness of young and old trees I do not think I have seen more strictly exemplified than this year, the case in point being Nectarine trees, Elruge and Lord Napier. In our early Peach house there is a young tree of the last named which bore fruit for the first time last year; the same tree this spring ripened several dozen large and beautifully coloured fruits. A much older tree of Elruge, separated on the trellis only by a Peach, perfected a full crop of smaller fruits which ripened in advance of Lord Napier. The latter, of course, being looked on as the earlier variety made the difference all the more marked.

The old tree is quite healthy, and has not been subject to the decay and loss of branches common to exhausted trees; but the difference may, no doubt, be traced to some extent to the soil and season. The old tree has had no change of soil for some years, and this, coupled with the long continued sunshine of last season, brought about an earlier maturity in the less vigorous growth than was the case of the more youthful Lord Napier. This latter, when planted less than three years since, had fresh turfy loam supplied, and hence the more vigorous growth. Neither tree suffered last year, nor have they since, through want of root moisture, the border receiving the same attention, excepting that the young trees had clear water only, the older ones diluted liquid manures. The order of ripening, too, is equally marked; the younger specimen matured its crop in moderate succession, the other ripened so rapidly, that all, or nearly all, were gathered on two or three consecutive days. This again showed that the constitution of the tree was such as to be more sensitive of weather changes, for at the time of ripening there was a few days of bright summer weather following a dull and showery time.

I have not yet had the opportunity of proving the advance in point of earliness of the new Early Rivers Nectarines, but older existing sorts are a long way behind the earliest Peaches in this respect. I find we gathered our first fruits of Waterloo and Alexander Peaches, both of which ripened simultaneously on the 5th of May in the same house. Nectarines were not

gathered until exactly a month later, all being subject to the same treatment. How far the new Early Rivers will fill this breach of lost time perhaps some readers of the Journal who have proved it will be able to say. Certainly it will find purchasers if it comes within easy range of the early American Peaches in the time of ripening. Its earliness, however, will not be fully proved until it has been established a few years, because the first object of growers will be to build up a tree for future and full crops.

The slow rate at which this was formerly accomplished has now given place to more rational cultural methods. Instead of hard pruning, lateral and early sub-lateral growths are laid in when the vigour of the trees allow of this to be done. With thin training an early and full crop is thus obtained, and this counteracts a vigorous tendency that would obtain under the hard pruning systems, and where there is but little fruit to subdue the vigour.—W. S.

EREMURUS ROBUSTUS.

I AM looking forward to Mr. Arnott's note on Eremuri. In the meantime let me hold up *Eremurus robustus* as the noblest of the genus. The smaller *E. Bungei* is perhaps the most beautiful, but *E. robustus* with a dark background of trees, is a glorious object. So my friends thought who saw my plant in bloom this year. When I last measured it it was 10 feet 8 inches high, and the flowers at the top were not then out.

I had a fine spike of *E. himalaicus*, but not so good as last year. My plants of *E. Bungei*, although looking healthy, have not sent up a flower spike this year, the first time they have failed to bloom for three years. Mr. Prichard of Christchurch says Eremuri usually only bloom every other year. He also says that there is no difficulty in moving them, as they make new roots from the crown every year, the old ones dying.

E. Olgæ is very unsatisfactory with me; it will neither flower nor grow. I do not give any protection except that which is necessary to keep off the slugs, which have a greedy liking for them, until the flower spike peeps out. I then put a flower pot over every night, for if the rain gets into the head and is frozen, the spike is destroyed. I send you a photograph of my *E. robustus* taken by a friend.

At last I have found the right place for *Meconopsis Wallichii* in my garden. Last year I made a bed of good strong loam in a recess on the north side of my house (on which the sun never shines) for these plants, and they were a beautiful sight to behold. When I grew them in a shady spot on the rockery they flagged when the sun shone upon them, and the colour was quite mauve; now the colour is a real Cambridge blue. The foliage, too, and the stems are beautiful. But the sun must not even squint at the plant, or it fades and flags.—F. PAGE ROBERTS.

CARNATIONS.

PLANTING.

ALL lovers of Carnations will be glad to see that layers are this season of exceptional strength, and are lifting with large balls of soil full of healthy roots. By the middle of the present month I hope to have the whole of our autumn plantations finished, and any not ready then will be postponed until the spring. The beneficial results following autumn planting have been repeatedly pointed out, but I do not think the necessity of early planting has been insisted on with the emphasis that it deserves. Merely to plant in the autumn means nothing, and if delayed to the verge of the winter may be worse than spring planting.

In order to insure the very best results the layers must first of all be strong, in vigorous health, and, most important of all, furnished with a good ball of active roots. These, planted as early as possible in September, do not stop root action; but in a modicum of light sandy soil at once take to their new quarters, and before winter sets in are so well established that they go naturally to rest until the returning warmth of spring causes new growth to begin. The disadvantage of late planting is the inability of the plants to establish themselves before the winter, with the consequence that they often succumb to the weather and are unable to respond to Nature's promptings in the spring. It is therefore preferable to winter the plants in cold frames, where in light soil abundance of roots are formed during the winter, and if carefully lifted and planted in favourable weather during the latter half of March they will quickly establish themselves. I have found a little extra care in covering the plants during any inclement weather the first week or two after being planted amply rewarded by the vigour with which such plants have grown when

growing weather has come. Pots upturned, one over each plant form a ready and efficient means of protection.

With regard to the preparation of the ground I am very adverse to using any manure. The border on which I am planting our layers was dressed last year with a thick layer of cow manure. On turning up the soil with a spade some of this manure, quite decayed of course, comes to the surface. In breaking the clods it is well incorporated with the soil, and affords a sufficient stimulus to the plants until surface dressings are first applied in late spring. The Carnation, it should never be forgotten, is essentially a surface-



FIG. 39.—EREMURUS ROBUSTUS.

rooting plant, and any manure that it may be considered judicious to afford them ought to be kept near the surface. Mr. Campbell, of High Blantyre, who cultivates many thousands of Carnations, and all, with the exception of a few, planted in the open, employs as a manure peat refuse from the Glasgow Tramway Company's stables. Judging from the appearance of the plants this is a most excellent manure. But, then, Mr. Campbell has the advantage of an open situation on a breezy hillside in the uplands of Lanarkshire, while ours are enclosed with walls, and surrounded on three sides by trees.

I have been very successful with various yellow and yellow ground varieties. I largely attribute this to planting in a very light open material, and keeping the plants well above the surrounding level. Last year I thought it might have been the very dry and warm season that helped the plants, but again this year, with weather as damp and wet as it is possible to conceive of, the plants in most cases have done even better. One most important point in the case of these, as well as other Carnations, is to plant as shallow as

possible. Our plants have so slight a hold of the soil when first put out that each one has to be steadied with a short stake.—R. P. BROTHERSTON.

MARGUERITE CARNATIONS.

I HAVE through the pages of the Journal in the autumn of last year and the preceding one drawn attention to the greatly improved strain of Marguerite Pinks, so generally called Carnations, effected by Mr. Herbert of Birmingham. In 1891 he crossed the Marguerite Pink with that fine scarlet bizarre Robert Houlgrave, with a view of obtaining a race of early blooming Carnations much improved in form and habit, and the first year's seedlings produced this in a marked degree. The next year's seedlings gave still better results in a dwarf habit, profuse blooming true Carnations, with flowers larger, of finer form, and less serrated on the edge. This year's seedlings include some as fine in form as the ordinary florists' type of Carnation, in some instances with perfect rose edged petals and new shades of colour. I hoped to send some of the best flowers to you, but when I called on Mr. Herbert he had fertilised almost every bloom, and I can only send some that are relatively inferior, to give you an idea of the great improvement effected.

Please bear in mind that from seed sown in February in each year strong plants are regularly produced in full flower in August and September, and continue up to Christmas. The seedlings show much more of the character of the Carnation now than the Marguerite Pink, in erect habit and much finer flowers, whilst still retaining their annual-like character in blooming freely the first year. The plants are pricked off from the seedling state, grown under glass until placed in from 5 to 6-inch pots, then they are grown out of doors during the summer, and removed to a freely aired greenhouse to flower.—W. D.

[The flowers received are as large and smooth as show Carnations, colours varied, and some of the blooms Clove-scented.]

GARDEN WALKS AND EDGINGS.

IN writing on this subject I wish to confine my remarks to the kitchen garden. In this department the chief consideration is to produce abundance of good vegetables and fruit, but at the same time it should be made attractive by having neat walks and edgings.

Walks should be made in such a manner that all parts of the garden can be conveniently reached, this greatly facilitating cultural operations. The most simple arrangement for a square or oblong walled-in garden of 2 or 3 acres in extent, with no division walls, is to have a walk all round, one running through the garden from north to south, and another crossing this at right angles in the centre; this will divide the garden into four equal divisions. A convenient width for garden walks is from 10 or 12 feet. In well-kept gardens, where walks are always expected to look neat, and there is ample room, it is a good plan to have secondary walks about 2 or 3 feet wide, especially in parts of the garden where there is much traffic, running parallel with the main ones. These can be used for working the garden, and the main ones will be kept in good order. It will not be necessary to edge them, though of course it would improve their appearance. The space between the main and secondary walks must be regulated according to the requirements of the garden and for the purpose for which it may be utilised. If used for herbaceous plants it should not be less than the width of the main walk; in this case the narrow walks will also be found convenient for tying plants and other work connected with the borders. In place of herbaceous plants bush or espalier fruit trees may be grown. Where several walks converge near a doorway the constant traffic at these points soon wears them away, so something more durable should be used, such as a narrow paving about 18 inches or 2 feet wide of some hard stone or other suitable material.

A gravel walk to be up to the mark should be firm, even, no loose stones on the surface, and quite free from weeds. It is not much trouble to accomplish the latter if one of the numerous weed killers are periodically used. This not only kills the weeds, but leaves the gravel bright and clean. Walks properly made in the first place, and secondary ones used for traffic, will remain in good condition for a long time. It used to be the practice of many gardeners to turn their gravel walks over once a year, or once in two or three years, to keep down weeds, the surface even, and the walks in proper form. When the walks become worn it will be necessary to turn them over, as this is the most simple way to put them in order. The best time to do this is in the spring and when the gravel is wet, for then the work can be done much more easily, and consequently quicker. A spade should be used, and the walk turned over as deep as the gravel will allow. As the work proceeds a thin coating of fresh gravel should be put on, and care

taken to keep it in proper form by having the centre 2 or 3 inches higher than the sides, according to the width of the walk. Though the gravel should be wet, a fine day must be chosen for the operation, and a whole length done at one time. If part of a walk gets wet it will give the gravel a different colour to the rest. It must not be trodden on until the whole length is done, when it should be rolled two or three times, and again in a few days and any time after a fall of rain; this will make it firm and solid. Though gravel is the best material, it is not every place that can procure it, and recourse must be had to something else. Cinder ashes are sometimes used, and answer the purpose very well, but ought not to be used in gardens of any pretensions. Concrete walks are often seen in town and villa gardens; weeds will not grow on them, which is something in their favour. They are, however, not suitable for large gardens in the country, and are not in keeping with the surroundings. In some places near coal mines shale is used. It is obtained from the pit banks, being clay and other refuse brought out of the coal pits, which is burnt spontaneously. It makes very good walks, especially when well burnt, and is then very clean and durable, but it does not bind like ordinary gravel.

In making the walks in our garden, and not having any gravel, I have had the top layer of stones broken small, and a coating of pit sand for a surface dressing. This must be laid on thinly or heavy rains will wash it away. Lime and other rubbish that accumulates in pulling down old buildings or in repairing, run through an inch sieve and mixed with the sand, will help to make it set. Two great objections to it are that moss grows very freely on it, especially in damp situations, and it pulls up very much after frost. Much has been written from time to time about grass walks, and while admitting that they look well they are not to be recommended for general purposes, the labour in keeping them in order being rather heavy during the summer, and they are not so good as gravel for getting about the garden in the winter. In large gardens, which are generally divided into divisions, one or more of which may have grass walks, and it will greatly improve their appearance, especially during the summer months. A good example of this is seen in the gardens at Castle Howard, where two of the divisions have grass walks about 9 feet wide, and a Rose border on each side of the centre ones. This has a pleasing effect, the grass showing off the Roses to great advantage.

There are a great many things that may be used for edgings, but the most natural to associate with gravel appears to be Box, and to my mind nothing can equal it when it is kept in proper form by clipping. When well established it should be trimmed once a year. Some do this in the autumn, but it is best done in the spring during April or early in May. Men that are used to the work can soon get over a lot of ground with a pair of shears, which I find the best for the purpose. It should not be allowed to get more than 3 or 4 inches high and a little less in width. In rolling the walks care must be taken not to go too near the edging or it will get pushed out of position. Box is sometimes objected to because it makes a harbour for slugs and other vermin, but if properly kept it will not be much worse than others, such as Heather, Thrift, and Thyme. Thrift makes a neat edging and looks pretty when in flower, but it will have to be replanted every three years. In some parts of the garden it may not be practicable to plant live edgings, and for these places flint pebbles may be used. Flat stones set edgeways or bricks on end also make useful edgings. Fancy tiles of varied forms are often used, but are not suitable for large places, being more in keeping with town and villa gardens in association with concrete or asphalt walks.—J. S. UPEX.

EUPHARIS AMAZONICA: RESTING v. NON-RESTING.

WHEN under a fair state of cultivation and free from disease no plant repays more for the care bestowed on it than *Eucharis amazonica*, its profusion of pure white flowers coming at a time when they are most acceptable. The great susceptibility which it has towards what is known as *Eucharis mite* is a great drawback to its cultivation; and once this pest gets a firm footing among the plants it is most difficult to eradicate, and, in many cases, has been the means of entire ruin to good collections.

There appears to be a wide difference of opinion amongst gardeners with regard to the cultivation of the *Eucharis*. Many growers advocate a period of rest; but whether it is necessary or beneficial is purely a matter of opinion, as it is generally held by a great many growers that a resting period is really detrimental to the plants, as it is during such times that pests like the aforementioned secure a footing amongst the plants. Whether such is the case can only be proved by experience; but so far as resting pure and simple is concerned, I do not consider it essential to successful *Eucharis* cultivation. This opinion is the outcome of several years' experience amongst *Eucharis* that are kept in a fair state of growth all the year round, and the resting process is

unknown. We have fine plants which during the past few weeks have been a perfect maze of bloom, this making the third time they have flowered during the past twelve months. They are kept in 10 and 12-inch pots full of roots, and are plunged in decayed leaves in what was formerly a Pine bed under which there is a slight bottom heat. Here they grow all the year round with an occasional supply of liquid manure, and are only potted when it is absolutely necessary. The robustness of their growth, and the great profusion of flower spikes which they continually throw up, is evidence enough to prove that at any rate the above process cannot be improved.

Doubtless many growers are successful under the resting process, and will strongly advocate it; but the question that occurs to me, Is it advisable to follow out any theory that is not necessary to successful cultivation?—G. H., *Alton Towers*.



THE AMATEUR'S TROPHY QUESTION.

THE principal reason why I think it would be a very serious mistake to reduce the number of varieties in the amateur champion class below thirty-six is that it would lessen the honour of winning the championship, if championship except in name, it could then be regarded. In the National Rose Society's catalogue will be found nearly 160 different varieties of exhibition Roses. Surely it can be no great hardship that a competitor for the "blue ribbon" of the year be called on to stage thirty-six of these in the height of the Rose season. Then again, owing to our seasons being so very treacherous and the necessity of fixing the date of the Metropolitan Show many months in advance, it seems to me extremely undesirable to make the number of varieties too small, otherwise this coveted prize might in an exceptional year be won by an amateur grower of very moderate calibre whose garden the season and date had specially favoured. If it were a challenge cup for, say, twenty-four, or even twelve, Hybrid Perpetuals, or any prize of a like character, I should be in entire agreement with "Y. B. A. Z." (page 197), but when we come to elect, as it were, our amateur champion for the year it is not, I think, unreasonable to require of him something a little more representative of the present position of the queen of flowers and of modern Rose culture than a stand of twenty-four blooms. I suppose we shall next hear of it being seriously proposed to reduce the Derby course to three-quarters of a mile, or the amateur championship of the Thames being competed for at Henley instead of between Putney and Mortlake.—E. M., *Berkhamsted*.

THE NATIONAL ROSE SOCIETY AND ITS MEMBERS.

WHILE thoroughly sympathising with the senior Secretary of the National Rose Society on the defaulting member difficulty, I feel at liberty, as I am neither a local Secretary, a member of Committee, nor a defaulting member, to make a few remarks on the letter sent to you.

"D., *Deal*" (page 250), probably unconsciously, hits the blot in regard to his and Mr. Mawley's position in so far as that I think they misunderstand that position. "D., *Deal*," says, "We are . . . not well-paid officials." The position of "D., *Deal*," and Mr. Mawley being purely honorary, to my mind gives them the great advantage of leaving them perfectly unfettered and free to write on questions affecting the vital interests of our Society. This valuable position I have frequently pointed out to them, and therefore to what I now publicly say they cannot fairly take exception.

The subjects of the trophy question and the multiplicity of exhibits have now been debated for two months in the Journal by many correspondents, several being amateurs of high position both socially and as Rose growers, without attracting a single letter from anyone even in semi-authority worth notice; or to amend that statement, only to attract a letter which by its incompleteness forcibly called the attention of your correspondent "Y. B. A. Z.," a letter, in fact, which made an assertion without any explanation.

The statement that the Committee has received "rough usage" is a questionable one, and it may also be said that thereby hangs something else—i.e., does it not well deserve such treatment? If those in authority "allow judgment to go by default," they can but expect that public opinion will not be very favourable or in sympathy with the views expressed by "D., *Deal*," and very naturally many will agree with the editorial note that there is a want of "active interest and zeal" in our affairs. I know myself, and so do others, although they do not publicly

say so, that your remarks are only too true, as I am certain that it is this want of active zeal, and a quicker appreciation of the wants of our Society which causes us to advance so slowly, and which requires such letters of appeal as that of "D., *Deal*," even to local secretaries and members of Committee! This appeal must now be causing comment wherever your Journal is read, and that I may concisely say is "far and wide."—CHARLES J. GRAHAME.

I CANNOT but think that a great many admirers of our genial old friend, "D., *Deal*," will read his letter on this subject, as I have, with great regret. What has happened? Has he grasped in warm, loving embrace a bloom of Baron de Bonstetten or Her Majesty, taking it (of course, in the dark) for Countess of Oxford or Victor Verdier, and whilst smarting under the mistake "delivered his soul" in last week's columns? I cannot see (of course, the stupidity is my own) what the dilatory payment of subscriptions has to do with the number of blooms in the trophy class. I fail to see why this non-payment of subscription has been brought into court, unless it were certain that all who have written you on this matter were in arrears. I can vouch only for my own payment. Every Hon. Sec. could tell of similar experience. I used to know something of a man who, whilst able to pay, would never part with his money till the County Court compelled it. He said he was too busy; but he did not love Roses, which said love should have a humanising and kindly influence on all of us.

We shall be anxious to read the tardy reply of Mr. Mawley, because if he cannot give us some better reasons it seems to me it is like the old legal defence, "No case, abuse the plaintiff's attorney."

Still, we will all rejoice that our old friend has "delivered his soul," and that it may tend to bring back to us the kindly utterances and pleasant words with which we have generally associated the name of "D., *Deal*."—Y. B. A. Z.

FASHION IN ROSES.—ROSES FOR THE GARDEN.

THERE is a fashion in flowers as well as in dress, and perhaps no better illustration of this fact could be found than in the change of fashion in Roses. I can remember when there was only one standard of form for a good Rose, and that was a smooth, circular, full, flat, round-petalled flower. Single Roses were altogether ignored, not on account of their transitoriness, but because they were single. But this state of things was not destined to endure. Notwithstanding the efforts of a few obstructionists the tide of fashion came silently stealing on. By degrees the cupped or hollow centred, the compact, the imbricated, the globular, came into favour, and the flat flowers fell into the background; still, for a time in all cases smoothness and circularity of outline were indispensable conditions.

No amount of reasoning could induce the authorities of times not long gone by to admit that any other style of flower was worthy of cultivation; there was but one standard of excellence, and every novelty must bow to that or be consigned to oblivion. How many beautiful seedling Roses have I thrown away in the past that would be eagerly accepted now through this change of fashion! How many Rose gardens have I seen filled to disadvantage with the then fashionable flowers, giving forth only a flower now and then, when the unfashionable would have yielded hundreds and set the whole garden aglow! But the narrow despotism by which Nature was trammelled then has been broken up, and the fashion of to-day says, Let us have bright coloured, free blooming, free growing, sweet scented Roses for our gardens, even if necessarily at the expense of the idolised features of the past.

This change of fashion would seem to be the result of increased knowledge and a more widely cultivated taste. Who that sets any value on the beauty of his garden or the brightness of his dwelling would now plant such Roses as A. K. Williams, Etienne Levet, Horace Vernet, Harrison Weir, Her Majesty, Monsieur Noman, Xavier Olibo, Lady Mary Fitzwilliam, Suzanna Marie Rodocanachi, Comtesse de Nadaillac, La Boule d'Or, Cleopatra, Souvenir d'Elise Vardon, beautiful as they are at the flower shows, when he had access to such kinds as Charles Lawson, Madame Plantier, Madame Georges Bruant, Augustine Guinoisseau, Caroline d'Arden, Caroline Testout, Charles Lamb, Crown Prince, Ella Gordon, La France, Ulrich Brunner, Souvenir de Malmaison, Camocns, Grace Darling, Grand Duc Adolphe, Madame Falcot, Marquise de Salisbury, Madame Laurette Messiny, Kaiserin Augusta Victoria and Madame Lambard, unless his chief object was to win prizes at the flower shows. The former I should call florists' Roses, the latter painters' and poets' Roses, and each have their proper purposes to serve. Some there are which are suitable for both purposes, but the number is few. It is in most cases as wasteful and injudicious to

plant florists' Roses when showing is not a leading object in view as it would be to plant painters' or poets' Roses for the purposes of exhibition.—WM. PAUL, *Pauls' Nurseries, Waltham Cross.*

TEA ROSE NIPHETOS.

MR. BROTHERSTON (page 175) speaks highly of this Rose, and rightly so. In this neighbourhood no Rose is held in higher esteem as a market variety, and that is a very good test of the worth of any flower. Messrs. Drover, Fareham, who are large growers of cut flowers, say that Niphetos is the finest Rose they can grow. With them it succeeds admirably planted against a back wall of a lean-to house, formerly used as a vinery, now filled with Cucumbers. Mr. Agate, Havant, speaks most highly, too, of this Rose for the same purpose. No variety that I know will continue to flower over such a long period.—E. M., *Swanmore Park.*



WEATHER IN LONDON.—The weather since our last issue has been remarkable for its equability, the days, as a rule, being dull, but many of the nights bright and clear. Scarcely any rain has fallen, short drizzly showers only, and these at wide intervals.

— CRYSTAL PALACE FRUIT SHOW.—THE LUNCHEON.—The Secretary would be greatly obliged if those who contemplate joining the gardeners' luncheon at 1.30 on September 29th would be kind enough to apply to him for tickets at once, as there will probably be a very large number, and it may be impossible to increase the accommodation at the last moment.

— CONFERENCE ON TREES AND SHRUBS AT CHISWICK GARDENS.—As many intending exhibitors at the Conference on Trees and Shrubs at Chiswick Gardens on September 25th may possibly wish to know what kinds are most likely to be wanted, the following list will be of some assistance, of course only branches of large trees need be sent to the Gardens:—Andromedas, Cassandras, Catalpas, Carpenterias, Ceanothus, Crataegus, Cotoneasters, Euonymus, Pyrus, Pernettyas, Prunus, Amygdalus, Copper Beeches, Birches, Alders, Walnuts, Hickory (Carya), Maples (Acer), Dogwoods, Pavias, Viburnums, Quercus, Spiræas, Berberis, Magnolias, Robinias, Sophoras, Hamamelis.

— THE REV. W. WILKS.—The Fruit Committee of the Royal Horticultural Society, at the meeting at Chiswick on Tuesday, learned with the deepest regret that the Rev. W. Wilks, the estimable Secretary of the Society, had that day been ordered to enter a London hospital for the purpose of having an operation performed on his throat, and would entail upon him some two or three weeks' seclusion. This is all the more to be deplored, as the Conference at Chiswick next week and the Great Fruit show at the Crystal Palace on the 29th and succeeding days are events in which the rev. gentleman took the deepest interest. Very warm sympathy with him in his suffering will be expressed on every hand.

— HOUR OF JUDGING AT THE CRYSTAL PALACE FRUIT SHOW.—To prevent any possible error as to the hour at which the judging will begin at the Royal Horticultural Society's great show of British-grown fruit, to be held at the Crystal Palace, September 29th, October 1st and 2nd, 1894. On the entry form which each exhibitor signs he undertakes to have finished staging by 11 A.M. punctually, but on page 20 of the schedule, Regulation vii. has accidentally slipped in as a reprint from the Society's annual schedule, in which the usual time at our fortnightly meetings of twelve o'clock has remained unaltered. By their written undertaking the exhibitors are bound to be ready by eleven; it will, therefore, be no hardship on them (particularly after this notice) to insist on the show being cleared at 11.15, and the Judges commencing punctually at 11.30.—W. WILKS, *Secretary.*

— PEARS.—A market grower told me a few days since that he sent 30 bushels of "Hazels" to market, and got back 30s. in return. The fact is Pears are so abundant that they can hardly be given away. But how delicious an addition to our meals might be found if persons who can purchase these inferior varieties so cheaply would but quarter and core them, then gently stew these pieces, using plenty of sugar, which is now so cheap. There need not be a Pear in the country wasted were this simple method of consuming them employed.—A. D.

— RESEDA ALBA.—This is a tall pyramidal branching form of Mignonette that has long spikes of pure white flowers. The plants are about 20 inches in height, and most admirably adapted to put out into beds of a mixed character. It would associate admirably with Salvias, Pentstemons, Fuchsias, and other plants, and give capital flowers for cutting.

— A NEW BERTOLONIA.—"A. F." writes:—"Among the many Bertolonias which have been exhibited recently, a new and showy hybrid, B. guttata var. Alfred Bleu, obtained from Van Houttei × rosea punctatissima, is very attractive. The leaves are deep bronzy green, ribbed and spotted with brilliant carmine. The originator of this variety, M. Alfred Bleu, after whom it is named, is reported to be sending out a series of such hybrids, including some of great beauty and brilliancy of colouring."

— NEW ALPINE STRAWBERRY.—In the Reading trial grounds Messrs. Sutton & Sons have a new alpine Strawberry that is much superior in all respects to the old alpine, the fruits being longer and sweeter. Once the plants are established they fruit over a long season, giving pickings that cannot be out of the ordinary and all too short Strawberry season, too highly esteemed. The variety is even well worth growing to cover root or rockwork or bare slopes.—D.

— HARPALIMUM RIGIDUM.—"North" writes, "This fine old perennial is now flowering profusely in my garden, and of all autumn blooming plants this is one of the most effective. It is grown in shrubberies and semi-wild places where no attention whatever is given the plants other than an occasional weeding. The flowers, while being attractive in the open air, are also extensively used for the embellishment of the rooms in the house. If placed in vases containing water they last for a fairly long time in good condition."

— CAMPANULA PYRAMIDALIS.—The article by "G. H., *Alton Towers*" (page 250) on this plant reminds me of some beautiful specimens which I recently saw in Finsbury Park. The plants were plunged in the grass in a secluded corner, large groups making a grand effect. In other public gardens I have also seen the blue and white varieties used to advantage for outdoor decoration, but they do not seem to be so employed in private establishments. There is a dwarfer form than the type, and the flowers, moreover, are larger, though it does not seem to be generally grown. Some weeks ago I noticed plants of it were exhibited at a meeting of the Royal Horticultural Society.—C. P.

— A BITE FROM A SPIDER.—Entomologists have often been amused at the popular dislike to spiders, seeing that all our native species are, as a rule, harmless, even the larger garden and cellar species. Yet spiders of similar size and habit do inflict annoying, or even dangerous bites, in the warmer countries of Europe. An instance of a bite from an English spider is worth recording. When engaged in her garden, a lady recently felt a tickling sensation up her arm. She rubbed the part, as we naturally do, and a spider rolled down her sleeve, which had crawled up unobserved. In a few minutes she experienced a painful sensation, and the arm began to swell; for several days much uneasiness was felt, also weakness in the limb. No doubt in self-defence the spider used its sting when pressed by her hand.—E.

— ANCIENT SOCIETY OF YORK FLORISTS.—On Saturday last the usual flower services were held at St. Mary's Church, York. The chaplain of the Society (Rev. H. Vyvyan) preached in the morning, founding his sermon on the words, "Flowers appear on the earth." At the outset he eulogised the Society for the work it was doing in bringing into prominence a love for and cultivation of flowers, than which no occupation could be more refining and ennobling, and approvingly commended the management for their disinterested efforts generally, also in the pains they had taken in the decoration of the church on that occasion. In the course of his sermon he took his hearers from the Arctics, where the scanty but in some respects still beautiful plants struggled for existence in uncompromising difficulties, to the luxuriant Tropics where flowers were produced and dwelt in wild profusion, and drew lessons therefrom which he pressed home upon his hearers. In the afternoon Rev. Gordon Salmon preached, he forcibly drawing his hearers' attention to the "Gardens" of God's own making in Nature, which were in evidence all around governed by His unalterable laws. In the evening Rev. C. E. Bedwell preached, he enforcing the need of sacrifice in order that charity should be rightly directed. Crowded congregations attended all the services, the offertories taken amounting to £9 3s., which were in support of the Local Charity Organisation Society.—J. L.

— WRITING in a transatlantic contemporary, Mr. J. H. Hale gives it as his opinion that the JAPANESE PLUM will in a few years revolutionise Plum cultivation in Connecticut, and that this delicious fruit will become as abundant and cheap in the home and the market as Apples or Peaches.

— EDELWEISS PLANTS WITH ROOTS.—We learn that the Tyrol Landtag has put a fine on the sale of Edelweiss plants with roots, in order to prevent the destruction of this beautiful and singular plant. But the law is not applied to some parts of Tyrol, such as Enneberg, where the plant grows in such profusion that it might be mowed, and there is no fear of its disappearance.

— INFERIOR APPLES.—“Lincoln” writes:—“I should like to know whether other readers of the Journal have experienced the same in regard to inferior Apples as I have this year. In many parts of Lincolnshire the Apple crop is exceedingly poor, and what fruits there are appear to be of a very inferior quality. Most of the Apples are small and ‘cramped,’ whilst those of a moderate size are for the most part poor in colour and insect-eaten.”

— CACTUS DAHLIAS.—The new, or as termed, Pompon-flowered section of Cactus Dahlias, bids fair to make a very popular one. Mr. Cannell started the section with his Gem, a very perfect Cactus, flowers most profusely borne—just, indeed, in growth like to a Pompon variety, and it has been followed by several others. We are gradually getting away from the large loose flowers of the earlier types and their coarse leafy habits. Still, there is immense room for improvement in the matter of flowering habits and growth.—D.

— BOTANY.—“Meehan’s Monthly” regrets that the department of botany, technically known as morphology, has not received the attention from general plant-lovers that it deserves. It is taught as a general principle that every part of a plant is but leaf blade modified. But few students fully appreciate the fact that a leaf, a branch, a bud, a flower, with all their many interesting particulars, might have been some other organ than what they are but for the varying intensity of a growth wave, and again that this intensity is influenced by varying powers of nutrition. It gives an interest to every species of plant unknown to the last generation. The plants of the natural order Compositæ afford better opportunities for comparing the facts of morphology than probably those of any other class. It is especially interesting to compare a composite with an umbelliferous head.

— PRESENTATION TO MR. MCPHEARSON.—At the general meeting of the Wolverhampton Gardeners’ Association, held at the Society’s rooms on Tuesday last, Mr. Geo. A. Bishop, Chairman, presented Mr. McPhearson with a silver English lever watch and gold chain, which had been subscribed for by members of the Association. Mr. McPhearson has resigned his position as head gardener at Waterdale Gardens, and left the town, which necessitated his resigning the position of Treasurer of the Society. The members and friends wishing to show their appreciation of Mr. McPhearson’s personal worth subscribed in a few minutes at one of the general meetings enough to purchase a watch and chain worth £10. Mr. Hughes gave an excellent paper on the Dahlia, which was much appreciated by about sixty gardeners who were present. The Society is in a very flourishing condition, and doing excellent work in the district.

— WAKEFIELD PAXTON SOCIETY.—On Saturday evening, September 8th, at the meeting of the members of the above Society, Lieutenant Goodyear presided, and Mr. B. Whiteley was in the vice-chair. There was a good attendance. Three weeks previously Mr. John Burton of Dircar gave a lecture on “A Visit to America Long Ago,” and although he spoke for an hour and a half he was unable to deal with his subject as thoroughly as he intended. Acting on a suggestion which was made on that occasion he consented to deliver the remaining portion of his lecture on a subsequent occasion, and he fulfilled his promise on this occasion, when he again spoke for nearly an hour and a half. Mr. Burton gave many interesting and amusing details, and his able and eloquent remarks were again very attentively listened to and warmly applauded. The soil in many parts of America was light, very much like dust, and heavy rains converted it into mud and puddle. Mr. Burton alluded to some of the incidents which occurred during the voyage to and from America, he described its fauna and flora, and amplified the remarks he made on the previous occasion on the burning of the prairies, and the Falls of Niagara. Mr. Herbert Chapman proposed a vote of thanks to Mr. Burton for his interesting lecture, which closed the meeting.

— CARNATION BUCCLEUCH CLOVE.—Mr. J. Forbes of Hawick has favoured us with blooms of the above Carnation. The flowers are white, heavily rose-flaked and clove-scented to an exceptional degree. The growth of the plant is sturdy, and the blooms are produced in great profusion. Though the variety is new, it has already received five first-class certificates, and these will be ample evidence of its merits.

— MONSIEUR EDOUARD ANDRÉ figures and describes, in a recent issue of the “Revue Horticole,” a new variety of the common Lilac, which has been named Chamæthyrus. It is the well-known habit of *Syringa vulgaris* to send up suckers, but in this variety each of the young shoots bears a truss of flowers at its extremity as it issues from the ground, so that it looks as if a flowering branch of Lilac had been cut off and thrust into the ground.

— BEDDING PELARGONIUMS.—Whilst nearly all Pelargoniums of the Zonal flowering forms have proved failures this season under the heavy, beating rains, exception may be made in favour of the double Ivy-leaved forms that have roughly pegged down done so much better. *Souvenir de Charles Turner* I saw in a couple of beds the other day at Hackwood Park was charming, flowering freshly and profusely when Zonals had hardly a decent bloom to show. Probably not many persons have yet bedded that fine variety.—D.

— BEGONIA CARRIERI.—A dwarf pale pink variety of the small flowered shrubby section makes a very pretty change among summer bedding plants. I noticed it doing well at Audley End, and Mr. Vert spoke very favourably of its qualities as regards propagation and general effectiveness. It certainly looked charming among the many good things in the flower gardens at this fine old place, and this, too, in a summer which has not been a favourable one for flower gardening. But this part of the country had evidently been drier than some, and it was surprising to me to hear that a soaking wet day was doing much good.—W. H. DIVERS, *Belvoir Castle Gardens, Grantham*.

— AYRSHIRE GARDENERS’ MUTUAL IMPROVEMENT ASSOCIATION.—At the last monthly meeting of the above Society Mr. Thomas Gordon, Ewenfield Gardens, Ayr, read a paper entitled “The Orchard House.” Although the last paper of the session, it by no means proved to be the least interesting, Mr. Gordon doing full justice to his subject. He also exhibited a collection of Pears of large size and fine quality grown in the orchard house at Ewenfield. At the conclusion Mr. Gordon was accorded a hearty vote of thanks. The Chairman, Mr. Halliday, intimated that the annual general meeting would be held on Thursday evening, October 4th, when office-bearers for the ensuing session would be elected.

— PROPAGATING LEUCOPHYTON BROWN.—Very few persons indeed there are who do not admire this silver-leaved summer bedding plant. Yet how often do we see an indifferent stock of plants prepared for planting in the beds in May? Too many persons depend on the old roots instead of working up a stock of new plants annually, which is a simple matter. Cuttings 2 inches long are taken off the top of the plants in the beds and dibbled into shallow boxes filled with sandy soil towards the end of September, and the boxes placed in a close cold frame. During the early part of April the plants are transferred to a temporary sod-built frame filled with old refuse, potting soil and leaf mould, where robust compact growth is made prior to planting them out in May.—E. M.

— SHIRLEY AND DISTRICT GARDENERS’ AND AMATEURS’ MUTUAL IMPROVEMENT ASSOCIATION.—The monthly meeting of the above Society was held at Shirley, Southampton, on Monday the 17th inst., the President, Mr. W. F. G. Spranger, presiding over an exceptionally good attendance of the members. “Hardy Flowers for Garden and House” was the subject of a most interesting lecture given by Mr. A. Dean, F.R.H.S., Lecturer on Horticulture for the Surrey County Council, and who was formerly a resident of Shirley. Mr. Dean’s lecture, which took him one and a half hour to deliver, was a very exhaustive description of the various hardy flowers to be found in bloom in the garden throughout the year, and the cultivation and soil necessary for a few was described, and also the county from which they have been brought. The lecture was beautifully illustrated by a charming exhibition of no less than 284 varieties of hardy flowers set up by Mr. B. Ladhams, F.R.H.S. Mr. Wilcox, Mr. Bartlett, and Mr. Jones also added specimens of various flowers to the exhibition, Mr. Bartlett showing a *Vallota purpurea* that was a marvel of inflorescence. Mr. E. Molyneux, Swanmore Park Gardens, is to give a lecture on “Wall Trees and Espaliers” at the next meeting.

— **THE COLOURING OF APPLES.**—With me the fruit is colouring quite as well this as it did last year, when we had so much sunshine. Varieties like Worcester Pearmain, The Queen, Cox's Pomona, Duchess of Oldenburg, and Mère de Ménage are quite as bright as I ever saw them in the skin. Why this should be so I am at a loss to understand. I note also that plants like Alternantheras are colouring much better this year than they did last.—E. M.

— **DURHAM FLOWER SHOW.**—The twenty-second annual show of the Durham Floral and Industrial Society on September 11th and 12th in the New Market and the Town Hall, Durham. The weather interfered very little with the show, as the whole area of the exhibition is enclosed. As soon as the doors were opened the public flocked in to gaze at an exhibition of flowers, fruit, and vegetables, that has never been excelled at any previous exhibition of the Society. The attendance for the day exceeded that of last year, and more space being obtained there was correspondingly greater comfort. The Committee, with the Hon. Secretary (Mr. Thomas Burton) guiding the management of the show, made every effort to ensure the success of the exhibition.

— **JUSTICE TO THE BIRDS.**—A correspondent of "Nature Notes" asks seriously, How long will gardeners treat their feathered friends in the irrational manner they do at present? He instances the case of one who boasted he had killed or maimed nearly 200 blackbirds in one season, because they pecked his fruit when ripe. That is, the birds did some small amount of mischief during a few weeks, but for eleven months before they had been diligent workers, destroying an immense number of slugs and insects. This gentleman asks, "Do we not claim to be a just and generous people?" It does not seem to require a more than ordinarily logical mind to recognise that labour should be paid for in some form, and thus the fruit the birds take may fairly be treated as wages due to them for labour done.

— **BRENTWOOD HORTICULTURAL SOCIETY.**—The annual autumn exhibition arranged by the Brentwood Horticultural Society was held on Thursday, 13th inst., in the pleasant grounds adjoining Middleton Hall, which were placed at the Committee's disposal by Mr. J. C. Tasker. The weather was everything that could be desired, and hundreds of residents in the town and district took the opportunity of seeing an exhibition which was one of the very best ever held in connection with the Society. The entries numbered over 800, consequently the competition in many classes was very severe. The exhibits, which showed a marked improvement over those in previous years, were admirably staged in seven large marquees. This work had been carried out by Mr. T. W. Haws, the energetic Hon. Sec. (to whose efforts much of the success of the show is due) assisted by various members of the Committee.

— **AN AUSTRALIAN FRUIT SHOW.**—A Colonial paper to hand contains the report of a fruit show at Bridgetown, Western Australia. It was the first show of the kind held in the district. The display of Apples was magnificent both as regards size and shape, and some very large Royal George Peaches were shown. The great drawback to the show was that there was no fully qualified person amongst the audience to point out the most suitable Apples for the district and to properly name the varieties, so that growers would know what to order for the season's planting. The Grapes were good, but the quantity limited, the Bridgetown district not being fully suitable. Some immense Mangels were shown from Lake Muir, grown in swampy land. Pumpkins were a fair display. Onions and Potatoes would bear comparison with those grown anywhere, and the ladies made a creditable display of flowers. Some of the fruit was brought fifty miles in buggies to the show.

— **COLLINGHAM SHOW.**—The annual show of the Collingham Horticultural Society was held on Thursday, September 13th, in the Public Hall, Collingham, when there was a good attendance. The number of entries was this year about 350, being ninety more than on any previous occasion. Arranged on tables along the sides of the room and grouped in the centre of the floor they made a charming display of bright colour of varied contrasts. The groups of plants occupying a space of 10 feet each were much admired, and evidenced taste on the part of those who arranged them. The fruit section was well filled with all the later fruits, Plums, Apples, Pears, and Tomatoes being well to the fore. Cut flowers were a grand show, the Judges experiencing the greatest difficulty in awarding the prizes in the Aster and Dahlia classes, the blooms being of remarkably level excellence. The vegetable show was well worthy of inspection, Potatoes, Carrots, and Kidney Beans being especially fine. The arrangements were admirably made by Mr. F. R. Dobney, the energetic Secretary, assisted by a capable Committee.

— **FOLIAGED BEETS.**—Whilst it is evident from what I have seen in numerous gardens of late that there are many very coarse Beet stocks about, it is equally certain that there are some good ones. Thus at Hackwood Park Mr. Bowerman has both Sutton's Blood Red and Middleton Park in fine form and colour. The entire bed was perfect. It is a pity such plants should be despised in gardens because they are Beets, for no plants in cultivation can give outdoors such wondrous masses of coloured foliage as these Beets do.—D.

— **HOME-GROWN BANANAS.**—As a Londoner, and one who is particularly fond of Bananas, I read the remarks of Mr. W. Thomson (page 242) with considerable interest. At various times I have eaten many Bananas, but none has been home-grown. Would that some of us were able to procure home-grown examples of this nutritious fruit; but as an alternative we must perforce content ourselves with those that have been "hung in dark cellars." I do not know that the fruit is particularly tough or indigestible; indeed, I am bold enough to make the assertion that the better quality fruit is quite the reverse, being as a rule sound and fairly delicious. Of course, I do not say that the imported Bananas can be compared with those grown in British hot-houses, but the former appear to satisfy the general public.—SUBURBAN.

— **HERONGATE COTTAGE GARDEN SHOW.**—The fourteenth annual Herongate Cottage Garden show was held in Thorndon Park, by the kind permission of Lord Petre, on Tuesday last September 11th. His lordship was President of the show, which, on this occasion, as in former years, proved a great success. The weather was exceptionally fine, and there was a large attendance, close on a thousand persons being present, many of them from a distance. It is very gratifying to find how many former residents come forward each year to support the show, either by contributing to the prize fund or by their presence on the day. The arrangements were under the management of a Committee, and Mr. P. G. Laurie, the Hon. Secretary; and it is to the indefatigable exertions of the latter and of Mrs. Laurie that the success of the show is mainly due. The exhibits were very numerous and of an exceedingly creditable character, the entries numbering close on 600, which is largely in excess of former years.

— **WIDCOMBE HORTICULTURAL CLUB.**—The members of the Widcombe Horticultural Club, who had the privilege of inspecting and enjoying the magnificent collection of Begonias at Newton St. Loe Rectory last year, were only too glad to repeat the visit, while those members and friends who did not accept the previous invitation of the Rev. E. Lascelles undertook the trip with the most pleasant anticipations, which were fully realised. A company numbering nearly ninety left the foot of Widcombe Hill on Friday afternoon at five o'clock in several conveyances, the arrangements having been made by the excellent Hon. Secretary, Mr. R. A. Moger, aided by his energetic Assistant, Mr. T. W. Willis. At Newton St. Loe the party received a most cordial welcome from the Rector, and under the guidance of Mr. Lascelles and of his gardener, Mr. Langdon, the visitors were soon admiring the Begonias. Although Begonias are the ruling passion with the genial Rector of Newton, a collection of remarkably healthy and vigorous Chrysanthemums showed that other flowers are not completely neglected. A most enjoyable trip was spent, and Mr. Lascelles was heartily thanked for his kindness.

— **A COMPLIMENT TO MR. WOODGATE.**—Mr. George Woodgate, who has acted as Honorary Secretary to the Kingston and Surbiton Chrysanthemum Society for the past eight or nine years, left Kingston Hill last week for Burton-on-Trent, where he goes to take charge of the gardens of Rolleston Hall, a fine old estate about four miles from the noted centre of the brewing trade. The owner is Sir Oswald Mosley, whose family was originally closely identified with Manchester, where past generations were lords of the manor over a large portion of what is now a thickly populated city. It is a grand mansion, and the surroundings are in proportion, as may be inferred from the fact that at least twenty-five garden men are always kept employed. Mr. Woodgate leaves Kingston with the best wishes of everyone with whom he has been brought in contact, no matter in what capacity, and there is a general feeling of regret among all his many friends at losing him, though that is tempered by the knowledge that he has gone to a sphere where his abilities will have ample scope, and will without doubt be as highly appreciated as he has been by those whom he has faithfully served for nearly fifteen years at Warren House. By the late Mr. Hammersley and by Lord and Lady Wolverton, Mr. Woodgate was highly valued, and there was good reason for it. A general hope is expressed that he will be a visitor at the exhibition of the Chrysanthemum Society in November.—("Kingston and Surbiton News.")

— **TROPEOLUM SPECIOSUM.**—Mr. Dunkin (page 243) says that this *Tropæolum* is seldom seen in a thriving state in England. If he saw the magnificent display made by it in the gardens attached to South Stoneham House, near Southampton, and in that at Basing Park, near Alton, I think he would not look so despondingly on our English production of this charming perennial. In the former it not only grows luxuriantly planted in a shrubbery facing north, but it succeeds equally well in one with a southern aspect. Over the Laurels and up *Thuja Lobbi* it rambles 12 feet high, and is one mass of its glowing blossoms, and not one single root either, but enough to plant the eighth part of an acre. At Basing Park, besides climbing Irish Yews, Laurels, and such-like shrubs, this *Tropæolum* is used with marked effect in the hardy fernery which faces the east. Rambling amongst the Ferns it clings about the fronds in an attractive manner, clustering about such Ferns as *Athyrium Filix-fœmina cristata*. The soil in the fernery alluded to is of the ordinary character generally employed for Ferns, the subsoil being clay, thus affording not only a cool but a moist base also.—E. M.

— **SOME NEW BLADDERWORTS.**—These plants, botanically called *Utricularia*, have been long known as curiosities in the vegetable kingdom, the whole under water growth being covered with small bladders, which it was supposed were provided for the plant in order to enable it to float. Some species, however, grow among sphagnum moss, out of water, and yet are as freely supplied with the bladder as those which grow in water, according to "Meehan's Monthly." A few years ago an acute observer, Mrs. Mary Treat, of Vineland, N. J., discovered that the bladders were really little traps by which the plant caught minute animalculæ, the plant being a lover of animal food. The species are difficult to determine botanically, and it requires something of a specialist in that line of study to define them properly. A German botanist, Prof. F. Kamienski, generally receives the specimens collected on many of the exploring expeditions. He has recently issued a paper in "Der Deutschen Botanischen Gesellschaft," January, 1894, in which he describes nine new species or marked varieties. These are from the most distant portions of the globe; one from Madagascar, several from Africa, one from Australia, and two from Brazil.

— **TOMATOES IN AMERICA.**—Under favourable circumstances says an American contemporary, Tomatoes will grow from seed, and ripen fruit in twenty weeks. In colder climates the plants must be far enough advanced before setting them in the field to allow the short summer to ripen the Tomatoes. Experiments at the South Dakota station by Mr. L. C. Corbett indicate that stocky seedlings, careful transplanting, and clean culture are the important requirements for rapid growth and success. There was not sufficient gain to warrant the additional expense and trouble of sowing Tomato seeds before March, but for the bulk of the field crop they did not do well if started later than the middle of March. The crop was earlier from single-stem training, but the yield was thereby materially reduced. Seeds from green fruits gave larger Tomatoes and a greater weight of fruit per plant, than seeds from naturally ripened Tomatoes. Plants from cuttings were decidedly earlier and more productive during the early part of the season than normal or parent plants. The ripening of the fruit is retarded by pruning before setting in the field. Dwarf Champion, Early Ruby, and Early Advance were the varieties that proved the best.

— **RUNNER BEANS AT READING.**—When at the Reading flower show recently I asked permission to visit Messrs. Sutton & Sons' seed farm, where there is a very extensive trial of Runner Beans. Chiefly interested in two growing there I was also not much less so in the wonderfully fine forms of the Scarlet Runner section which the firm has. Thus of Sutton's Prizewinner, A1, Sutton's Scarlet, and others, there are some fifteen rows of each, showing all the various growers' stocks. Beyond these there are all the best varieties other firms have, and in that way it is possible to get a true line as to quality and productiveness. In spite of some harm from May frosts Runner Beans are wonderfully good everywhere, the crops being almost remarkable. Still there can be no doubt but that the Reading varieties have conduced to that result largely, for I found them everywhere. A new selection from a strain that produces wonderful pods ranging from 12 to 13 inches has been made, and by-and-by we may expect to see Runner pods much straighter and handsomer, but equalling in length the longest of the Leviathan Longpod Beans. My special interest, however, rested with the climbing sports from Canadian Wonder growing side by side, Sutton's Tender and True, certificated in 1891, and Veitch's Climbing Runner. Not an atom of difference could be seen between them, whether in height or nature of leafage or pod. I saw Tender and True the other day at Eynsford, where Mr. Cannell has a large breadth of it,

and there it was cropping splendidly. At Reading the Caseknife, a Fillbasket variety, was good, so also were the far too little grown and delicious Butter Beans.—A. D.

LIFTING FLOWER GARDEN PLANTS.

VARIOUS plants, as is well known, are taken up from beds and borders in the autumn and established in pots. If lifted early enough some of these plants may serve a double purpose—namely, afford flowers in the winter and cuttings in the spring.

Flowering Cannas are now at their best in many instances, but it would be a pity to let frosts cripple them before lifting. They can be taken up with a moderate amount of soil about the roots and placed in pots that will comfortably hold them. No serious check will be given, and they will brighten a greenhouse or conservatory throughout the winter months. Even some of the older varieties, with ornamental leaves only, would be of service in places where many conservatory and house plants are needed. Abutilons, again, can be lifted without the loss of many leaves, and the worked standards of *A. vexillarium* ought particularly to be taken good care of. All are useful for conservatory and house decoration, the same plants giving a good supply of cuttings next spring. Acalyphas are now bedded out in many gardens and in the open they colour grandly. Short, single-stemmed plants lifted before frosts loosen the leafstalks, placed in 6-inch pots and kept on shelves in a plant stove or other warm quarters, would most probably prove very serviceable for house decoration during the late autumn and winter months.

Acacias and Grevilleas do not lift very well owing to their roots spreading out far and wide, but the attempt might be made, as large plants in pots are useful for certain purposes and positions. Dracenas ought to have been kept in pots, more especially if wanted again next season. Plunging usually causes them to root into the surrounding soil, but the loss of these roots when the plants are lifted and stored does not injure them greatly. Fuchsias also fail to lift satisfactorily for continuous flowering, especially when they are so full of young sappy growth as at present. Those plunged in pots should soon receive less water, enough only being given to keep the wood plump, and they ought also to be stored in light sheds, coach-houses and such like before frosts cripple them. They are not perfectly hardy, and when severe frosts are imminent during the winter all should be laid down closely together, and further protected with hay, straw, or other light protecting material.

Bouvardias where they are bedded out will lift readily. Save only enough of the garden soil to prevent the leaves flagging seriously, as in pots it is liable to sour quickly. Use a fresh light loamy compost, place the plants in gentle heat and shade from bright sunshine. Marguerites have grown to a great size this season, but where they are not crowded and become drawn and weakly in consequence, some of them may be lifted and the display be prolonged in a conservatory. If early flowering Chrysanthemums would be more serviceable under glass than in the open, they may be lifted and placed in pots. They would certainly be safer in a greenhouse or conservatory than in the open. Dahlias are effective late autumn conservatory plants, but do not transplant readily.—FLOWER GARDENER.

THE NUTRITION OF ROOTS.

I THINK it best that I should reply to Mr. Gilmour (page 218) by comparing notes, rather than going scientifically into the matter with one who tried so unscientifically to corner my predecessor, and is trying to corner myself by using information, that was applicable under the conditions for which it was intended, as evidence against me in trying to prove me wrong in another statement I made, which also was truthful.

In correcting Mr. Gilmour, who stated that condensed and also that distilled water would contain no plant food of any kind, I stated that all elements that would volatilise at a higher and lower temperature than water might be found upon the glass. I repeated the same remarks on the distillation of water. What did this imply? It implied that in the process of distillation elements and compounds which took more heat to volatilise them than water under normal conditions would, in the distillation of water, pass off, owing to various circumstances, at the temperature at which water volatilises. I need not go further into this, though there is enough matter in it for a book.

What has Mr. Gilmour done? He has taken this to upset other information given under totally different circumstances. In one case I was showing what would pass off under certain circumstances under one condition, and in the other case I was explaining what would not pass off under other conditions.

This is what I stated, "I will ask your readers to believe that water which is brought up to the surface by (a) evaporation will contain a great deal of the organic and inorganic elements that are soluble, they will be held in solution until the (b) rarefied water reaches the surface, when the water becomes more rarefied (c); and (d) passing off it leaves all its solid organic and inorganic impurities upon or close to the surface of the soil. These being soluble they are carried down by the rain, the plant can and does appropriate this soluble matter whether it is passing in an upward or downward position.

What was the term "solid impurities" used for? To teach Mr. Gilmour that those elements and compounds which were held in solution until the rarefied water passed off as vapour and deposited

those impurities on the soil would not volatilise but remain upon the surface. I did not say nor imply that those elements and compounds which would volatilise under the temperature that was vaporising water would not pass off, neither did I imply, as Mr. Gilmour defines my meaning (page 218, top part of second column), "the water passed off in vapour and left everything behind." "Everything" would not be there. What of ammonia and the gases and the thousand and one things Mr. Gilmour would have fumed over? I never said that water filling a bucket at normal temperature and pressure is rarefied water, but after it becomes higher in temperature and greater in bulk it is rarefied water. There is another condition under which rarefied water is produced, that is, the condensation of vapour into a condition that is neither vapour nor water, but is identical with clouds, steam, and mist only existing in the soil; by concentration or condensation it becomes water, or by becoming more rarefied it again passes into vapour. The Encyclopædia gives this definition of rarefaction, "By means of rarefaction water is made to possess more room or appear of greater bulk without any accession of any new matter."

Another matter I may venture to deal with (second paragraph, page 218). I have never stated that the intermediate state in which water existed between liquid and vapour was produced direct from water, but have all along stated that the intermediate state spoken of by me was produced by the partly condensed vapour. The process of absorbing water from damp air, known as hygroscopicity, and the partial and total condensation of vapour present in the soil by the soil, should be known by Mr. Gilmour. Water exists as a liquid either at its normal temperature, also as a liquid when it has become rarefied until it passes into vapour. After passing into vapour it is capable of being again condensed either into an intermediate state or liquid water. There are, therefore, three conditions in which water exists. Mr. Gilmour evidently confuses rarefied water as used by me with vapour. Vapour is rarefied water, but rarefied water is not necessarily vapour. If this is not plain enough, I must ask Mr. Gilmour to study Nature's book for proofs.

As regards Mr. Gilmour's remarks, page 218, paragraphs 3 and 4, I shall pass them as an obvious perversion of what was stated. In the next paragraph Mr. Gilmour thinks he hits me in a vulnerable spot. Plants do imbibe moisture as it is in the process of evaporation, the roots being cooler than the moisture or the vapour they can and do condense it into liquid, and assimilate it with any food that may be present. I will ask the readers to understand I did not say that vapour was imbibed, but that the moisture existing in the soil, and had become so rarefied that it was just passing into vapour it was condensed by the roots and imbibed. "Wonderful, Mr. Bishop," is the terms used by Mr. Gilmour. It would have been wonderful if he could not have made something out of it. Here I stated that (1) roots imbibe moisture in the process of evaporation by condensing it into liquid; (2) that roots also imbibed water. Wonderful, Mr. Gilmour. You have not made me contradict myself yet, only by perversion.

In the next paragraph Mr. Gilmour gives me the victory, only he thinks that betwixt the cup and the lip I may lose it, and he asks me to answer eight questions specially constructed to answer his own purpose, and to try to win the victory, ignoring the fact that they do not honestly treat upon what was said, but as Mr. Gilmour wants authorities to either confirm his side or mine, I will give some in a future issue. For these I hope he may be able to wait. Premature onslaughts do not indicate good generalship.—G. A. BISHOP.

POTATOES.

THE PROPOSED NATIONAL POTATO SHOW.

I HAVE already received so many promises of support for the proposed National Potato show that, having the sanction of the Crystal Palace authorities to hold a meeting for the purpose in the Board Room, I venture to invite not only my correspondents, but all others interested, to meet in the Board Room at four o'clock on Saturday, September 29th, the first day of the Great Fruit show. One esteemed gardener urges that vegetables should be included with Potatoes. With that opinion I have great sympathy, and a special National Exhibition of Vegetables, with Potatoes for the primary feature, would, I think, command very wide support indeed. It would form at once a most worthy and splendid addition to the National Fruit show.—ALEX. DEAN, 62, *Richmond Road, Kingston-on-Thames*.

[A complete exhibition of vegetables such as is suggested, with Potatoes as a prominent feature, would equal the fruit show in magnitude, interest, and general usefulness. We hope our correspondent will have a large and successful meeting at the Crystal Palace, and that either a special Committee will be formed or a sub-Committee nominated from the Fruit and Vegetable Committee of the Royal Horticultural Society for carrying out the project.]

NEW VARIETIES AT CHISWICK.

A SPECIAL meeting of the Fruit and Vegetable Committee of the Royal Horticultural Society was held at Chiswick on the 18th inst. Present—Mr. J. Smith (in the chair), W. Bates, G. Wythes, J. Willard, J. Laing, J. Hudson, and A. Dean, with Mr. Barron. Potatoes

constituted the special object of the meeting. Of these there were found over sixty varieties, all new. Of this number one-half were more or less diseased, some very much so; and some others exhibited in crop and form no special merit. The general cultivation had been excellent, but the soil at Chiswick seems specially to favour disease development in the tubers. Eventually after seeing several roots of each sort lifted, some of them giving not only wonderful crops but also very free from disease, the following were, because of remarkable productiveness and excellent appearance, selected for the further test of cooking:—Stoke's Seedling, white round, very robust grower, tremendous cropper, and very little disease; Daniels' Special, good crop, white pebble-like round, very clean; Boston Bountiful (Johnson), long white Magnum Bonum-like kidney, very heavy crop, quite free from disease; Poor Man's Friend (Eaton), huge white kidney-shaped tubers, an immense crop, very clean; Field King (Howard), long flattish white, again a huge crop, fairly clean, strong top. Each of these received three marks after being cooked. The following, whilst giving fine crops and samples, did not pass the cooking test satisfactorily, though fairly good:—Pride of Oxford (Wiles), long flattish round, white, clean, and very free; Prosperous (Moss), white round, very handsome, great cropper, but had some disease; Duchess of York (Wiles), long flattish white round, late, very strong grower, no disease; Wood's Favourite, long flattish white kidney, evidently early; and Rushcliffe Beauty (Richards), another huge cropper, very robust, and free from disease. Tubers very long and flat, and the biggest sample raised. Some varieties were all tops and root strings. It is a pity, through lack of space, many of the best old sorts cannot be grown for comparison also.

RIPENED WOOD.

"SCEPTIC'S" continual refrain, "Tread on the tail of me coat if ye dare," implies that he would like someone to give him a lead, so that he might have the opportunity to indulge in a triumphant war dance set to the tune of "Lillibulero." If we are to take his audacity seriously, as the aggressive party attacking what is accepted as an invulnerable principle of the horticulturist's creed, instead of his present style of superficial reasoning, let him advance something in support of his scepticism, and he then need have no fear of meeting "foemen worthy of his unripened sprig of a shillalah." Until he does so every gardener who knows anything of plant physiology as affected by solar influences must take it for granted that "Sceptic" is either playing a part, or that lunar influences have as much effect on his fancies as have solar influences on the ripening of wood.

If "Sceptic" wants a convincing proof of his false position let him read the digest of Mr. Pettigrew's lecture (page 253, end of second paragraph), as follows:—"In 1879 the fruit did not ripen, the rainfall of the year being upwards of 44 inches. With one year's failure such as that, meant," said Mr. Pettigrew, "another failure the following year, for if the fruit cannot ripen neither can the wood, and without ripe wood there can be no Grapes for wine-making." If "Sceptic" cannot assimilate the lesson taught by the above text let him prove that Mr. Pettigrew is an incompetent because his unripened wood produced no Grapes.—AZOTO.



CATTLEYA GIGAS COUNTESS OF DERBY.

THIS extremely handsome Cattleya was shown at the Drill Hall, Westminster, on the 11th inst. by Mr. Johnson, gardener to Thomas Statter, Esq., Stand Hall, Manchester. The flowers of this variety are large and of the most perfect form, the sepals and petals being of the most delicate creamy white, while the lip was broad, with a clear yellow throat veined with rich purplish crimson. The outer extremity of the lip was a rich velvety purple crimson of exceptional depth. Our illustration (fig. 40) admirably depicts this superb variety, which was deservedly accorded a first-class certificate.

BARKERIAS.

THIS is a small genus of epiphytal Orchids, with slender fusi-form pseudo-bulbs somewhat resembling certain species of Epidendrum. That they are difficult to grow cannot be denied, but if a little more care was brought to bear on their culture they would be oftener seen in good condition. A frequent cause of failure with these interesting Orchids is leaving the flowers on

the plants until they fade, thus weakening them and making healthy growth impossible. They are also sometimes grown in too much heat, with insufficient ventilation provided. Coming as they do from Guatemala and the higher parts of Mexico they will not thrive alongside plants from the warmer and more inland parts of South America. An intermediate temperature, such as best suits *Odontoglossum grande*, will be also suitable for *Barkerias*. They do not like much compost about their roots, and should, if possible, be first established on small pieces of teak or Apple wood, and these placed in as small sized baskets as convenient, filling up with a little sphagnum and charcoal. The plants should

sepals and petals are greenish yellow with red spots, the side lobes of the lips are white, folding over the column, the frontal portion dark rose. The variety *Leopoldi* is far superior to the type, being very richly coloured. The sepals and petals are chocolate, velvety in appearance, and profusely spotted with dark crimson; the labellum is also deeper in colour than that of the type. This is now generally known as *C. Leopoldi*. *C. guttata* and its varieties thrive in a compost consisting of equal parts of peat fibre and sphagnum, with a little charcoal and potsherds added. Care is necessary that no water lodges in the apex of the young growth or about the bases of the pseudo-bulbs in the spring.



FIG. 40.—CATTLEYA GIGAS COUNTESS OF DERBY.

be frequently immersed in water while growing, so as to thoroughly wet every particle of the compost and also the foliage. This latter is of a deciduous character, and after it has fallen the plants should be kept quite dry in a cool house until new growth commences. The flowers of all the species are large compared with the growth. In *B. Lindleyana* they are purple, with a darker blotch on the lip. *B. Skinneri* and *B. spectabilis* are bright rose, the peculiar shaped lip of the latter species being profusely spotted with crimson. They usually flower during the late summer and autumn months.

CATTLEYA GUTTATA.

Although the individual flowers of this species lack the size of the various *Cattleyas* of the *labiata* section, they are nevertheless very useful and beautiful. It is one of the taller growing species, frequently attaining a height of 2 feet or more, strong and vigorous in habit, and one of the easiest of *Cattleyas* to manage. The pseudo-bulbs bear a pair of thick, dark green leaves, and from the apices of these the flower spikes are produced. Strong spikes bear eight or ten flowers, each about 4 inches in diameter; the

CYPRIPEDIUM SPICERIANUM.

The variability of prices of Orchids has long been remarked on, and owing to the exertions of collectors many fine species that within the last decade sold at remarkably high prices may now be procurable at a very cheap rate. *Cypripedium Spicerianum* is an example of this, as it is now one of the most popular in the genus, whereas it was a rare plant even in the best collections ten years ago. It is an easily grown winter blooming Orchid of great value. The leaves are pale green, 6 inches in length, and about 1½ inch in width. The blossoms are usually produced singly on the spikes, and last five or six weeks in good condition. The most striking part of the flower is the dorsal sepal, which is broad, folding inwards, white with a stripe of purple from the apex downwards, and a green blotch at the base. The petals are wavy, light green spotted with purple, the pouch dull purplish brown. *C. Spicerianum* grows most freely in a warm moist house during the summer, in winter it may be rested in a cooler temperature. A good proportion of sound fibry loam should be used in the compost, which should be open, and the pots clean and well drained.—H. R. R.

MODERN GARDENING.

[A Paper read at Birmingham by Mr. H. DUNKIN.]

DURING the course of my remarks on this subject I shall endeavour to show the marvellous progress that has been made during recent years, and which is still going on in the horticultural world. In order to do this clearly it will be necessary for me to take a retrospective glance to a more distant date than my own experience will carry me, so that I may compare past methods of procedure and results to present ones. In doing this I trust the older members of the vocation will neither consider it presumptuous on my part, nor the less interesting to them, that I should treat of matters more antiquated than my own existence, because I have that which I consider to be of more value than the experience of any one man to bear out my assertions, viz., the opinions of the leading gardeners of those days, as recorded in the horticultural press. In some cases, again, I may, through enthusiasm for modern times, be led to under-estimate the work of gardeners of the past; this, however, will not be through want of belief in their capacity and skill, as I yield to no one in real admiration of those grand old gardeners who have gone before and laid such a splendid foundation, upon which the continued progress of horticulture has been so firmly established. On the other hand, I recognise that the advance of modern requirements and the facilities of modern times render it absolutely imperative for horticulturists of to-day to move out of the beaten track to cope with difficulties as they arise, and advance in whatever direction sound reason may suggest, instead of clinging with our national tenacity to customs which have only their antiquity to commend them, and which, although they may have answered their purpose in bygone years, under the altered conditions of modern times should no longer be tolerated.

I believe the majority of gardeners will agree with me that there are few more remarkable achievements connected with the horticulture of recent years than can be noted in the immense advance made in the cultivation of the Chrysanthemum and in the many splendid varieties which have been raised. We have them now large enough and small enough to please the most fastidious. The perfect models formed by well grown incurved flowers, the varied colours, graceful and fantastic forms to be seen in the Japanese section, are a source of unfailing interest to all who once become engrossed with them. I dwell with especial interest upon this part of my subject, because the advance made has been principally within my own memory. Eighteen years ago I saw, for the first time, a Chrysanthemum show, and ever since then their gorgeous flowers have exercised a great fascination over me. Since that time I have seen many of the best shows in the south, and noted with keen interest the battle waged between growers from north and south for the trophy offered some years ago. But so great has been the advance that the winning stands of those days would have no chance now against the perfect incurved blooms or the massive Japanese flowers staged now-a-days. The progress made is not in their culture alone, but also in the splendid new varieties continually brought forward which are decided acquisitions, as they enable exhibitors to dispense with those small varieties which were so frequently required to complete a stand, and which often spoilt the evenness of it. I shall not soon forget the splendid show of these popular flowers which I saw a few years ago at Swanmore Park. I was fortunate in paying my visit just before Mr. Molyneux cut the grand flowers which finally won the last of the challenge cups he carried away from Kingston. If I had not already been a great admirer of the "Queen of Autumn Flowers," that one visit would have made me so.

Thus far my remarks on Chrysanthemums apply to those grown for exhibiting as cut blooms, but it is doubtful if specimen plants were ever grown so well as they have been during the last ten years. Although comparatively few undertake this branch of Chrysanthemum culture, those who do fully demonstrate their practical skill. Southampton, Portsmouth, and Bath have long been famed for their fine specimen plants. I remember on one occasion a well-known gardener from the metropolis was judging at the first named show when he declared that the plants he had adjudicated upon were the finest he had ever seen, and the only ones that came near them in point of merit were staged at the Guildhall in London twenty years before. Since that time I have seen better single specimens at Bath, but never twelve plants so large, even, and splendidly flowered. They were exhibited, I believe, by Mr. Joy, a nurseryman near Southampton, and Mr. Wills, his great opponent, usually ran him very close. Judging from the many fine plants I saw at the Chrysanthemum show held in Birmingham the city growers are on the right road to beat all previous records.

Another department of gardening in which not only great expansion but real improvement has taken place is in the production of those fine plants in small pots, which are in such great demand for decorative purposes, and in the highly artistic manner in which decorative work is carried out. Since the age of cheap glass and improved methods of heating much more suitable structures have been provided for the growth of these plants, and the advance made in this department is perhaps not so much due to increased skill as to the greater advantage under which we labour. Go into the great flower markets of this country and take note of the beautiful and remarkable plants there exposed for sale, possessing as they do luxuriant foliage, abundant flower, and robust health; and yet these plants, which approach so nearly to our ideas of perfection, are all grown in comparatively small pots. That they can

be thus brought to such a high state of cultivation is not alone due to the fact that they are grown in light houses and kept near the glass, but also in a great measure to the comparatively modern practice of feeding regularly with chemical manures. I refer especially in this case to the plants grown by the market gardeners, because they were undoubtedly the pioneers in the production of this fine type of plants; but in cases where private gardeners have the same facilities, such as suitable houses devoted to one subject, they are well able to hold their own against all comers.

I now come to that portion of my subject which deals with the progress made in the manner of arranging both pot plants and cut flowers, and I think in this direction the work and responsibilities of gardeners of recent times has been enormously increased. If we turn to the gardening press of forty or fifty years ago we find no reports giving a minute description of the way in which groups of plants were arranged at the leading shows of those days. Groups of plants arranged for effect were then not so much in vogue, and judging from the facts gleaned from many old and respected gardeners with whom I have come in contact, the prevailing style then was to put up a background of Palms, and then to form an even sloping bank from them to the front. The great points aimed at were evenness and plenty of colour. A complete revolution has, however, been made in our ideas since, and greater freedom of arrangement has been adopted. The new departure rapidly took the public eye, and we now find groups of plants put up with exquisite taste at the principal shows throughout the country, and they certainly form one of the most attractive features of modern exhibitions. This is not to be wondered at when we notice the highly artistic and finished manner in which even small groups are arranged, and when the work is carried out on a large scale, as at Shrewsbury and Manchester, it is surprising what a variety of features a single arrangement possesses. In the subdued light, under arching Palm fronds, brilliant bits of colour are dotted about, then a series of mounds of irregular heights and sizes have a most telling effect when they spring from a groundwork of greenery, and the whole undulating surface is dotted with Orchids, Crotons, graceful Palms and Grasses, while here and there a plant of elegant growth rises well above its varied setting, the outline of the group being finished off in such a way as to hide every pot, any of which if visible greatly mar the effect. Our aim should be to copy the outline of some of the landscape scenes and quiet nooks that surround us, and work them out on a miniature scale, with the choicest materials the hybridiser can produce, or the indomitable traveller collects from every quarter of the globe.

Gardeners of the past were wont to speak, and those veterans happily still with us tell us now, with justifiable pride of the days of Heath culture, which fine plants were then important features in the majority of the best gardens. They tell us also of the giant Cockscombs and perfect examples of Pelargoniums staged in days gone by, and they say with regret that such fine plants are not so much grown now. As they linger on the pleasure the past has afforded them, I cannot help thinking they forget the great variety of plants equally beautiful, and in some cases more useful, which now adorn our British gardens. What of the marvellous Orchids, the grand Begonias, the wonderful Amaryllis, the improved Cinerarias, the double Primulas, the bright Crotons, and hosts of other plants too numerous to mention which are now grown, or we might almost say manufactured, by thousands, all of which are wanted to supply the great demand for plants adapted for room embellishment or for supplying cut flowers. Where plants were formerly used by the dozen for these purposes they are now employed by the hundreds, if not thousands. It seems to me to be a matter of the survival of the fittest, and so long as any particular class of plant becomes the fashion of the hour and is better adapted to supply the prevalent demand, old subjects, though good in many ways, must make way for the new comers. Under the high pressure that gardeners of the present day are working they can ill afford a feeling of sentiment to stand in the way of progress. Should Heaths again become popular men to grow them in superb style will quickly be forthcoming.

When a decided demand for any plant is created the British gardener soon finds out the way to grow it. A careful study of the matter from an impartial point of view will, I think, show that the gardening of to-day is a much more complicated calling than was the case half a century ago. Fruit and vegetables were perhaps then in as great demand as now, but I fancy our predecessors would have been amazed at the elaborate decorations now carried out in many private places, and would experience great reluctance in resigning so many choice plants to a weekly sojourn in dwelling-rooms. In this branch of their calling the difficulties of gardeners have been greatly increased, and a close adherence to systematic culture must be carried out to maintain the supply required. In estimating the work done, and the results accomplished by gardeners of recent times, I am inclined to think that too little credit is given them for their achievements in this branch of their calling, for the simple reason that only a very limited portion of it is seen by their brother gardeners.

Then, again, the flowers required for and the amount of time spent in carrying out dinner-table decorations is very considerable, to say nothing of the tax on the inventive faculties to supply variety and originality of design. In these days of high artistic development such work must be carried out according to the true principles of art. There

must be no unmeaning mixture of ideas, but each attempt well conceived and smartly carried out. The pleasure to be derived from these elaborate displays is doubtless somewhat fleeting, but we must not forget it is the one thing wanted to complete the picture of luxury and refinement, and seems thoroughly in harmony with the imposing splendour which reigns around; and it is usually with feelings of satisfaction that the dinner-table decorator contemplates his work with the consciousness that while doing his duty he has also contributed to one of the highest forms of human enjoyment.

(To be concluded.)

PROGRESS IN FRUIT AT MAIDSTONE.

WITHOUT in the least suggesting that great progress has not been made elsewhere, but, on the contrary, admitting it most readily, it is not the less a fact, firm and incontrovertible, that an enormous advance both in the raising of fruit trees and the development of fruit, has been made at Maidstone during the past few years. The work of some of our great caterers for the fruit-growing community has had attention in the *Journal of Horticulture*, either quite recently, or at no remote period, and it is conceivable that something will be heard about other centres of tree production. Amongst these the great Kentish emporium, of which Mr. George Bunyard is the able and enterprising head, occupies a far too commanding position to be ignored.

In addition, the acquisition of special knowledge on the subject of fruit and other cognate matters pertaining to his vocation, Mr. Bunyard is a man of great business capacity. He is, moreover, imbued with a spirit of persevering industry, and no slight obstacles will prevent his accomplishing whatever object he may have in view. He has high aims and aspirations. The greatest attainable excellence would appear to be his motto in whatever he sets himself to do. He has done much in his time—done what few could have accomplished in expanding a small local business to its present wide proportions, and, in fact, in “making” out of next to nothing one of the greatest fruit nurseries in the world. And yet he is in his prime in mental and physical strength, ever looking onward, seeking for the best varieties of fruit and methods of production, testing and “proving all things” that come within the scope of his undertaking and which bear on the work in hand. Thus he has gained and is always gaining knowledge in the school of experience, this entitling him to rank as a master in the art with which he is identified. Mr. Bunyard is, in a word, both an accomplished and a “live” nurseryman, combining professional skill with sober judgment and more than ordinary enterprise, and hence the high position he has won in the horticultural world.

Let us take a glance at his work as it was seen three days ago. Two pilgrims on knowledge bent in fruit lore betook themselves to Maidstone. One of them had been before, but the other was a stranger. One had lived long enough to cease to be surprised at anything, and was, therefore, not unprepared to find that Mr. Bunyard has added field to field till he is responsible for some 500 acres. The other, the younger of the twain, though he has seen much, and whose name is writ large in horticultural literature, was struck (not dumb) with amazement when he found himself in the forest of fruit trees, ready to be sent to wherever they may be required, even to the ends of the earth. The old man, after a quick glance over this “forest,” took things quietly, and sat in the office for an hour or two trying Pears, and seeing that Mr. Bunyard “kept it handy—Grant’s Morello Cherry Brandy.” But he took no notes. The younger raced up and down the “breaks,” making sundry dashes right and left as he espied something worthy of note, and “took” it, coming away with a bookful. What he will do with those voluminous notes remains to be waited for, for the whole will never be seen, as the enthusiastic scribe has probably found himself before now about as much bewildered by them as he was by the contents of the nursery.

It will, perhaps, not be uninteresting to watch his movements prior to the “rest” among the Pears. Standing on a slight eminence, where he could see long stretches of young trees along the sides of the eight miles of roads and paths traversing them, and seeing the slopes of distant elevations clothed with Apples, Pears, Plums, and Cherries, he was compelled to find relief in exclamation—“What a sight! What soil you must have, Mr. Bunyard! What beautiful air! What wonderful growth! What—wh—what (nervously)—what in the world shall you do with them all?” meaning the trees. “Do with them?” was the quiet rejoinder, “why sell them, of course. We have always grown more and more every year, and they have always been wanted; and depend upon it these will go too—why, many are sold already. This lot of Pears are grown to order, and these Cherries will soon be gone. What do you think of them?” “Think—why, they’re beauties. Just the right height, firm, and clean;” and down went something of the kind in the book.

“Now look at this break of Plums Mr. Noter, good for maidens, don’t you think?” “Whaat—maidens! why they are 7 feet high, and branched all up—never saw anything like it. What did you say, 25,000 Rivers’ Prolific?” and the pencil was at work once more. Next came the two-year-olds of the leading kinds, some studded with handsome bluish purple fruits. “Ah,” interjected the guide, “that is one of the finest Plums Mr. Rivers has raised; it is Monarch, and will be in enormous demand.” Into the young man’s mouth went one of the Plums, and next something went into the book, followed by hieroglyphical characters in praise of Bradley’s King Damson, over which he went into ecstasies. Then we were invited to look down a bank of Apples on one hand, and Plums on the other, 40,000 of them—splendid planting trees. The

stranger naturally wanted to know the names of them all, and filled a few more pages.

Astonishment grew with farther inspection, and when we reached the acres of three-year-olds, fine thrifty bushes, hundreds of them laden with magnificent fruit, the excitement of the enthusiast became intense, particularly when he was told 400 bushels had been gathered and sold of the early Codlins, such as Lord Grosvenor, one of the most profitable of them all; Golden Spire, Pott’s Seedling, Grenadier, Gold Medal, and others of the type of which a few gigantic fruits remained—“as big as Turnips” the noter muttered, and he will find some such entry in his book. What a sturdy bush the last-named Apple makes! and near it the fine habit of Royal Jubilee was also observed, both, no doubt, being duly recorded. But the trees, still laden with huge fruits glowing with colour, startled the stranger the most, the rosy crimson Bismarck, the brilliant scarlet Gascoyne’s Seedling, the richly striped Cox’s Pomona, the dark bronze red of Baumann’s Reinette, the huge and well-coloured clusters of Bramley’s Seedling, the handsome striped Beefings, Tyler’s Kernel, Peasgood’s Nonesuch, Wealthy, Lane’s Prince Albert, and others that cannot be remembered. But the splendid Ribstons and heavily laden dwarfs of Blenheim Pippin could not be forgotten. All these and a hundred others went down in the book. Such work the busy chronicler had not before seen, and he could scarcely believe his eyes as he danced from tree to tree scribbling as if for a wager.

The season is notorious for the scarcity of Apples generally, but there is a wealth of magnificent fruit on the sturdy young trees in the quarter under notice at Allington. It is questionable if Mr. Bunyard ever had finer or better coloured Apples, and he will be able to stage well at the forthcoming Crystal Palace show of the Royal Horticultural Society. The wonderful crops are attributed by him to the thorough maturation of the wood under the influence of the tropical summer of last year; but it must be remembered that the trees were not starved and stunted, also that mere roasting is not wood-ripening. The wonderful colour of the fruit greatly puzzled the man with the note-book, and he had a great deal of talking to himself over it. “Where has all the colour come from? What has done it? Not direct sunshine, for there has been little or none. It is coloured all over. No, it can’t be that. Wonder if it is the soil? Can scarcely be that alone. It must be something in the air. Can it be the ozone blowing from the sea?” Thus did the searcher for truth soliloquise, only to a far greater extent than is set down, though the only verdict he appeared to arrive at was, “The sun had not done it all, that was certain.” Perhaps he did not think of the phosphatic and potassic elements in the soil, also a possible trace of sulphur and certainly of iron. Still, he must have noticed the trees were not crowded—mere thickets of soft shoots; but that the wood was firm, short-jointed, the leaves thick, and the growths so disposed that the full influence of light and what sun there was could act directly on them, and it may be conceded there is more light on the heights above the beautiful Valley of the Medway than in most places that are much further distant from the sea coast. Those are the essential conditions both for ripening wood and colouring fruit, and the requisite combination of advantages appears to be effected in the position in question.

Eventually we found ourselves among the Pears—trees of all shapes, laden with in most cases handsome fruits, though some had been injured by hail. From storms there is no shelter in this high and bleak position, and hence the sturdy growth all round. If the celebrated note-book could be examined it may be expected there would be an entry of 50,000 Pear trees, and a register of the characters of many varieties, for the pencil was at work continually. The wielder of it had never seen Belle Julie before, with its crowd of russet green fruit—a Pear which in quality has no superiors and few equals in its season—October and November. He knew Pitmaston Duchess, in fact all the sorts in general cultivation very well, and rejoiced in the crop of fruit, but Rivers’ Conference made him pause and put down something like this in shorthand, “Splendid habit, crop, and fruit, grand acquisition.” Then fine Triomphe de Vienne filled his eye, and he could not get past such as Beurré Dubuisson (a favourite of the late Mr. Ingram of Belvoir), Beurré Baltet Père, fine fruit on small trees; Beurré Mortillet, large and handsome; Fondante de Therriott, of the Passe Colmar type; Marguerite Marrillat, one of Mr. Bunyard’s favourites; trees roped with fruit on bushes, pyramids, one, two, three and more branched cordons, espaliers of Doyenné du Comice, Emile d’Heyst, Madame Treyve and a hundred more—all these kept him busy as if he had in view the compilation of a catalogue.

He had then to go “through” the Peaches and Nectarines, under glass and outdoors, trained and in pots, some still bearing, others ready for cropping next year and successively. He saw a fine stock of and learned a great deal about Rivers’ Early Nectarine, as the first to ripen, and the brightest and best of its season, setting all down for future reference—and trouble. Then he was scribbling away in three houses full of Figs, trees in small pots laden with fruits, and when he was told one was filled with “Turks” as the most useful, he put it down as a new variety; but it was only the nursery abbreviation for Brown Turkey. Next he became almost dangerously excited over Apples in pots, representative of orchard house culture; and grand they were, though there were equally large and brilliant specimens on trees in the open quarters. These latter he thought would be viewed with suspicion when exhibited as having been grown from the beginning to end in the nursery lines.

Just as a final glance in the Allington Nursery he was taken through

a "break" of maiden Apples, chiefly, 100,000 on various stocks according to suitability and the character of trees required. Here he thought he should gain an idea of the more popular kinds by noting the breadths of each, and out came the book. Among them he found Bismarck, Bramley's Seedling, Cox's Pomona and Orange Pippin, Duchess' Favourite, Gascoyne's Scarlet, Gold Medal, Golden Spire, Grenadier, Lady Sudeley, Lord Grosvenor, Newton Wonder, Worcester Pearmain, Ribston Pippin, Potts' Seedling, Warner's King, Yellow Ingestrie, and White Transparent, the last one of the most in demand of early Apples for market. He hopes to grow all he set down and more, and it is likely he will do so, for he means business, which is more than can be said of all nursery-visiting enthusiasts.

He had a peep into the reed-lined fruit room, and dragged himself reluctantly from the serried lines of crimson, yellow, scarlet, and other tints which Apples assume; and after all this he wanted to rush through the Roses, and as he buried his nose in Augustine Guinoisseau, he declared it the sweetest of all the tribe, while he thought Caroline Testout should also be grown in every garden because of the great profusion of its charming silvery pink blooms, and hundreds more to follow. He was got out of the Allington grounds at last, and though he had read the advertisement on the back page of the *Journal of Horticulture* on the 6th inst., which had arrested his attention and possibly excited his curiosity, yet he was constrained to say the results in this great fruit nursery exceeded his "wildest" (his very word) anticipations.

The next time he goes to Maidstone he intends taking a new book, and going through Mr. Bunyard's other nurseries, where Vines, Strawberries, and other trees are grown. His time and space were exhausted on the present occasion, and he returned to London a happy man, except just in one respect; he found he had lost a shilling by not taking a return ticket from Victoria to *Barming* (the station for the Allington Nursery) in ignorance that the return half would take him back by either the Chatham and Dover or South-Eastern Railway from *Maidstone*.—THE SENIOR.



CHRYSANTHEMUM LADY FITZWYGRAM.

I DO not wonder that an award of merit was granted to this early flowering variety on Tuesday last by the R.H.S. When Mr. Agate, Havant, raised it from seed, grew it, and exhibited it at the Portsmouth show in July some four years since, I was much impressed with its manner of flowering. Planted in the open border it is one of the best of white flowering varieties. The growth is dwarf, 2 feet, and very compact, and the pure white flower heads are freely produced, and very showy they are.—E. M.

CHRYSANTHEMUM GOLDEN WEDDING.

I HAVE been growing Chrysanthemum Golden Wedding with five shoots in a No. 9 pot. It has received the same treatment as my other Chrysanthemums with regard to water and manure, and these are most healthy and fine. About a month ago I noticed one flower shoot withering, and it shortly dropped off just as if it was burnt. The remainder of the shoot below the flower is sound. The roots are also healthy. I have since lost all the shoots except one, and this looks unhealthy. There is nothing in the plant's immediate neighbourhood calculated to injure it. Could you kindly give me a reason for the above? No trace of insects.—THE BOY.

Mr. E. Molyneux has examined the specimens referred to, and favours with the following remarks:—

"From many quarters come complaints of the behaviour in the growth of this Chrysanthemum, which is most disappointing. I had formed a very high opinion of its merits, regarding it as one of the best yellow flowered sorts in the Japanese section. The behaviour of the plants under my charge appears identical with those of your correspondent; even in instances where all the branches on one plant are dead the roots are in a healthy condition, which induces me to come to the conclusion that it is the cold, sunless and moist weather experienced during the greater part of July that is the cause of the trouble, as I note all plants of this variety date their decay from about the same time. Golden Wedding is naturally a sappy growing kind, the wood under adverse weather conditions being soft and unable to bear the sudden bursts of hot sunshine experienced during August, and therefore collapsed as though the plants had received an excessive dose of sulphate of ammonia or nitrate of soda. I notice a single shoot on one plant especially is quite healthy, this being situated at the back of the plant, and thus away from direct sunshine. This fact influences me considerably in the opinion formed as to the cause of premature decay. Plants which have received no stimulating food whatever since they were potted have 'gone off' in exactly the same manner."

STOPPING CHRYSANTHEMUMS.

I FEAR Chrysanthemum growers generally are just at present too much engrossed in contemplating the coming beauties of their flowers to

settle down to the comparatively prosaic task of recording their this season's experience in regard to stopping. I entirely agree, however, with Mr. A. Young (page 196) that information on this point is greatly wanted, as the matter is a most complicated one, and has not at any time been thoroughly and systematically thrashed out. Still, I doubt if the practice will ever become quite so general or satisfactory as some seem to anticipate, because our seasons vary so much, and it will frequently be found that plants retarded by stopping in the spring, if the season prove a late one, will not have their flowers fully developed in time for the principal shows.

An exceptional season like last year was perhaps favourable to the practice, but I think this year's experience will be exactly the opposite, at least in those instances in which stopping was practised with a view to delaying the formation of the crown buds. The Queen family this year fully illustrated the point. I have about a hundred plants of the various members of the family. The majority of the cuttings were inserted the first week in January, and three shoots taken from the natural break. Almost every plant so treated showed crown buds from the 10th to the 20th of August, a most suitable time for this district. A few cuttings of Queen of England, Lord Alcester, and Mrs. R. King were inserted early in December. Plants resulting from these were stopped near the end of March, and to-day, September 8th, the buds are not visible, though I am expecting to see them every day.

This, I think, proves as far as the present season is concerned that crown buds from unstopped plants rooted slightly later than customary are the most reliable for the midland districts, but judging by the condition of our stopped plants I should think the buds would be produced under that system quite early enough for southern growers even this year. I am fully prepared to admit the great beauty of flowers of Mrs. F. Jameson obtained from stopped plants, but the buds of these are somewhat late this year. On the other hand, if the cuttings are inserted in December and the plants left unstopped only one bud is produced, this usually coming slightly too early; but if the plants are rooted in February and kept in 8-inch pots good buds will usually be secured at the beginning of August; and I find that many Japanese varieties, if rooted late and kept in small pots, produce grand flowers at the right time.—H. D., Warwick.

A BELGIAN CHRYSANTHEMUM CATALOGUE.

UNDER the title of "Supplement à la Liste Descriptive des Chrysanthèmes d'Hiver," Mons. O. de Meulenaere of Ghent has published a catalogue of all the new Chrysanthemums sent out by American and European raisers since the spring of the year 1890. It was in that year that the original work was published, and the supplement just issued makes Mons. de Meulenaere's record of Chrysanthemums as comprehensive and as complete as it is possible to obtain. This can be said without in any way detracting from the official publications of a catalogue nature issued by the National Chrysanthemum Societies of England and America respectively.

In the work now under notice, which makes a very opportune appearance at the beginning of the season, the compiler has made a successful attempt to include in a single volume the names and descriptions of the immense number of novelties that have been sent out during the past five years. It would seem that something like 3000 new Chrysanthemums have been distributed in that time, and the names of the raisers and dates of distribution are almost invariably given. The amount of material consulted must have been very great, for on testing the list it will be seen that besides having had recourse to all the Continental raisers' lists M. de Meulenaere has gathered together information more or less extensive of the seedlings of every English and American grower of any repute, besides including many sorts which have been imported direct from Japan.

In the arrangement of his list, which is strictly lexicographical, M. de Meulenaere has been guided by a new principle. Heretofore, most compilers have catalogued the names of the varieties under the first letter of the first word in each name, with the obvious difficulty that before the name of a flower could be found it would have to be remembered, in the case of personal nomenclature, whether it was a Mr., Mrs., or a Miss. Sometimes this was not sufficient, for the name might consist of a Christian and surname, and then it might be found under any letter of the alphabet. There are many flowers bearing the family surnames of Spaulding, Delaux, Chandon de Briailles, Dorner, Drover, Crane, Smith, and the like that cannot possibly be found without a knowledge of the appellation preceding them. In M. de Meulenaere's list this is not necessary, for each group will be readily found classed together, with the Christian names, titles, or other distinctions following. Thus, as he explains, Ada Spaulding, H. F. Spaulding, Master Bates Spaulding, Mrs. T. Spaulding, Mrs. H. F. Spaulding, Mrs. T. H. Spaulding, and Spaulding's Black Diamond, will be found in previous lists in seven different places, while in his they are all arranged under the letter S in their proper alphabetical order. In other cases of compound names, such as White Queen, Mutual Friend, American Flag, and others, the noun regulates the position in which the name is placed. This is a plan not difficult to understand, and one which must probably be followed ere long by all compilers of such catalogues, for its advantages are obvious. Chrysanthemum names are often of such length that growers frequently cut off what they regard as superfluous, and the identity of a flower may be lost if the old method is adhered to. In the enumeration of the varieties catalogued by M. de Meulenaere he mentions the sections to which they belong, gives the colour, sometimes the habit, synonyms, and other

details. All those which have received certificates, medals, or other awards are printed in heavy type. The work runs into 100 pages, is printed clearly, is stitched in paper covers, and published by M. Ad. Hoste of Ghent. We observe that recognition is made in the preface of the valuable services rendered to the compiler by Mr. C. Harman Payne.

THE SPRINGTHORPE CUP AND TUBE.

THE accompanying illustration (fig. 41) represents a new cup and tube invented by Mr. G. Springthorpe, The Gardens, Coombe Court, Kingston-on-Thames, for exhibiting Chrysanthemums and other flowers. As shown in the engraving, the cup has one brass side spring, which enables the exhibitor to adjust his flower with speed and accuracy in the tube or water container. It also has a very simple arrangement to prevent the necessity of plugging. The tube or water container has also one brass side spring, which passes through a flange fixed to the showboard from the under side. The simplicity of the arrangement seems to have met with general approbation, and a certificate of merit was recently awarded for it by the Kingston Gardeners' Association. This invention was also highly commended by the National Chrysanthemum Society at the Royal Aquarium last week.

CULTURE OF CHRYSANTHEMUMS.

[A Paper by Mr. ARDERIE, read at a meeting of the Falkirk and District Gardeners' Mutual Improvement Association.]

(Concluded from page 246.)

TAKING THE BUDS.

SOME persons say the whole secret in growing these plants is in the taking of the buds. That is not my experience, for if the plants have not been well attended to the whole season the taking of the bud will not assist them much if you want to have a certain number of blooms at their best on a given day in the middle of November. In the first place it is necessary to know something of the habit of the different varieties to be operated on. By propagating twenty-four distinct kinds on the same day it does not by any means follow that these twenty-four will show their proper bud on the same day in August. There are early flowering varieties that are about their best at the end of October; others that are called midseason varieties that will, if allowed to grow on uninterruptedly, produce flowers in perfection at the middle of November; and there are others that are late that would, under the same conditions as the preceding, produce their flowers during January. Some of these early and late kinds are of the utmost value to the exhibitor, so it is apparent that something must be done to bring these varieties in at the proper time. We will take Colonel Smith and Edwin Molyneux as examples of earliness. These two varieties, if allowed to grow naturally, would produce blooms at their best far too early for any of the important shows. With the month of March arrives the time for timing the buds. I generally go over my plants and pick out the early and late flowering varieties and place them by themselves. I take out the eye of the leader of the late flowers with the point of a knife, not half an inch or an inch, simply the eye; that causes the plants to break or make fresh side shoots. Select the three strongest and best placed, if there is any choice, and grow them on uninterruptedly until they show the crown bud, which will be early in August. That bud must be saved and all side shoots rubbed out. With the early flowering kinds, of which Col. W. B. Smith is an instance, we take out the eye as in the case of the late varieties and select three shoots. The next bud that appears on these will be about the end of June. This must be removed at once, and disbudded to a single leader to go on again. The next bud will very likely, if the plants have been well grown, show about August 10th to 16th; I like to have these varieties come in about the 15th to the 18th of August.

It is impossible in an article of this kind to give a detailed statement of when to take buds of all the varieties, but I am sure by carefully tabulating notes that a standard could be made for every variety. What is wanted is to control the growth of each plant so that it will be at its best on the day required. Many growers I know grow from the crown buds, and there is no doubt that they have size of bloom; but I like to see the correct colour and some refinement of petal in preference to immense ragged flowers that have size only to recommend them. I generally stop the majority of varieties in the month of March, to cause the plant to be later in making its first break; in other words, I take the majority of the buds on the third run, and in the most instances these are what are called second crowns. Etoile de Lyon, Charles Davis, and Vivian Morel we treat in that way to have the correct firm petal and colour, which in my opinion is of more importance than size. I may here say the crown bud is distinguished by having three shoots immediately under the buds, and if this bud be taken these growths should be rubbed out. The terminal bud (so called from its being the termination of growth for the season) is distinguished by being surrounded by other but smaller flower buds; these small buds must be immediately removed. The term "taking the bud" means leaving it and rubbing out all side growths that appear in the axils of the leaves. I hope I have made this sufficiently plain.

After the buds have been secured be careful to keep them well tied to prevent damage from winds, and be ever on the watch against insect pests, such as earwigs, borers, and thrips. The borer is the worst enemy we have to contend with; it is easily known; it is about quarter of an inch long, tapering at both ends, of a light brownish colour. If these pests are allowed free scope they soon play sad havoc amongst the buds by boring up the side of the bud stems, and often into one side of the

bud. When the flower stem has been bored by this insect it causes the bud to lean to one side. This can be remedied if seen in time by placing a small splint close to the bud, and gradually working it up until it is straight; but if the bud has been touched it is perfectly useless. Earwigs can be trapped and killed by placing cut bean stalks amongst the leaves, and examined every morning; abundance of tobacco powder dusted over the buds will keep thrips at bay. Usually at this season of the year some of the plants are infested with mildew. Syringe these with a solution of soft soap and sulphur; that will free them from mildew, and also from green fly and thrips.

TOP-DRESSING THE PLANTS.

I ought to have said before that after the buds are taken it is a good plan to give the plants a top-dressing of rich soil, good turfy loam with a little sand and leaf mould added. To every bushel of soil add one pound of some good concentrated manure, such as Clay's fertiliser.

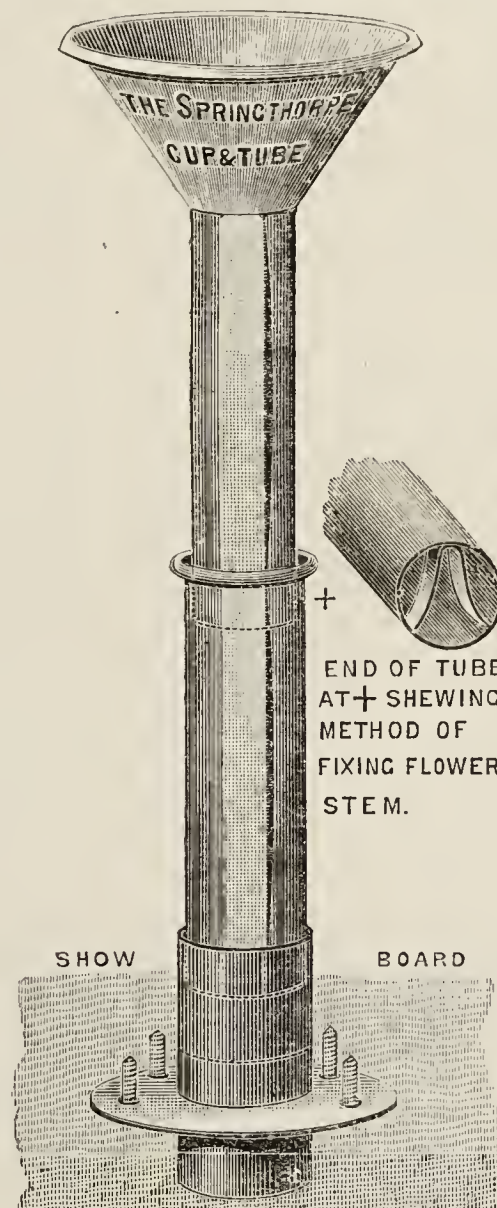


FIG. 41.—THE SPRINGTHORPE CUP AND TUBE.

I believe more in top-dressing than in pouring liquid manure into them.

By the beginning of September most of the Japanese varieties will have set their buds, but with the Incurved kinds it is different. I do not care to take buds of these much before the last week in August except in the case of the Prince of Wales family and one or two others. I like all the Queen family on the terminal buds or late crowns. The blooms from early crown buds of these are generally too full in the centre, and are rougher in the petal and wanting in colour, and very difficult to dress, oftentimes reflexing instead of incurving. I find August 29th to September 3rd the best time in our neighbourhood (Scotland) to take buds of the Queen family, and August 20th to 25th for the Prince of Wales type, Lord Wolseley and Prince Alfred about August 28th to September 1st. Princess Teck on the other hand is very late.

HOUSING THE PLANTS.

Towards the end of September the blooms of some varieties will be showing colour; take all such into a cool airy house at once. At that time of the year there are often heavy dews at night, and if the petals become damp they rarely develop into good blooms. By the end of September it will be time to commence housing the plants, first placing in the late flowering kinds. It is not safe hereabout to leave the plants out after October 1st. In arranging the plants in the houses in which they are to flower, place all the late-flowering kinds at the warmer end according to their height, and avoid crowding. Examine all plants to see that they are free from mildew; if any are affected give them a dusting with sulphur. Fumigate for a week or ten days on every alternate

night to clear out green fly. If that pest once gets into the flowers they are completely spoiled in a short time.

It will be observed that after the plants have been indoors for a week or ten days they refuse to grow. It must be borne in mind that the plants have undergone a great change these last ten days. The want of the heavy dews, in which they delight in, have been suddenly cut off and a drier atmosphere substituted. We can, however, help the plants greatly by giving them a good syringing night and morning for a week or so till they become accustomed to their new quarters. All stimulants and feeding must be withheld for a time, using clear rain water, and only when they need it. Give abundance of top and bottom ventilation night and day. Take off all decayed leaves, as if they are left on the plants.

The buds will be swelling fast, and some will be showing colour by the middle of October, and any that have fugitive colours—i.e., those that fade quickly or burn with the sun must have a slight shade over them during bright sunshine. When watering be careful not to spill any on the paths, and the floor should be wiped dry. If allowed to remain it evaporates and falls on the petals, and causes damping. Avoid sudden changes of temperature. Keep the Japanese sorts, if possible, by themselves, as they require a little more warmth than the incurved; indeed the latter are spoiled if put into strong heat. Look over the blooms carefully every night with a lamp to see that there are no earwigs destroying the petals; these insects do irreparable mischief in a short time. In the compilation of this paper I have to acknowledge the great assistance I have derived from a perusal of Mr. C. E. Shea's notes in Mr. H. J. Jones' catalogue.

MINLEY MANOR, FARNBOROUGH, HANTS.

So insensibly do counties exhibit their boundaries or physical differences, that although the train from London to Farnborough has passed over the little Blackwater river a mile or so above that station, yet is there no special indication that we have passed from the county of Surrey into that of Hants, for the famous Bagshot sands area extends for many miles into the latter county, the characteristics of earth and vegetation being identical. Hence after being met at Farnborough by Mr. G. Profit, J. P. Currie, Esq.'s, estimable steward, and driven by him towards Frimley, passing on the way the present residence of the Empress Eugénie, and the magnificent mausoleum she has erected for the retention of the bodies of her late husband and son, and on the left a pretty place, Farnborough Grange, where Mr. J. Crook of Forde Abbey was for some time gardener, I am driven through charming country lanes, through the village of Hanley, and eventually reach the borders of Minley Manor. More complete example of the sterile nature of the Bagshot sands when left uncultured could hardly be found than is observed after turning in the lodge gate, for even the Heather is stunted, and the sandbrash breaks out through a few inches of poor surface soil.

Still not far off there are the beautiful grounds which surround the residence of Sir Phillip Currie, our Ambassador at Constantinople, and these serve to show how much can be got out of the most unpromising surroundings when the industry as well as the wealth of man are properly applied. Just as evidence of the astonishing capacity of these combined forces, Mr. Profit took me down a green drive that runs through the Scotch Fir literally like a Highland waste, and presently we come upon an embryo lake, one of some 50 acres in area, and of very irregular outline, that is being formed, and much of the labour has been accomplished. Perhaps two-thirds of the area has been excavated, and is now covered with water, which ripples in the sunlight with exceeding beauty. Out in the lake some islands have been formed, which will presently be planted to form refuges for wild fowl. On one side a boat-house is being constructed. In other directions excavations are being made, banks fashioned, and where the water pressure is greatest solid concrete foundations have been put in. The banks of peat have been planted with Willow cuttings and Bog Myrtle, a shrub of which I know not the botanical name, but it is most deliciously perfumed. The site of this fine lake was a huge swamp, utterly useless. Presently it will form a most beautiful object, and whilst draining the surrounding land enable that to be in time planted or cultivated. All this work is being done under Mr. Profit's sole charge. Already it is becoming a conspicuous object from the mansion, although some two miles distant.

During the nine years the present steward has had charge of Minley—for he went there from Coombe Wood—wonderful alterations and improvements have been made, not the least of which has been found in the formation of new roads and remaking and widening of old ones all over the estate; the Minley gravel is first rate, and the roads are literally unequalled. I have never met with better anywhere. Passing from the lake in the direction of the mansion a gradual change comes over the scene. The trees now are less Fir and more of deciduous, Birch, Beech, and Oak becoming numerous, whilst Fern is strong and beautiful. Sometimes we pass through lofty groves of Larch or Scotch Firs just as the higher areas are reached, but certainly the farther we get into Hants the more are the poor sands left behind. Presently the drive takes us out on to that extensive area Hartford Flats, where our Aldershot forces so often conduct their manoeuvres, and across which runs the broad smooth road which leads from London to the south and west. Here another lodge gate admits to the enclosed grounds again, and on through groves of trees and Rhododendrons, then near to the mansion, turning abruptly to the right down a new carriage road lined

on either side with noble Pinuses, such as are indeed a joy to look on. How finely all this class of trees do here, for they are indeed at home. Eventually, after some fifteen or sixteen miles circuitous riding we reach Mr. Profit's charming house, Minley Warren, where he has ample room, a beautiful garden, and a charming look out over the park and fine country many miles distant. Around are grouped the engine houses, laundries, and here is created that magic current, which at the bidding of the conjurer at any moment suffuses with brilliant light every building and room in them, whether mansion, garden, stables, or steward's residence.

The Warren lies low, literally in front of the mansion, but is entirely hidden by a lofty and dense belt of trees, which form from the mansion terrace a fine feature in the foreground, yet discloses nothing of what is so well hidden. On the high ground to the left of the mansion is the pretty little estate church, forming a very picturesque feature, and trailing right away to the south-east is seen not merely the vast range of buildings that now comprise the town and camp of Aldershot, but also may now be seen showing with singularly picturesque effect myriads of white tents that in the remote distance dot the hill sides, the famous long valley showing in the foreground, whilst behind runs the lofty range of hills so well known now as Cæsar's camp. Truly Minley Manor is a noble as well as most beautiful demesne, and it enjoys grand views over extensive ranges of country that are as interesting as they are varied. However, it is about time to come to closer quarters with the garden features of this fine place. From the tree-enshrouded Warren house the ground rises somewhat steeply towards the eminence on which the mansion stands. The slope is one of turf, nearly all kept hard mown, and in various directions are planted numerous and beautiful Conifers to give pleasing effects in partially clothing the grass from the terrace above. Ascending this slope to the left a striking Douglas Fir some 60 feet high is passed, a beautiful tree planted in 1879 by Mr. Gladstone. Its present height shows how rapidly it has grown.

A little higher a level grass walk or gallery runs round the top of the incline, so broad as to enable a low carriage to be driven round; but clothing a large portion of the slope has been planted immense numbers of Rhododendrons, and these will some day when a solid mass of growth present a wonderful body of colour. Much as many were injured by the May frosts, they have grown out of their disfigurement admirably. Reaching the broad plateau which constitutes the kept pleasure grounds, bedding, if it may be so termed, under the most extensive and unusual conditions is presented. These beds, really large areas, are carpeted with flowering or foliated shrubs, and have flowering or foliated trees above them for contrast. There are probably some thirty or forty of these combinations, but only a few can be mentioned, as *Berberis stenophylla*, that makes luxuriant growth; white-flowering *Spiræas*, having standards of Purple Beech on them; *Azaleas*, on which are trees of the Snowy Mespilus; big clumps of *Hydrangeas* and *Kalmias*, having for trees *Pyrus salicifolia pendula*, *Staphylea colchica*, with *Cerasus Padus*, flowering Crabs on *Olearia Haasti*, now one mass of snowy white; *Spiræa confusa*, with *Cotoneasters* overhead.

Standard Lilacs on the Golden Cornus, the purple-leaved Nut surmounted by the golden Mountain Ash, *Hydrangea paniculata* edged with *Skimmia japonica variegata*, topped with *Prunus Pissardi*, and so on *ad infinitum*. Here and there are big clumps of hardy border flowers and annuals in great profusion. The entire garden is one of the most original conceivable, and will in a few years, especially in the spring time, be wondrously beautiful. A large rockwork covered with Roses, Ivies, Golden Jasmines, Saxifragas, and myriads of things is very attractive, and edging a big mass of the American Bramble is the double pink Bramble, a very unwonted feature, blooming most profusely and beautifully. The flowers are as big and as double as small flowers of *Chrysanthemum Marabout*, which they much resemble. Conifers, again, are found near this garden in great abundance and very handsome. Passing towards the mansion an enclosed garden is encountered, planted only some three years. The whole is fenced in by Yew hedges, one-half being devoted to Roses, which do well considering the shallow nature of the soil, and the other half to *Ericas*, of course all hardy, most of which are now in bloom, for everywhere about the district the glorious purple Heather is in rich bloom. A note of these Heaths must be made at some other time, for there is so much to write about.

From this garden the next step is into an enclosed court garden, the insides of the walls being covered with Yew, and the ground with turf around. On portions of the sides stand noble standard Bays and Orange trees in huge tubs, two big masses *Hollies* planted to resemble gigantic baskets, for each clump is 24 feet across, have for green outline *Sherherdi* and *Hodgkinsi*, and Golden Queen for handle and centre. These clumps are kept hard clipped. In a similar position are triangles of hard clipped Yew, with scrolls running about them. These were formerly filled with Golden *Retinosporas*, but now are being planted with *Juniperus tamariscifolia*, silvery. There are many other features in this garden to which it is difficult to do justice, but some quaint things certainly are Irish Yews, 3 feet or so in height, having heads of bright Golden Yews that have been worked on to them. On the mansion's south front, for the west front looks on to this garden, runs a broad bold terrace walk, and it is from here that such grand views of the surrounding country are obtained.

The mansion is being well clothed with green, grand *Magnolias* especially adding to the effect. The edifice erected some thirty-six years since is of the French Château style of architecture. On its northern side a noble courtyard enclosed and largely covered with grass, on

which stand many more giant standard and pyramidal Bay trees, probably the finest of their kind in the kingdom. Most of these are in huge boxes that are chiefly constructed of iron and oak, and weigh each half a ton, whilst the entire body of tub, trees, and soil reaches nearly 2 tons. These have to house them a very large building close by, and they have to be shifted with the aid of a powerful machine constructed specially for the purpose. Mr. Currie always has a very strong penchant for these noble pyramidal shrubs, and also for everything that has pyramidal growth, especially Conifers. Running away north from the entrance court is a noble avenue of Wellingtonias, alternated with Lime trees—a very pleasing combination. This is broad, and some quarter of a mile in length.

The kitchen gardens are close by and very perfectly fitted. The whole of the garden department is ably presided over by Mr. Tubb, who has been in charge for many years. A fine feature of the kitchen gardens is seen on entering, for a broad walk runs right to the far side, having a broad margin of turf on each hand, and on this is a fine row of pyramidal Pears, most of which are fruiting well, and are in splendid condition. Soon, however, this walk is intersected by a similar one running right and left, and still farther at each side of the garden, parallel with the centre walk, and this one is on both sides planted with Apples and Plums alternately. There are good crops on most of these also. Vegetables generally in the quarters and outside the inner walks are good. On the walls are Peaches and Nectarines, doing well and cropping heavily. Morello Cherries covering the whole of a north wall give a truly wonderful crop. Probably there is half a ton of superb fruit, of course all netted up. Plums on east wall do not do so well, but Apricots at the back have done very well indeed.

There is a good range of fruit houses, Grapes, Peaches, and Figs, all good. Melons, Tomatoes, and Cucumbers come in yet another range of span houses, some of which are devoted to plants of all descriptions, including Dendrobiums, Celosias, Ivy-leaf Pelargoniums, and stove plants, and there is outside a promising collection of Chrysanthemums in pots. The garden hands are admirably housed, as also are the chiefs. Everything is first rate, but to pen a description of this noble place commensurate with its deserts is indeed difficult, I therefore must leave those who wish to know more to visit Minley Manor at their convenience.—A. D.

ROYAL CALEDONIAN SHOW, EDINBURGH.

SEPTEMBER 12TH AND 13TH.

THE vast floor space of the Waverley Market was taxed to its full extent to comfortably include the garden produce of all sorts brought together on the occasion of the autumn exhibition of the above Society on the 12th and 13th insts. The quality of the show was, moreover, equal to its extent. Fruit was indeed somewhat deficient, but quite as good as anybody expected, while ample compensation was to be found in other sections, cut flowers of themselves being wonderfully fine and interesting. Trade exhibits were also more numerous than usual, and many of them most attractive, and from an educational point of view valuable.

FRUIT.

Five staged in the class for a collection of twelve varieties of fruit (to include three varieties Grapes, two dishes Peaches, and one dish each of any other kind of fruit), Mr. Hunter, gardener to Lord Durham, Lambton Castle, securing the first prize with an excellent exhibit. The Grapes were large clusters, and comprised extra fine Alicante and Gros Maroc, and Raisin de Calabre, somewhat unripe. The Peaches were splendid Noblesse and Sea Eagle, extra fine Bon Chrétien Pears, Elruge Nectarines, Brown Turkey Figs, Magnum Bonum Plums, Golden Winter Pearmain Apple, and a large Melon. Mr. A. Kirk, Norwood, Alloa, was second with notable bunches of Gros Maroc, fine Muscat of Alexandria and Black Hamburg Grapes, fine Barrington and Sea Eagle Peaches, Pineapple Nectarine, and others. Mr. Smith, gardener to Lord Stair, Oxenford Castle, being placed third with Alicante, Black Hamburg, and Mrs. Pince Grapes, good Peaches, and Plums. Collections of twelve dishes of hardy fruit were numerous, the best fruits being Peaches, Plums, and Apricots. Mr. G. Goodfellow, Kinfauns Castle, Perth, secured the first prize, followed closely by Mr. Dow, gardener to Sir David Baird, Newbyth, Prestonkirk, second, and Mr. Day, Galloway House, third. For twelve dishes of orchard house fruit only two exhibitors staged, Mr. Hunter being again first, and staging splendid examples of Pitmaston Duchess and Doyenné Boussoch Pears; Negro Largo and Brown Turkey Figs, Nectarines, Apples, Plums, Apricots, and Passiflora edulis comprising the remaining dishes. Mr. Williamson, Tarvit, was second.

Grapes in the several classes formed an important feature, and were remarkable for the generally fine finish of Black Hamburg. For six bunches in at least three varieties eight competed, the first prize being secured by Mr. McKelvie, gardener to the Duchess of Roxburgh, Dunbar, with good clusters of Black Alicante, Muscat of Alexandria and Madresfield Court. Mr. Murray, Park Hall, was second with Black Alicante, Muscat of Alexandria, Black Hamburg, Cooper's Black and Duke of Buccleuch; and Mr. Leslie, Pitcullen, Fife, third. In the class for four bunches Mr. Day was first with extra good Madresfield Court, fine Muscat of Alexandria, small berried Black Hamburg and good Mrs. Pince. Mr. Buchanan, Kippen, was second with medium-sized bunches, and Mr. McKelvie third. For two bunches Muscat of Alexandria Mr. McDonald, gardener to Marquis of Lothian, Newbattle Abbey, was first with fine, well ripened examples; Mr. Lamont, gardener to Lord Balfour, Kennet House, second, and Mr. Cook, Gosford,

third. For two bunches of Black Hamburgs Mr. Menzies was first with small but beautifully finished examples; Mr. Shillington, gardener to E. C. Cowan, Esq., Valley Field, Penicuik, being second.

Peaches were extra fine, Mr. Buchanan, Kippen, securing first, and Mr. Lunt, Keir House, second. Mr. Lunt, with fine Elruge, first for Nectarines and Mr. Goodfellow second. Mr. McKelvie had the best Brown Turkey Figs. Melons were numerous, Mr. Harper, Tulliallen, being first in the scarlet-fleshed section, and Mr. Chalmers, Dumfries, in the green-fleshed. Plums were very fine, Mr. Williamson, Tarvit, was first for six culinary sorts and Mr. Day in the corresponding class for dessert. There was also a large display of Apples, which, however, were generally late and green. Pears were numerous and good, and other kinds of outdoor fruits were well represented.

PLANTS.

These were much better than are usually seen at Edinburgh, new exhibitors helping considerably towards this result. The chief item in the schedule was for a group of plants 300 square feet, arranged for effect on the floor of the building. Mr. McIntyre, gardener to Mrs. Pease, Darlington, was easily first with a most artistic arrangement. The space to be covered was an oblong 20 feet by 15 feet. The four corners were composed each of a bold group of Palms and other foliage and flowering plants. Midway between the corner groups was a smaller central one, but connected with it by means of an irregular line of plants a massive group, surmounted by a tall Palm, and composed of Crotons, Palms, Bambusa gracilis, and Lilies, formed an imposing centre, which was flanked on each of the longer sides by another small group having each a handsome Cocos flexuosum as the chief ornament. Pools of water, with a few plants dotted here and there among the green moss which formed the groundwork, completed this charming arrangement. Mr. Stewart, gardener to Sir W. Lawson, Brayton, Carlisle, was the only other exhibitor, and to him the second prize was awarded.

For a table of plants 20 feet by 5 feet, Mr. Wood, gardener to J. Buchanan, Esq., Edinburgh, was first with a fairly effective arrangement, which was somewhat too closely packed. Mr. Stewart, who again secured second prize, had a much lighter group, Mr. McIntyre being third. The last named was first for six stove or greenhouse plants in flower. The most notable among the other plant classes were the foliage plants, Mr. Lunt, Keir House, Stirling, securing first prize for six plants with clean handsome plants of Croton Chelsoni, Dieffenbachia Bausei, and the old Alocasia metallica. Mr. Crichton, Liberton, was a good second.

Ferns were staged in good numbers, and were generally of superior quality. The best six exotic Ferns were staged by Mr. Napier, gardener to P. Neill Fraser, Esq., Murrayfield, who had large specimens. Mr. G. Wood was second, and Mr. Crichton third. Mr. Napier was the only exhibitor of six dwarf exotics, and gained the first prize. The same exhibitor was also successful in securing first honours for six British Ferns with notable examples, also for three Filmy kinds.

CUT FLOWERS.

This section was well filled and extremely good. For twelve Gladiolus Mr. Whitelaw, Brechin, was first with good spikes, Mr. Smith, Prestwick, being second. The best six Gladiolus were staged by Mr. Bennet, Tweedmouth. Hollyhocks were numerous, but scarcely so good as usual. Dahlias were fine, Messrs. Veitch, Wilson, and Graham, all from Carlisle, securing the chief prizes. Roses were particularly good. Here Mr. Parlanc, Roselea, was first respectively for twenty-four Hybrid Perpetuals and for twelve Teas. The Rev. Mr. Thomson and Mr. Black, Kinglassie, and Mr. Harper also showed well. Annuals in bunches were pretty, though somewhat too formally arranged.

In the nurserymen's section Roses were the great feature, and seldom if ever have such beautiful examples been seen in Edinburgh. For thirty-six blooms Messrs. D. & W. Croll, Dundee, were first, and Messrs. Cocker & Sons, Aberdeen, second, both firms showing magnificent blooms. For eighteen blooms Mr. H. Dickson, Belfast, was first and Messrs. Cocker & Sons second; and for twelve Roses Messrs. Croll first and Messrs. T. Smith & Sons second. The best blooms were Madame J. Bonnaire, Her Majesty, Captain Hayward, Margaret Dickson, Mrs. J. Laing, Heinrich Schulteis, Captain Christy, Edith Gifford, Madame Lambard, R. Testout and White Lady. Gladiolus were also well shown; for thirty spikes Mr. Mair, Prestwick, was first with grand flowers. Pollux, Bicolore Formosa, Baroness B. Coutts, Arrière Garde, St. Nicolas, and Dr. Bailly being particularly fine. Messrs. Campbell, Gourrock, were second, and Messrs. Cocker, Aberdeen, third. Messrs. A. Kerr & Son, Kalemouth, Jedburgh, were first for spike Hollyhocks with good examples. Mr. Campbell, Blantyre, was first for twenty-four Show and for twelve Fancy Dahlias—grand blooms; also for twelve Carnations and twelve Picotees. Messrs. R. Laird & Son, Edinburgh, were first for trusses single Dahlias and for cut stove and greenhouse blooms.

VEGETABLES.

These were staged in great number, and of high quality. For a collection of twelve dishes there were eight entries, the competition being close. Mr. Rae, Sunlaws, Kelso, was adjudged the first prize, and showed good Lyon Leek, Standard Bearer Celery, Excelsior Onion, Eclipse Cauliflower, Canadian Wonder French Bean, Tomatoes, Peas, &c. Mr. Harper, Perth, was second, and Mr. Gibson, Devonhurst, Chiswick, third. Tomatoes, Cucumbers, Leeks, Potatoes, Celery, Peas, and Cauliflower were largely and well shown.

MISCELLANEOUS EXHIBITS.

Nurserymen's exhibits filled a large part of the hall. In one corner a magnificent display of cut herbaceous flowers set up by Messrs. J.

Cocker & Sons, Aberdeen, attracted much attention. Messrs. Cunningham, Fraser & Co., Edinburgh, staged a collection of hardy flowers. From Mr. Eckford, Wem, came an extensive collection of cut Sweet Peas. Messrs. Laing & Mather, Kelso, had a tastefully arranged stand of border and Malmaison Carnations. Mr. Campbell, Blantyre, with other flowers, staged a large assortment of Carnations and Picotees in their various sections. Mr. Forbes, Hawick, also showed Carnations and Picotees. From Messrs. Dobbie & Co., Rothesay, came single and double Cactus Dahlias, splendid Marigolds and Sweet Peas. Mr. Downie, Edinburgh, staged a table of Begonias. Messrs. Thynne and Co., Glasgow, had an effective table mostly of grandly coloured Crotons. Messrs. T. Methven & Sons, Edinburgh, had two tables of plants, the one solely Begonias, the other stove and greenhouse plants, but mainly Liliiums. Messrs. Dickson & Co., Waterloo Place, had a large display of Apples, tufted Pansies, and Carnations. Other exhibits were staged by Messrs. Stuart & Mein, Kelso; Messrs. Fell, Hexham; Mr. D. W. Thomson, Edinburgh; and Messrs. R. Laird & Sons, Pinkhill. The show was attended by many thousands of visitors on the two days it was open, the weather having been perfect.



FRUIT FORCING.

Vines.—*Midseason Houses.*—Where the Grapes are still hanging careful attention must be given to the ventilation, a little air being admitted constantly, and in cold damp weather a gentle warmth in the hot-water pipes, so as to insure a circulation, or prevent the atmosphere becoming stagnant and moisture being deposited on the berries. When the atmosphere is properly aerified Grapes will become raisins before they will decay, provided care be taken to promptly remove any berries that show indications of decomposition. A moderately moist condition at the roots is necessary to preserve the plumpness of the berries, and will not do any harm while the Vines have leaves in a more or less active state. Laterals should be kept well in hand, and even reduced when growth ceases. Vines from which the Grapes have been cut may now be divested of their laterals down to the principal buds, even shortening the bearing shoots to a joint or two above the pruning buds, which will tend to plump the basal ones, and the storing of nutrient matter in the adjacent wood. To effect this the old leaves must not be injured, as upon their preservation depends the maturation of the buds and the ripening of the wood. A free circulation of air is necessary, and in the case of young Vines, or where there is the least doubt about the thorough ripening of the growths, fire heat will be necessary. When indications of the maturing of the foliage is manifest top-dressing is best effected, or even earlier when the Vines are weak and unsatisfactory. If the roots are active at the surface, in the old mulching or top-dressing, it will only be necessary to remove the loose material and give a top-dressing of turfy loam with a sixth of sweetened manure and a sprinkling of bone-meal two parts, and one part sulphate of potash, mixed, and about 4 ozs. per square yard, or the advertised fertilisers will answer a similar purpose, that of supplying phosphatic and potassic matter to the soil. If the roots have not penetrated the mulching, remove the soil down to them and supply fresh compost, but not covering them deeply; 2 or 3 inches is sufficient, taking the opportunity to lift any that are deep and lay them in fresh material nearer the surface. A moderate watering will be needed in the case of inside borders, but outside ones will rarely need it at this season, and after they have had the benefit of the October rains a covering of leaves and a little litter over them will be all that is needed to exclude frost, which is important for Vines started while severe weather prevails. In the case of borders only partly made, a breadth of 2 feet may be added to the front, choosing dry weather for the operation and putting the materials together firmly.

Houses of Ripe Grapes.—Hamburgs and all thin-skinned varieties of Grapes require frequent examination for the removal of decayed berries. Damp being their greatest enemy it should be prevented by a circulation of air constantly, the employment of fire heat in the daytime, accompanied by free ventilation, allowing the house to cool before night, and admitting air the following morning sufficiently early to allow the atmosphere to heat gradually, as this being warmer than that of the berries moisture will be deposited upon them.

Late Muscats.—Where these are not thoroughly ripe a rather warm atmosphere by day with a free circulation of air, and enough at night to prevent the deposition of moisture on the berries, will be needed some time longer; indeed, it should be continued until the Grapes are finished, when a gradual reduction of temperature must take place, about 50° from artificial means being necessary for Muscats after they are matured. Moisture must be kept down by a bracing atmosphere, a pent up air with a sudden increase of temperature from sun being sure to induce moisture to condense on the berries, which will cause them to spot, and then the Grapes will speedily decay. A little clean dry straw or matting spread on the inside border is useful in preventing moisture rising.

Late Houses.—The Grapes in these will now have finished, but it is

well to make sure that such is the case quite up to the shank of the berries before ceasing the needful aid from fire heat. All late thick-skinned Grapes require a long time to mature after being apparently ripe, consequently a temperature of 55° should be allowed, with a rise 5° to 10° by day, and a circulation of air until the foliage is giving indications of falling, when a temperature of 50° will be sufficient. The inside border must not be allowed to become too dry. If necessary water in the early part of a fine day, and cover with a dry mulch as a safeguard against damp and a repetition of the watering. Outside borders will be quite damp enough from the recent rains, and should be covered with light; preferably, or some other means employed to throw off heavy soaking rains. Where the Grapes are not finished they may be treated similarly to late Hamburgs.

Late Hamburgs.—These finish and colour when it is hopeless to do anything more with the thick-skinned varieties, but they are best finished as soon after this as possible. Where not ripe they should have a temperature of 60° to 65° at night, and 70° to 75° in the daytime, with a circulation of air constantly, not allowing the border to become dry, but giving a good watering if they are only partially advanced in colouring, and mulch with short dry material. Only restrict the laterals to prevent overcrowding, but after the Grapes are finished avoid further extension, yet not reducing the foliage too much, as this assists Hamburgs to keep their colour.

Young Vines.—Those planted this spring or early in the summer will need every encouragement in keeping the foliage clean and healthy, also keep the laterals away from the principal leaves in order that they may have due exposure to light and air, especially those at the base of the canes, so that the buds to which the Vines are to be pruned may be thoroughly matured and the wood well ripened. In order to insure the ripening of the wood maintain a genial warmth by day with moderate ventilation, and throw the house open at night, except when frost prevails.

Figs.—*Trees for Early Forcing.*—These will now have the growth sufficiently matured to allow interference with the roots, which should be examined, and if it not advisable to increase the pot room remove a few inches of soil from the base of the ball, cutting back the roots, and give fresh fibrous loam, adding about a sixth of old mortar rubbish and a sprinkling of crushed bones, good drainage being provided. Remove also the loose surface soil, and use the compost named above in its stead, adding a fourth of well-decayed manure. Afford a moderate watering, and place the trees where they can have abundance of air, with shelter from heavy rains and frost. When the leaves have fallen wash the trees with a solution of soft soap, 3 ozs. to a gallon of water, with enough sulphur previously moistened in skim milk to form a cream, and apply with a rather stiff brush, being careful not to damage the points of the shoots nor the embryonic Figs.

Planted-out Fig Trees.—These started about the new year should be kept drier at the roots, but avoid extreme dryness, a drier condition of the atmosphere also tending to promote the perfecting of the growths. Air should be freely admitted, and any pruning required is best performed whilst the leaves are upon the trees, as this affords the best guide in thinning, so as to allow space for the successional growths of the coming year. As soon as the second crop Figs are gathered in the later houses the trees must be kept drier at the roots, and the house well ventilated in favourable weather. Any root-pruning or partial lifting should be performed when the leaves show indications of falling. This is very effectual in checking the exuberance of unfruitful trees, and by restricting the roots to a narrow and rather shallow border of firm material over efficient drainage healthier and more fruitful growth follows.

THE FLOWER GARDEN.

Antirrhinums.—Those who have a few or many plants of self-coloured varieties of a moderately compact habit of growth should increase the stock of these by means of cuttings, with a view to bedding them out next season. Good white, yellow, and crimson forms can now be had, which are admirably adapted for the flower beds, as they commence flowering early in the season; and if the old flower spikes are kept closely cut off, the plants will continue to produce flowers freely till severe frosts intervene. They succeed well during a dry as well as during a wet season, and for massing in medium sized to large beds are most valuable. Antirrhinums can easily be raised from seed, but the colours cannot be prevented from mixing unless the seed-bearing plants are kept very widely apart. Cuttings root as readily as Calceolarias, no heat whatever being required, while the plants are still hardier, and never damp off during the winter. If flowerless shoots, suitable for making into cuttings, are scarce place four or six of them in each 4-inch pot and stand in frames, or they may be dibbled out in hand-lights and light sandy soil. When hundreds of cuttings are available treat them similarly to Calceolaria cuttings.

Pentstemons.—Some of these are well adapted for bedding out, and are particularly effective when massed in the centre of large beds with tall fine-foliaged plants among them. The varieties ought to be kept separate, as being better in every way than mixing. Of these, again, it may be said that they root quite as surely and easily as Calceolarias, and they are also hardier. A good stock of plants would be handy for long mixed flower borders as well as the beds.

Calceolarias.—Towards the end of September Calceolaria cuttings are generally abundant and sufficiently firm for propagating purposes. That is also a good time to put in cuttings, as they are liable to damp off if slightly damaged by frosts. No heat whatever is required or should be given. A frame in a sheltered place may well be raised on

a firm bed of exhausted heating material, and this, as well as brick pits if these are used, should be partially filled with more of the same, with a view to bringing the soil and cuttings well up to the light. Place about 6 inches of light soil on the manure, and on that 2 inches of sifted loam and leaf soil with sharp sand added, making all firm and level and facing over with sand. Select the more firm, short-jointed, flowerless shoots for making into cuttings, shorten these to the third joint, and cut off the lower pair of leaves. As fast as they are made dibble them in 3 inches or rather less apart each way. Give a gentle watering, put on the lights, and keep somewhat close and shaded from bright sunshine till it is seen they will do very well without shade. Towards the end of November give air freely, as they must not be coddled, and protect from severe frosts only. Small numbers may be rooted either in hand-lights or else in boxes placed in cold frames.

Violas.—This has been a good season for Violas, and cuttings are fairly plentiful. It is the young plants raised from cuttings and planted early next season in good fresh soil that give the best results, and abundance should be raised every autumn, at the same time and under much the same conditions as found to answer well in the case of Calceolarias. The flowering tops will root and also form fresh growths from the base next spring, but the preference ought always to be given to the young flowerless shoots that spring from the centre of each plant at this time of year or a little later. The cuttings may be disposed rather thickly, as they can be further prepared in nursery beds early next spring. While they are rooting treat similarly to Calceolarias and give abundance of air afterwards.

Begonias.—The tuberous-rooted section flower grandly in the autumn, fogs and rainfall not greatly affecting them; but they ought to be roughly matted over whenever frosts are imminent. They will transplant if not now in a crowded state, and would flower a short time longer under glass, but soon cease flowering after frosty weather sets in. Not so the fibrous-rooted species, and the semperflorens family would lift readily and flower freely all the winter. After frosts have crippled the tuberous-rooted varieties, lift them with a little soil about the roots and dry thoroughly in open sheds or cool dry houses. Later on remove the dead tops and a little more of the soil, after which the tubers may be stored in a cool shed or room, and further protected from severe frosts. Let the small seedlings in pans and boxes die down naturally, store where frosts cannot hurt them, and do not disturb them till next spring.

THE KITCHEN GARDEN.

Onions.—Tripolis raised last autumn have matured very satisfactorily, and if properly harvested and stored thinly in a cool dry place should keep till December. White Spanish types where sown on rich, somewhat loose ground in the spring are late in maturing, and more than usual have failed to bulb properly. Where the spring-sown Onions were largely transplanted, and in particular when first raised under glass, fine bulbs are matured. Directly the tops die down and the roots part freely from the soil Onions are ready for drawing, and will be injured if left on the ground any longer. They cannot be too thoroughly dried. Store thinly in a dry shed, and bunch them during wet weather. They keep best suspended in a cool airy place. Those that have failed to bulb will not keep under any conditions, and should be used this autumn.

Cabbages.—Ground newly cleared of Onions suits Cabbages admirably. There will be no necessity to either manure or dig the ground. A firm root run promotes a sturdy growth, the plants hearting quickly without forming an excess of wasteful outside leaves. All that is necessary is to loosen the surface with Dutch hoes, rake off weeds and rubbish, and then draw shallow drills for the plants. Some seasons it is advisable to both water the seed beds a few hours prior to drawing the plants and also to well soak the drills with water before dibbing in the plants, but this will not be necessary in many instances this autumn. If some other site is chosen let the ground be sufficiently fertile and firm. Varieties of a neat habit of growth, notably Ellam's Early Spring, Wheeler's Imperial, All Heart, Veitch's Earliest of All, and Matchless, may well be planted 15 inches apart; but the rows of the stronger growers, such as Heartwell Marrow, Battersea, Enfield Market, and Main Crop, should be nearer 2 feet apart, 15 inches asunder in the rows answering well, as very large hearts are undesirable. When plants are raised thinly in the seed bed, as they should be, they need not be disturbed till large enough to move direct to the ground where they are to remain. Leave the smaller plants in the seed beds. These will be useful next spring. Where ambury or club-root has to be contended with use soot freely on the seed bed, and also by way of a top-dressing prior to planting, and further draw the roots of the plants through a puddle formed of clayey water and soot. If any of the plants are already galled at the roots either burn at once or else cut off the excrescence containing the maggot, and then draw through the puddle.

Potatoes.—Disease is very prevalent, and the numbers of sound tubers stored this season will be much under the average. Only the very latest to mature, these including Scotch Champion, The Bruce, Emperor, Reward, Abundance and Reading Giant, are still growing strongly, and as these are also comparative disease resisters they may well be left undug for a few weeks longer. Most of the others have died down, but if the haulm is still somewhat fresh this ought to be drawn and burnt, weeds sharing the same fate. Dry weather should be waited for before lifting, which will perhaps save much trouble later on. At present it would be a difficult matter to decide which tubers are

diseased and which not, and these already stored may yet prove to be half diseased, and the tubers dried in a cool shed. Not till the skins are thoroughly hardened are they disease-proof. According as the lifting proceeds sort over the crop, the small tubers to go to the pigs, medium sized ones being saved for planting purposes, and the large or "ware" tubers be stored in a cool, dark place. If all are stored together till wet weather gives leisure time to sort over, the chances are most of the seed tubers will be spoilt by premature sprouting. This latter occurrence will not take place if they are at once stored thinly in a cool, light shed and only further protected whenever severe frosts are imminent. Attend first to Ashleaf and other early varieties, all of which frequently start growing early in the autumn when stored in heaps and comparatively warm, dark quarters; the former in particular ought to be stored closely together in single layers, growing end uppermost, in shallow trays or baskets, and not be darkened more than absolutely necessary.

Tomatoes.—There is less disease on these than might reasonably have been anticipated, and though late, the crops are by no means light. Very little further progress will be made if the green fruit is left on the plants. All that are on the point of colouring may be cut and suspended in a warm dry house, or even in a kitchen, where they will colour gradually. Plants in full bearing can be lifted, the soil being thoroughly moist, and at once placed in shallow boxes or well drained wide-topped pots. If handled two or three times nearly all the soil falls away from the roots. Use rather rich soil, and pack this moderately firmly only about the roots. Place under glass at once, and shade from bright sunshine, but avoid the maintenance of a heated, moist atmosphere, as this will quickly be followed by either the spread of disease already on the plants, or a fresh attack. A warm and airy house is what suits Tomatoes and checks the spread of disease.

Protecting Vegetables.—Frosts have already damaged Runner and Kidney Beans in low-lying districts, and a return to frosty weather need not surprise anyone after this date. It sometimes happens that a little temporary shelter afforded the Beans mentioned, late Peas, Vegetable Marrows, and Globe Artichokes during September, has led to their prolonged usefulness till November. It is a rather difficult matter to protect tall rows of Peas and Beans, but dwarf rows of the former, stopped, unstaked, Runner Beans and Kidney Beans can easily be matted over, or even roughly protected with leafy branches of trees. Temporary frameworks to support mats might also be erected over Vegetable Marrows, and even Globe Artichokes; the latter, in many instances, paying well for this trouble, as they are in great demand in some establishments. Whatever protective material is used should be taken off every morning (Sundays may be excepted) and replaced in the evening, and ought to be persevered with, both as benefiting the crops, and also because one omission to cover might end disastrously.

THE BEE-KEEPER.

APIARIAN NOTES.

THE WEATHER AND HONEY GATHERING.

So far as the year has gone it is continuing to be a counterpart of 1844. In that year the warmest day of the fine weather occurred on September 15th. The 13th of the present month was the finest we have had, and the 14th is as promising. The 8th was hazy with a strong northerly wind, and the cold was intense. On the 9th and the 10th there was 7° and 10° of frost respectively. My test hive increased 9 lbs. on the first day, and on the second 6 lbs. On the 11th mist covered the hills, and was a blank with the bees, although it was warm. On the 12th and the 13th the hive gained 5 lbs. daily. These two dates were the first full days the bees had, and the first day any attempts were made to enter empty supers. Wax secretion for comb-building takes place only when it is warm with abundance of honey carried in. Although supers are as yet few I have some heavy hives, more so than in 1893.

MANAGING BEES.

Referring to "A Young Scribe's" reply (page 236), it appears after all that Mr. Summers' plan does not differ from one of the plans I have more than once described in these pages. Several times I have given instructions how to get supers by reducing rational full-sized hives. When writing on any subject we should be careful to understand it and avoid partisanship. The paragraph of "A Young Scribe" was small, but to me and others very significant. Many so-called original systems first appeared in the *Journal of Horticulture*.

As "A Young Scribe's" thinking has been published I trust the editor will not deny me the same privilege. I thought, and still think, that his paragraph at page 112 had a motive to disparage the instructions on bee husbandry which appear in these columns. I will take the present Heather season as my criterion. Here is a Punic hive (and I have fifteen of them) that started at 80 lbs. and

is now nearly 200 lbs. A prime swarm with a young queen joined when hived six weeks ago. These started to weigh at 60 lbs. and now turn the scale at 120 lbs. Here are "Standard" hives from various makers, side by side, which have had swarms earlier that have not made a third of these weights. Surely he will then admit that there are "two sides to the question."—A LANARKSHIRE BEE-KEEPER.

[Any particular method of doing anything is not found the best by all persons under varying conditions and circumstances. We hope writers can give records of experience without either open or covert reflections on others, and it is our desire that this should be so.]

PRACTICAL ROUTINE.

CONSIDERING the able articles that have been written on bee-keeping it is surprising to find how far behind the times many persons are who keep bees. It is now a recognised fact that the frame hive is preferable to the straw skep. As to the size of hives, I do not suppose an inch or two either way would make any material difference, only when people are not thoroughly master of the work, and probably get a hive from one maker and frames from another it is rather puzzling, and inclined to make them throw up the work in disgust. The advantage in having frames all of one size is that they are interchangeable, which is a great convenience in adding a frame or two of brood to weak stocks, or in queen-rearing, and in various other ways. Good cheap hives are now within the reach of all, from men who make a specialty of them and other bee appliances. I have several sizes of hives in use, some holding ten, others eighteen, frames each, but for all practical purposes I consider the ten-frame hive preferable to any other I have yet tried. Bees, too, winter well in them. Run honey with me finds a much readier market than the comb, and after many experiments I have found the ten-frame hive the best for the purpose, as by tiering one can enlarge them to whatever size is required.

The queen should always be kept on the lower frames, and on no consideration should honey be extracted from the body of the hive, but only from the supers on the top, produce of a superior quality being thus obtained. Sections, too, are placed on the top and worked in the same way. This hive will hold a crate of twenty-one 1-lb. sections, and if honey is coming in freely and the hive strong in bees they will start filling them at once. When nearly full and partly sealed over insert another crate of sections underneath, which will keep the bees fully employed and prevent their swarming. The honey season, where white Clover is the chief honey-producing flower, is of short duration in favourable seasons—from three to four weeks. This has been one of the shortest in my experience, as, owing to the cold dull weather, the bees had not more than ten days on which they could collect honey. A surplus of honey cannot be obtained unless the hives are strong in bees. The aim of all bee-keepers should be to have their stocks strong when the honey flow comes, and being in a good white Clover district this usually takes place with me from the middle of June to the middle of July. At such a time it shows the advantage of having all frames interchangeable, as weak stocks can be assisted with frames of brood from the stronger ones. It takes about six weeks to work a stock up strong enough to take advantage of the honey flow, and is done by uncapping part of a frame of sealed honey occasionally, or, if short of stores, by feeding, as from various causes some stocks will be much weaker than others.

Now is the time to make preparation for another season by seeing that all stocks are in good order for standing the winter, and if short of stores to feed them before the weather becomes too cold. I use syrup made in the proportion of 7 lbs. of cane sugar to 3 pints of water, which is put over a steady fire and kept stirred, so that it does not burn, until it boils. It should then be taken off at once, as if allowed to boil for a few minutes it will be too thick. For autumn feeding I prefer a rapid feeder placed on the top of frames, so that the bees can have free access to the syrup without being drowned. They are fed in the evening to prevent robbing, and the syrup is given warm. A wide-mouthed bottle that holds 2 or 3 lbs., the mouth covered with a piece of muslin, makes a good feeder, but it is a slow process. Bees that are fed early in the autumn winter much better than those that are fed late, for unless the weather is warm enough for them to seal over their stores dysentery will play havoc during the winter.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

A. B. Greenfield, 10, North Street, Wandsworth.—*Bulb Catalogue.*

J. K. King, Coggleshall, Essex.—*Bulb List.*

R. Wallace & Co., Colchester.—*Hardy Bulbous and Other Plants.*



*** All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Pond Vegetable Refuse (W. S.).—If the refuse could be spread out, sweeten and dry somewhat, it would be excellent for mixing freely and incorporating well with strong loam for Rhododendrons. It will probably turn sour in the large heap, and if very wet would not mix freely through the loam. We know of Rhododendrons growing luxuriantly in a mixture, half and half, of such vegetable matter and clayey loam similar to the kind you describe.

Sunflowers Dying (Somerset).—The blackened parts appear to have been affected with eelworm, but we only found a few bodies and cysts in some of the decayed parts. There is abundance of white mould, but that is purely saprophytic, and has no connection with the disease. Give the soil a good dressing of quicklime this autumn, and early in the spring supply kainit, distributing about 2 lbs. evenly per rod, and either leave it for the rains to wash in or point it in lightly with a fork.

Hardy Flowers—Gladioli and Dahlias (Aquilgia).—The following do not appear to be in your list, all are worth growing:—Hardy plants: Amaryllis belladonna, Aster amellus, A. novæ-belgiæ, A. versicolor, Campanula pyramidalis, C. p. alba, Liliun speciosum in variety, L. tigrinum splendens, L. t. flore-pleno, Montbretia Etoile de Feu, M. Gerbe d'Or, Phlox Eclairer, Phygellus capensis, Rudbeckia Neumannii, Salvia patens, Solidago canadensis, Statice latifolia, Achillea The Pearl, Eupatorium fragrans, Echinops ritro, Alströmmeria aurea. Six Gladioli: Dr. Bailly, Amilie, Dalila, Fra Diavolo, Baroness B. Coutts, Opale. Six Cactus Dahlias: Aphrodite, John Bragg, Kynerith, Beauty of Arundel, Apollo, Kaiserin.

Fruit Branches Dying—Galvanised Wire (J. W.).—The fact of the trees remaining in a healthy state for so many years, then the branches dying after new galvanised wire was affixed for their support, appears to show that the wire was the cause of the evil. This wire differs considerably in its preparation, and some kinds has undoubtedly proved highly injurious to fruit trees, particularly near towns. The subject was fully discussed some years ago in our columns, but as the issues are now out of print we will see if we can find room for the republication of one of the articles. In several instances where trees were injuriously affected by the wire they recovered after it was given two or three coats of paint.

Preserving Tomato Seeds (Y.).—Provided the fruits are thoroughly ripe, it is the best general plan to break them up and separate the seeds from the pulp, drying and storing in paper packets in a drawer, where they will be cool but safe from frost, and dry. Some persons squeeze the seeds out on paper thinly, not washing them, but having the paper convex or sloping, so that the juice of the fruit will drain away, and it is said such seeds have greater germinating power and retain it longer than clean washed, as there is an adherent film of matter that protects them from atmospheric changes. Allowing the fruit to shrivel with the seeds also preserves them better from atmospheric changes, but it is not always feasible, as sometimes fungi intervene and convert the whole into a mouldy mass, more or less affecting the integuments of the seeds, if not destroying their vitality.

Peaches and Vines Unsatisfactory (H. F.).—The growths of the Peaches are too gross and soft. The trees would be improved by careful lifting and replanting this autumn. The soil should be made firm and contain a free admixture of calcareous matter, such as lime rubbish from buildings. See what Mr. Bardney says on lifting Peach trees and the benefit resulting. Relative to the Vines, if we understand you, the overflow water from the tank passes into the Vine border. If this is so the error should be rectified. A few leaves, without any wood, are insufficient to enable us to comprehend the actual condition of the Vines. Adequate provision should certainly be made for ventilation both at the front and top of the house. With a night temperature of 65°, and the usual increase in the day, accompanied by free ventilation, the Grapes should yet ripen. There is nothing particularly abnormal in the condition of the leaves, though it is possible the border may be too wet for the continued health of the Vines. They will soon be ruined if the soil becomes stagnant, and this should certainly be prevented.

Eucomis punctata (H. B.).—This is a Cape of Good Hope bulbous plant, and was introduced to this country in 1783. It is easily cultivated, growing well in sound loam kept porous with crushed charcoal and pressed down firmly. After flowering the plants may be stood in a sunny position in the open air, giving adequate support for producing good foliage. Allowing seeds to ripen has a weakening tendency. Reduce the supply of water as the foliage ripens, and keep the soil dry, but not dust dry, in winter in a frame or cool house from which frost is excluded. In the spring abundance of light is needed by the growing plants, with adequate supplies of water for their support. We have had plants established in a narrow border in the open air for years next the south wall of a greenhouse. The bulbs are nearly a foot deep, and the border is mulched with manure on the approach of winter.

Flowers for Cutting in Winter (H. C.).—You would find a hundred or more Roman Hyacinths of the greatest service, a long succession of choice flower spikes being had by introducing a few at a time into your house. Narcissi, preferably those of the Polyanthus type, are also admirably adapted for cutting. Cyclamens, if moderately well grown, yield numerous elegant flowers of various colours, and the *Erceias* are very beautiful either in a cut state or on the plants. You being able to maintain a heat of about 50° in cold weather will enable you to grow the old double Chinese Primula well, strong plants on shelves giving a long succession of serviceable flowers. Primula obconica is even more floriferous than the last named, and yields quite a profusion of delicate mauve flowers, and the ever-flowering Begonia semperflorens would do well if not crowded. Bouvardias are not so easily grown as the last named; but the attempt ought to be made, the double flowering Alfred Neuner and President Garfield being particularly serviceable. Tea Roses, again, should do well in your warm greenhouse, a long succession of lovely buds being obtained from a few strong pot plants, room also being found for a few on the roof or back walls. Nor must the free flowering serviceable character of semi-double Zonal Pelargoniums be overlooked, these flowering well in the winter if given dry, warm, and light positions. Indian Azaleas, notably Deutsche Perle and other early flowering semi-double varieties, are very easily grown, and are very serviceable. Stocks and Asters grown in pots would give an early supply of flowers, and if we have not named enough for a commencement please apply again.

Growing Produce for Market (L. L.).—It is difficult to advise in such cases as yours, as the means have not been provided for growing produce for sale, but for pleasure, and may or may not be ill adapted for marketing purposes. For first-class produce there is always a sale, but unless you arrange with a salesman or fruiterer to take such you will be at the mercy of market vicissitudes, "gluts," and other causes that prejudice the returns. Strawberries of the first size and quality produced early and regularly command a ready sale. In your houses you will be able to accommodate several thousands in pots, having them to supply fruit from March to May inclusive. Peaches and Grapes may also be grown profitably, and the houses will be useful for other purposes. Good crops of Cucumbers, especially in winter and early spring, bring good returns, and you should contrive to grow as many Tomatoes as practicable, having them as early as possible consistent with a full crop. Roses for sale in the early spring months are also found to answer, and winter Carnations, especially the large flowered kinds, pay for growing when grown well. Camellias are far less in request than formerly, and we fear you will make little out of them. Bouvardias, Arums, Eucharis, Stephanotis, and similar flowers for bouquet work, are always saleable if of the highest excellence. The Ferns may stand you in good stead, the kinds useful for cutting and decoration. In the kitchen garden effort should be directed to choice fruits or flowers rather than vegetables, though the choicest of these produced early bring remunerative returns. But the grand secret is to study the markets. Find out for what and where there is a demand for what you will be able to supply, and then make arrangements for its disposal, for it is more a question of supply and demand, combined with business aptitude, than the mere production of particular crops apart from those considerations.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (W. R. F.).—Apple Warner's King, Pear Beurré Bachelier. (P. S. A.).—1, Josephine de Malines; 2, Gratioli de Jersey; 3, Beurré Diel; 4, Louise Bonne of Jersey; 5, Fondante d'Automne; 6, Williams' Bon Chrétien. (Apple).—1, Peasgood's Nonesuch; 2, Lane's Prince Albert; 3, Lord Derby; 4, Duchess' Favourite;

5, Colonel Vaughan; 6, Worcester Pearmain. (O. R. C.).—1, Blenheim Pippin; 2, Dumelow's Seedling; 3, Ribston Pippin; 4, Devonshire Quarrenden, (G. B. A.).—1, Beurré Clairgeau; 2, Pitmaston Duchess; 3, Souvenir du Congrès. (F. D. A.).—1, Coe's Golden Drop; 2, Transparent Gage; 3, Washington; 4, Diamond; 5, Autumn Compôte; 6, Reine Claude de Bavay. (A. B.).—1, Gascoyne's Seedling; 2, Ecklinville Seedling. (F. G.).—The Apple is Lane's Prince Albert, the Pears are not sufficiently matured for identification, send fresh samples when ripe. (J. W. H.).—The Apple appears to be a small fruit of Emperor Alexander. (C. H. G.).—1, Bryaston Gage; 2, Jefferson. If the Pear is not Catillac (stewing) it is a very late dessert kind, not in condition for identification. (H. B.).—1, Marie Louise; 2, Louise Bonne of Jersey; 3, White Doyenné; 4, Fearn's Pippin; 5, Nonesuch; 6, Herefordshire Bectin. You have not complied with our conditions in two generally essential respects. Please do so if you send again.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (J. L. M.).—1, Thunbergia alata; 2, Berberis vulgaris; 3, Summer Savory (Saturcia hortensis); 4, Crataegus coccineus; 5, Impatiens Hawkeri; 6, Allamanda Hendersoni. (W. H.).—Alchemilla sericea. (D. F. A.).—1, Abutilon vexillarium; 2, A. Thomsoni; 3, Gongora Loddigesii. (J. S. C.).—1, Cattleya crispa; 2, An Oncidium, but the specimen arrived in so withered a condition as to render specific identification impossible; 3, Saccolabium Blumei; 4, Cattleya gigas, good form. (Fern Grower).—1, Adiantum trapeziforme; 2, Asplenium bulbiferum; 3, Lomaria gibba; 4, Dicksonia antarctica; 5, Selaginella denticulata; 6, Woodwardia radicans. (Devon).—1, Oncidium macranthum; 2, Passiflora Bonaparteana. (D. H. M.).—1, Hymenocallis macrostephano; 2, Pancratium Caribbaean; 3, P. speciosum. (Carex).—The "piece" is a very small bit, possibly an Ophiopogon.

COVENT GARDEN MARKET.—SEPTEMBER 19TH.

MARKET steady, prices generally unaltered.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, per half sieve	1	6	to	2	6	Peaches, per doz.	1	0	to 6 0
Grapes, per lb.	0	6	1	6	Plums, half sieve	1	6	3 0	
Cobs per 100 lbs.	25	0	25	0	St. Michael Pines, each ..	2	0	6 0	
Lemons, case	10	0	15	0	Strawberries per lb.	0	0	0 0	

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.	
Beans, Kidney, per half					Mushrooms, punnet	0	9	to	1	0
sieve	1	2	to	1	Mustard and Cress, punnet	0	2		0	0
Beet, Red, dozen	1	0		0	Onions, bushel	3	6		4	0
Carrots, bunch	0	3		4	Parsley, dozen bunches ..	2	0		3	0
Cauliflowers, dozen	1	6		3	Parsnips, dozen	1	0		0	6
Celery, bundle	1	0		1	Potatoes, per cwt.	2	0		3	6
Coleworts, dozen bunches	2	0		4	Salsafy, bundle	1	0		1	5
Cucumbers, dozen	1	6		3	Scorzoner, bundle	1	6		0	0
Endive, dozen	1	3		1	Shallots, per lb.	0	3		0	0
Herbs, bunch	0	3		0	Spiuach, bushel	1	6		3	0
Leeks, bunch	0	2		0	Tomatoes, per lb.	0	2		0	4
Lettuce, dozen	0	9		1	Turnips, bunch	0	3		0	4

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arum Lilies, 12 blooms ..	1	6	to	3	0	Mignonette, 12 bunches ..	1	0	to	3	0
Asparagus Fern, per bunch	1	0	2	6	Orchids, per dozen blooms	3	0	12	0		
Asters (English) dozen bunches ..	2	0	5	0	Pausies, dozen bunches ..	1	0	2	0		
Bouvardias, bunch ..	0	6	1	0	Pelargoniums, 12 bunches	4	0	6	0		
Carnations, 12 blooms ..	0	6	1	6	Pelargoniums, scarlet, doz. bunches ..	2	0	4	0		
" doz. bunches..	4	0	6	0	Poppies, various, dozen bunches ..	0	6	1	0		
Chrysanthemums ..	3	0	9	0	Primula (double), dozen sprays ..	0	6	1	0		
" doz. blooms	0	6	1	0	Pyrethrum, dozen bunches	2	0	4	0		
Cornflowers, doz. bunches	1	0	2	0	Roses (indoor), dozen ..	0	6	1	0		
Dahlias ..	2	0	4	0	" (outdoor), doz. bnchs.	3	6	8	0		
Eucharis, dozen ..	1	6	3	0	" Tea, white, dozen ..	0	6	1	6		
Gaillardia, dozen bunches	1	0	2	0	" Yellow, dozen ..	1	0	1	6		
Gardenias, per dozen ..	1	6	3	0	" Safrano (English), doz.	1	0	2	0		
Gladiolus, dozen sprays ..	0	9	1	6	" Maréchal Niel, doz...	1	6	4	0		
Lavender, dozen bunches	4	0	6	0	Smilax, per bunch ..	1	6	3	0		
Lilium lancifolium, dozen blooms ..	1	0	2	0	Stephanotis, dozen sprays	2	0	3	0		
Lilium longiflorum, dozen	2	0	4	0	Stocks, dozen bunches ..	2	0	4	0		
Maidenhair Fern, dozen bunches ..	4	0	6	0	Sunflowers, various, dozen bunches ..	1	0	3	0		
Marguerites, 12 bunches ..	1	6	3	0	Sweet Peas, dozen bunches	1	0	2	0		
Myosotis or Forget-me-nots, dozen bunches ..	1	6	2	0	Tuberose, 12 blooms..	0	4	0	6		

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.				
Arbor Vitæ (golden) dozen	6	0	to	12	0	Heliotrope, per dozen	..	3	0	to	6	0	
Aspidistra, per dozen	18	0	36	0	Hydrangea, per dozen	..	9	0	18	0			
Aspidistra, specimen plant	5	0	10	6	Lilium auratum, doz. pots	12	0	18	0				
Asters, dozen pots	..	3	0	4	0	„ Harrisii, per dozen	12	0	24	0			
Chrysanthemums, per doz.	3	0	6	0	„ lancifolium, dozen								
„ large, per					pots	..	9	0	15	0			
dozen	..	9	0	18	0	Lycopodiums, per dozen	..	3	0	4	0		
Coleus, per dozen	..	2	0	4	0	Marguerite Daisy, dozen	..	6	0	12	0		
Dracæna, various, dozen	18	0	42	0	„ yellow, doz. pots	6	0	10	0				
Dracæna viridis, dozen	..	9	0	24	0	Mignonette, per doz...	..	3	0	6	0		
Euonymus, var., dozen	..	6	0	18	0	Myrtles, dozen	..	6	0	9	0		
Evergreens, in var., dozen	6	0	24	0	Nasturtiums, per dozen	..	1	6	4	0			
Ferns, in variety, dozen	..	4	0	18	0	Palms, in var., each	..	1	0	15	0		
„ (small) per hundred	4	0	6	0	„ (specimens)	..	21	0	63	0			
Ficus elastica, each	..	1	0	7	6	Pelargoniums, per dozen	..	6	0	12	0		
Foliage plants, var., each	2	0	10	0	„ scarlet, per doz.	2	0	4	0				
Fuchsia, per dozen	..	3	0	6	0								



DAIRY FARMING REFORM.

DANISH TRAINING.

As going to the root of the matter, and as showing what might be done for and by the rising generation of farmers in this country, we may usefully—most usefully—devote our last notice of Mr. Dunstan's remarkable pamphlet to a sketch of his account of the education of farmers' sons in Denmark. The work was begun in high schools, founded by farmers in county districts, and it subsequently became merged in that of district schools, founded simply for the teaching of agricultural subjects and sciences. He describes the system followed at one of these schools where farmers and farmers' sons of about twenty-four years of age, previously well grounded in the practical side of agriculture, go through a course lasting from November till May, "living in the house, and going through a complete curriculum of study by means of lectures and laboratory work." Chemistry, physics, geology, botany, drawing, writing, arithmetic, land surveying, general agriculture and farm management, dairy work, farm stock, and the history of agriculture in Denmark are the subjects taught. The fees for the course are—first month, 54s.; second month, 48s.; third month, 43s.; fourth month, 40s.; fifth month, 35s.; sixth month, 11s., these fees including board, lodging, and instruction. Well does Mr. Dunstan go on to point out that the students who attend these schools come to learn simply for their own advantage, and to understand the principles on which their practice depends. The fact that the majority of the students pay their own expenses indicates the spirit in which the system of education is taken up.

The most striking points in this system are, first, the foundation of high schools by the farmers themselves; secondly, the simplicity yet completeness of the curriculum; thirdly, that full advantage may be taken of such a course for six months inclusive of board and lodging by payment of a total sum of £16 11s. This is made possible by the fact of the Government grants and part payment of the teachers' salaries after a successful existence of the school for one year. The success of the school whose system is described is proved by the large number of its students, and it is pointed to as an indication of the value of such technical education in the eyes of the farmers, actual workers on the farm, and not the class from which land agents and gentlemen farmers are drawn.

As yet we have no educational system of the sort in this country by means of which working farmers and their sons can become grounded in the principles on which their practice depends. Even the latest departures by County Councils are too costly, and the wants of the farmer of small means—always the more numerous of his class—appear to be ignored. His spending power has become so contracted that if he is ever able to take advantage of some such curriculum, it must be under terms very similar to those of the Danish schools. He must enter the school solely with a view to becoming a more skilful *working* farmer; he should leave it with that confidence which clear knowledge of the science of his calling confers, resolved to apply his knowledge with his own hand to his own practice. The school, therefore, for his purpose is certainly not such an institution as our leading agricultural colleges, which, however suitable for the sons of landed proprietors, farmers of considerable means, and land agents, are quite unsuitable for him. It must be a workers' school pure and simple, and not a mixed institution where the worker may get ideas or acquire habits which may render him discontented and a failure. To become a prosperous man he must work with hands and brains, and the school he wants is precisely that which will enable him to do so in the best way.

Equally sensible is the Danish summer course as described by Mr. Dunstan. He found thirty-six dairy managers attending a four months' course from May to August. Preliminary knowledge is required in the student, who has to bring evidence that he has passed at least one year in one dairy, or two periods of eight months in each of two dairies, and being also required to have a fair knowledge of writing and arithmetic sufficient to enable him to take advantage of the courses of lectures. The aims of the school are to impart to the dairyman such knowledge as will enable him to increase his understanding of the practice of dairy work and to improve his qualifications so as to enable him to fill the important post of manager of a large dairy. The inclusive cost is about £3 a month, and success under examination is marked by certificates which denote proficiency and fitness for the control of dairying. To the ordinary worker the knowledge gained would be more precious than the certificate, but even for him it would have a certain significance as evidence of a standard of achieved excellence up to which his subsequent practice must be kept.

WORK ON THE HOME FARM.

Very favourable for the clearance and stacking of corn and for autumn tillage has the weather been. Corn ricks make a fine show—eighteen big ricks did we see near one midland homestead recently. If most of them were Wheat the show is likely to prove a hollow unprofitable affair. Well may farmers hesitate to sow much Wheat this autumn if they pay heed to prices quoted from the market returns of the first week of this month. In several places in Lincolnshire and Yorkshire new Wheat was sold at 16s. to 19s. per quarter of 8 bushels, and the general average for the whole was actually only 21s. 7d., a decline of 1s. on the week, and 5s. per quarter lower than in the corresponding week of last year. It is stated on reliable authority that it is over 200 years since anything like so low a price has been quoted for Wheat in England. The Journal of the Royal Agricultural Society quotes Wheat averages as far back as 1641, and throughout that long period the wretched prices of last week were never touched even in the worst harvests.

Surely under such circumstances every sensible farmer will have as little to say to Wheat culture as possible, will restrict his winter corn crops to winter Oats, Barley, and Rye, and will be more than ever keen for information as to what he can turn to as a substitute on which some profit is possible. It must be mixed farming now, and he must pay heed to the sustained value with increased consumption of poultry, dairy produce, and meat. Our imports of poultry and eggs from abroad have in twenty years increased by nearly 450 per cent., and show a constant and steady advance. Why is it that home supplies do not increase? Why also do we allow such remote countries as Russia, Turkey, Egypt, and Morocco, as well as our own colony of Canada, to send us farm produce which we can raise so easily? We paid last year to them for eggs and poultry £4,454,598, and, in addition, to Ireland for the same form of produce £2,000,000. Advisedly do we quote these vital statistics in our work note this week in order that farm work may be done to better purpose in the farmers' coming year which begins at Michaelmas, and that the heedless, reckless clinging to Wheat growing under impossible prices may cease. The term "unfortunate farmers" has been used in connection with recent Wheat quotations. If under the light which such figures throw on the situation Wheat growing is persisted in, some much stronger term than unfortunate will probably be heard.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet

DATE.		9 A.M.				IN THE DAY.				Rain.	
1894.	September.	Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperatrre		
			Dry.	Wet.			Max.	Min.	In Snn.		On Grass
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday	9	30.138	56.2	52.9	N.	55.0	62.4	43.7	101.9	43.4	0.89
Monday	10	30.429	53.1	50.1	N.	54.9	64.2	47.3	108.0	40.8	—
Tuesday	11	30.351	53.4	51.6	N.	54.9	63.7	42.9	103.3	37.2	—
Wednesday	12	30.356	59.8	56.8	N.E.	55.1	67.9	46.9	103.9	40.1	—
Thursday	13	30.339	55.0	50.4	N.E.	55.4	64.8	43.4	107.7	41.1	—
Friday	14	30.336	56.6	54.2	N.	55.6	63.9	49.7	111.8	42.4	—
Saturday	15	30.336	57.1	54.2	N.	56.1	62.2	50.9	72.9	44.2	0.11
		30.349	55.9	52.9		55.3	65.3	47.5	101.8	41.3	0.099

REMARKS.

5th.—Gleams of sun early; dull day, with frequent showers.
 10th.—Cloudy early; bright sunshine all day, cloudy again at night.
 11th.—Misty early; bright day and night.
 12th.—Bright sunshine almost throughout; bright moonlight night.
 13th.—Generally overcast till 4 P.M., frequent sunshine after.
 14th.—Generally cloudy and at times threatening; fine night.
 15th.—Cloudy morning; fair afternoon and evening.

A fine week, with high and steady barometric pressure. Temperature 3° above that of the preceding week, and only slightly below the average.—G. J. SIMONS.



ACCORDING to some authorities British forestry is not in a particularly flourishing condition, and it was therefore gratifying to observe the efforts made by the Royal Horticultural Society to inquire into this important question, inviting the opinions of well known practitioners on the subject. This forward movement was in the form of a conference held in conjunction with an exhibition on Tuesday last, reported on another page, in the large vinery at Chiswick Gardens, and inaugurated primarily with the object of drawing public attention to the ornament and utility of native trees and shrubs. So far as the weather was concerned, however, the gathering could not possibly have been held under more unfavourable conditions, rain falling more or less all the day, which doubtless accounted for the small attendance. Notwithstanding this and other drawbacks, it could be seen that the commendable work of the Society was appreciated by those present, and great interest was evinced in the two essays that were read. It would have been better, though, and probably given greater satisfaction, had the proceedings been carried out as printed in the programme; but apparently time and other circumstances did not permit of this being accomplished. Mr. W. T. Thiselton Dyer, the Director of the Royal Gardens, Kew, presided during the first part of the meeting, and was followed by Sir Alexander John Arbuthnot.

The Conference was opened by the reading of a paper on "The Utilisation of Waste Ground Unsuitable for Agriculture" by Mr. J. Simpson. As a forester of some repute it was anticipated the writer of that essay would embrace much useful information in his remarks, and those who expected this were not disappointed. In introducing his subject Mr. Simpson deplored the fact, with which most of us must agree, that generally speaking the production of Oak, Ash, and other timber was almost a thing of the past in this country, and strongly recommended large landowners to utilise waste land for that purpose. He stated that the cost of keeping British forests in proper condition was much greater than it ought to be; this, to a certain extent, lowering the prices realised for home-grown timber. As in horticulture so apparently in silviculture, for it was asserted that foreign timber arrived here in assorted sizes, consequently is placed on the market in excellent condition. With regard to the suitability of various soils for growing timber, it was pointed out that the inexperienced might often acquire knowledge in this respect by observing the natural vegetation of the neighbourhood. The essayist said he did not agree with the wholesale thinning of undergrowth, and remarked that shelter and warmth were essential for the production of good timber. At the same time he observed how certain trees flourished on Wharnccliffe Chase, a tract of land known to the present writer, and situated about 1000 feet above the level of the sea, the soil being very poor. It was mentioned that even in the fissure of a rock an Oak tree with a stem 12 feet in circumference was growing, this supporting the assertion that while a deep rooting medium is advisable it may not be absolutely necessary for growing trees. Reference was also made to the mounds of coal pit refuse that abound in the locality, and on which timber trees grew when other plants failed.

Although recommending the planting of waste ground with timber-producing trees Mr. Simpson did not appear towards the

end of his paper to hold out much encouragement to the undertaking from a commercial point of view. He referred to an instance where 20,000 cubic feet of timber had been sold, the middleman procuring 1d. per foot in the transaction, while he doubted whether the producer had as much as that after paying for felling and clearing, and even this price would not have been realised had the consignor resided far from the railway station. This is surely an exception to the rule. Among others the Ash, Oak, and Beech were stated as being useful trees, the latter producing timber sooner than any other. Some tables and statistics were at this point included in the essay, but unfortunately these were not read, which is a matter for regret, inasmuch as they doubtless contained information of a most serviceable character. Mr. Simpson concluded that the wants of trees were few and simple, but he thought too much of the landscape gardener's work was apparent in British woodlands. He recommended the planting of young trees because they were cheaper than larger ones, and, moreover, grew better, the operation being, in his opinion, best done from the middle of November to December. In the brief discussion which followed Mr. A. D. Webster said he did not agree with the latter statement, remarking that according to his experience spring planting was decidedly the better plan, and urged intending planters to consider the importance of this, particularly in mountain districts. Mr. Dyer drew attention to the great difference in the management of forests in this country to those abroad, and doubted the advisability of recommending private landowners attempting to grow timber for commercial purposes only. Considering the remote chances of realising a remunerative price for the timber, and this only after a long period, it is not surprising that other persons were of the same opinion.

Mr. A. C. Forbes' paper on "The General Management of Woods," was, so far as could be ascertained, of an interesting and practical nature, though at the time it was read the audience was small. The necessity of thinning woods, with hints as to planting and managing coppices and hedgerows, were detailed, but some of the remarks were inaudible to many persons present. Expressions of regret were also heard that the papers on "The Larch Disease," by Mr. J. B. Carruthers, and "Forest Trees for Commercial Purposes," by Mr. E. J. Baillie, were not read, these being considered of even greater importance in some respects than the essays discoursed. As Mr. Bunyard wisely pointed out, landowners must be guided by circumstances in planting trees with a view to profit, the demand for produce varying considerably. For instance, in Kent—where they seldom plant for timber—Hop poles were once much in demand, but to a great extent they have been discarded for wire and string, to which the growths were trained. Sir Alexander J. Arbuthnot thought that although the present events were anything but encouraging to landowners, the re-afforestation of waste lands was a subject worthy of the consideration of our legislators, with which we concur.

As affording evidence of the value of judiciously planting waste land with trees, and thus strongly supporting Mr. Simpson's contention, we publish the following letter, which we received just previous to the holding of the Conference, from Mr. J. Brasier, forester on the Lincolnshire estate of Major R. N. Sutton Nelthorpe, who writes:—"I am sending you two specimens of Larch, one the top of a tree planted in 1889, that is this year's growth; the other a seedling planted in 1893. I began to hold trees for Mr. J. Wright (father of the Journal Wright) to plant in 1841. The plantation below the Pond Head was planted by Mr. J. Wright in 1851, and felled by me in 1893. There were Larches in it with 42 feet of wood, which made 1s. per foot, bought by Mr. Garside, Worksop. There are now scores of Larch trees on the estate with 40 feet in them planted from 1851-5. Oldham's plantation was planted 1851-2, we have felled it, and the sales made £2700. Several of the trees in it were from 20 to 30 feet. The Corsican Pine had 40 feet in it, and *nothing will grow there*

but trees. I plant about 3300 trees per acre; at six years they are thinned, and sold for Bean sticks at 3s. 6d. per 100; at seven years I have them cut in two for hedge stakes at 2s. per 100. Before planting Larch the ground should be well cleared, and the rubbish burnt, which destroys the Pine weevil to a great extent. I like a good hole made, every root spread out, and sand to cover the roots. I have had about 50,000 Larch planted in one piece of ground, and I think 100 dead ones will quite cover what loss we have had. The bracken is mown twice during the summer. Our greatest pests are the rabbits, if they get amongst them they soon make a sad havoc. Oldham's plantation cost about £300 felling and clearing, and the £2700 includes the sale of all the stakes, thinnings, and such like."

This season's growth of the top of the young Larch tree is 4 feet 4 inches long, with summer laterals varying from 1 foot to 2 feet in length, and the base of the growth at the point of severance exceeds $\frac{3}{4}$ inch in diameter. The seedling planted in 1893 is 4 feet long, and well furnished with side laterals and satisfactorily robust. Such growth as this points the way for the utilisation of land on which "nothing but trees will grow."

IN THE DAMSON COUNTRY.

WITHOUT paying a visit during the season to a district where Damsons are cultivated extensively it is scarcely possible to realise what enormous numbers of fruit are grown, and distributed, too, at remunerative prices. Worcestershire, notably the Pershore district, may be said to be one of the headquarters of Plum growing, and Berkhamstead in Herts is another; but, as far as Damsons are concerned, both will have to "take a back seat." If we want to see Damsons in perfection we must go to the Mentmore estate, and more especially Cheddington, in the County of Buckingham. Thereabouts the whole country seems to be teeming with Damsons. In some instances the trees are old and past their best, in others they are in their prime, while still more are quite young trees.

That they pay remarkably well scarcely needs telling, as it is very certain such shrewd men as Lord Rosebery and his experienced gardener (Mr. Smith) would not go on establishing orchards of them for the benefit of the estate and those who rent the farms if Damsons were "played out." But for the Damson orchards it is very probable many of the farmers would have been bankrupt ere this. Thirty acres of trees cost very little to keep in good order, and they rarely fail to produce heavy crops. It must be borne in mind that the soil, a mixture of chalk and clay, suits the trees admirably, this promoting that exceptionally robust productive habit of growth so essential to success. Quite young trees bear well, while the older ones seem when the fruit is ripe to be a mass of purple. In addition to the orchards formed and handed over or let to the tenants Lord Rosebery has about 100 acres of Damsons on his own hands, Mr. Smith still having sole charge. Curiously enough the crops in this instance are almost a complete failure. The bulk of the trees are located in a valley, and the severe May frosts destroyed the crops, whereas those on very slightly higher ground escaped with little or no damage.

In 1893 the crops were very heavy, and no less than 60 tons of fruit were marketed; this in addition to a heavy weight, or probably another 10 tons, that dropped to the ground and were spoilt. Yet many of the trees are comparatively young, and the time may come when a weight of 1 ton to the acre may be reached. When it is added that as many as 50 tons of Damsons are sent from Cheddington station in the season, and occasionally 16 tons on a single day, still more being despatched from Stanbridgeford, another small station in the neighbourhood, some idea of the magnitude of the industry will be gained. As a matter of fact whole trainloads of Damsons have been sent from the Mentmore district, and the season is by no means a short one, as a long succession is kept up by means of a selection of varieties. Where they all go to and what becomes of the fruit does not greatly concern the growers, but the suspicion prevails that port wine is largely manufactured out of Damsons. Nor need we complain if such is the case. Anyway the consignments are not all in the direction of the metropolis, but all the larger midland and northern towns take their full share, and there is no slackening of the demand.

Damson nomenclature would appear somewhat at fault, and Mr. Smith's experience ought to be turned to account with a view to clearing up the confusion existing. I would suggest that he be asked to read a paper at one of the Royal Horticultural Society's

meetings during the Damson season, detailing his experience, and further illustrating his subject, as well as proving his views as to correct naming, by means of large branches of trees in full bearing. At Mentmore they have four distinct forms, each doing good service. The Worcester is the first to ripen, and were already over when I visited the orchards. The tree is of sturdy upright growth, very little thinning being needed. Farleigh or Crittenden's Prolific in point of habit somewhat resembles the Worcester, the trees in both instances forming good round heads without presenting the appearance of undue crowding of branches. It is an enormous cropper, and the fruits, as might be expected, are somewhat small. Mr. Smith considers Crittenden's the hardiest—that is to say, the flowers are least often injured by frost; and that, coupled with its stiff habit of growth, is why outside rows are often formed with this. The Shropshire, sometimes misnamed the Prune, ripens at the same time as Crittenden's, and is also a good cropper, but the fruits are larger and more oval in form, while the growth is somewhat pendulous. The fruit of the true Prune is the largest of all, and is also the latest to ripen, this variety carrying on the supply till severe frosts are experienced. This, again, is of a more spreading or weeping habit of growth.

All the varieties are propagated by means of suckers, and are grown with clear stems, 6 feet or slightly more in height. There is no breaking up the whole of the ground for the tree, nor any attempt at growing bushes of any kind under or between them. The distances apart favoured is 22 feet each way, and good sized holes, or about 6 feet across, are formed for each. Weeds are not allowed to shut out warmth and air from the roots while yet the trees are young, but all eventually become grassed over and fed off by sheep, ample protection being afforded the stems in the shape of a thick covering of thorns. Till a good head has been formed by the young trees they are freely cut back, but in later years very little pruning beyond lightly thinning out is necessary. That much should certainly be done, though I am afraid all the growers do not imitate Mr. Smith's good example in this respect, nor apparently do they all fully realise that something in the shape of manure should occasionally be given to the trees after they have attained a highly productive state. What is done at Mentmore might also be imitated with advantage in very many other places, too many of those in charge of orchards generally failing to realise that trees cannot go on producing heavy crops of fine fruit without some assistance at the roots. Naturally there is a great accumulation of refuse in such a large private garden as at Mentmore, and it is this enormous heap that finds its way to the Damson orchards. It is first, however, turned, and has gas lime added to it in layers, and afterwards well mixed. A period of not less than six weeks has to elapse before the heap is fit for use, and three months is a still safer time to keep the lime mixed with the decaying rubbish. Then if the ashes resulting from the burning of the more woody refuse is also added there is a valuable heap of stuff. Once in every five or six years each tree gets about two barrowloads of this mixture, and there is no mistaking the good effect it has on the health and superior productiveness of the trees. Gas lime is more often than not voted of no value and a nuisance on a private place, but as Mr. Smith proves, it can safely be turned to good use. All the trees are very free of insect pests at Mentmore, and who shall say that the gas lime does not tend to keep them so, as it is a fine remedy for grubs of all kinds?

It is also worthy of note that much importance is attached to the way in which Damsons are packed. It would hardly be credited that it is possible to pack them badly when it is only a question of filling each half-sieve, but Mr. Smith states that it is only men trained to the work can so pack them as to obtain the very best prices. There is a habit of laying them up smoothly, cleanly, and quickly which has to be mastered, and although grading is not attempted there must be no unsound fruit included in a basket. The Mentmore Damsons always sell well, no matter how heavy may be the crops, owing to the reputation gained for honest packing. There is no forming a top layer with picked fruit, while that underneath is much mixed, and it pays better to throw or give inferior fruit away than to mix it with better samples.—W. I.

CARNATION DISEASES.

ONE could not help noticing from the articles that have appeared recently on this subject that some writers regarded but lightly the diseases to which these plants are liable. Others seem to be of opinion that heavy dressings of manure will bring about these unsatisfactory results. It may be safely concluded that those who regard these diseases of but minor importance in the culture of these popular flowers have never suffered severely from the attacks, or they would find Carnation growing difficult and often very disappointing. Fortunate indeed are those who have escaped

the terrible ravages that some of these diseases are capable of working on a number of plants.

Those who have been growing Carnations for years outside do not, as a rule, fail through over-manuring the soil in which they grow their plants. Beginners might fail from such causes, but not frequently old hands. We have carefully noted that the "spot" to which attention was previously called, and which proves so ruinous to the plants, is produced freely on plants growing in poor soil. It may be said in this case that the plants are pre-disposed to disease through the poverty of the soil. We tried to come to this conclusion years ago, but were compelled to alter the decision, because plants growing in what we should term rich soil were equally as badly attacked if not worse. We have also tried them in soil of an intermediate nature, neither poor nor rich, with no better results. How is this?

Our practice has been to layer healthy clean plants to all appearance towards the close of July or during the early part of the following month. When well rooted they are placed in 3 and 4-inch pots, according to their size, then stood outside until the approach of frost. By this time the plants are well established, the roots have frequently reached the sides of the pots. The plants are then wintered in cold frames, either plunged in or stood on ashes. The former is preferred, because the plants require less care in watering. The frames are liberally ventilated, the plants carefully watered, and ought to pass the winter in good condition, and be ready for planting out in a clean healthy robust state in the spring. But this is by no means always the case; some are all that could be desired, others are the reverse.

We pot border varieties firmly, and for years have found no compost more suitable for them than old potting soil, or what may be termed refuse from the potting shed. The soil, of course, varies very much in nature; sometimes it is much heavier than at others, then leaf mould is mixed with it; when very light we add a few barrowful of turfy loam. The plants that have remained free from disease have always done well in such composts as we have invariably used. The source of the disease must be traced to some other cause than the soil in which the plants are potted. We do not doubt that there is a cause, and we want if we can to trace these diseases to the sources from which they arise, and then remedy might not be so difficult as we may now suppose. The object we have in view is rather to prevent the appearance of the disease than spend our efforts in combating it after it has attacked the plants.

On the selection, especially in some localities, of the bed or border in which these plants are to be planted depends in no small degree whether successful results or the reverse are to follow. We have found that a piece of ground in good heart that would grow a crop of vegetables will not always grow Carnations well. Very often, even if the soil is good but subject to wireworm, the plants go off wholesale. Probably this is the worst enemy the Carnation has to contend against. If we are to grow Carnations where this pest is troublesome the ground to be occupied by them should be turned up roughly in the early autumn and fully exposed to the frosts and thaws of the winter. Even if they are grown in the same bed or border year after year, we have found them do well enough on this principle. The best method of dealing with wireworm is to dig early and trap them with portions of Potato in the old-fashioned way with a peg attached to them. Beds and borders can be cleared of them in this simple way. Particular attention is needed in this respect early in the season, and when the plants are first put out.

Last winter we grubbed up some old Red Currant trees that had been growing on the ground for probably forty years, and the soil was extremely poor and dry. A bed was formed 100 feet in length and 4 feet wide. The soil was dug up roughly after the trees were removed in the autumn, and just prior to planting in the spring about four barrowfuls of turfy loam was spread on, the same amount of old potting soil and Mushroom bed refuse, and about two 10-inch pots full of chemical manure in which bones, horn shavings, and sulphate of ammonia formed parts. The border was planted with Mrs. Reynolds Hole Carnation that had passed the winter free from disease. The plants grew with remarkable vigour from the first, and are free from disease now, while two or three stray plants of other kinds that had by accident got amongst them have displayed traces of disease all the season. The whole bed of Mrs. Reynolds Hole is remarkable for strength, and the first flowers are almost as large as "Malmaisons." We had no idea they would have attained such a large size. Four-foot stakes were used, and these were no use whatever to the plants, they should have been at least a foot higher. So far Queen of Bedders has shown no signs of disease, it is a good dwarf Carnation and well worth growing—strong in habit, and a most prolific bloomer. We fear a dark form that we have been growing will have to be dispensed with. It (Marquis of Lorne) is a good grower, fairly

sweet, does not break the calyx seriously, and almost rivals Uriah Pike. The old common white garden Pink, and Mrs. Sinkins, have been badly diseased throughout the season, especially those growing freely exposed to the sun.

It is too early to boast, but after the visit to Rangemore we changed the position of our "Malmaisons" and have not syringed them since, and they have every appearance of overcoming the disease that troubled them so much early in the season.—WM. BARDNEY.

CALOCHORTUS PLUMMERÆ.

BLOOMS of this beautiful Calochortus were exhibited by Messrs. R. Wallace & Co., Colchester, at the Drill Hall, Westminster, on



FIG. 42.—CALOCHORTUS PLUMMERÆ.

July 24th. As will be seen by referring to the illustration (fig. 42) the flowers are large and handsome, being purplish mauve or lavender shade, and the inner portion studded with yellow hair-like appendages. It is undoubtedly one of the finest species in cultivation, and appears to be strong-growing and profuse in blooming. A first-class certificate was awarded for this species on the above-mentioned occasion.

THINNING PEACH SHOOTS.

THE glorious sunshine of the last two weeks has gladdened the hearts of both farmers and gardeners. The farmer has been able, in many districts, to complete the ingathering of the harvest, and the latter has had the satisfaction of noting fruits, plants, and crops advancing with leaps and bounds toward maturity.

On nothing has the effect of this welcome change in the weather been more marked than the wood of fruit trees generally, and Peach trees particularly. Shoots which, a few weeks ago,

looked green and gross, are now fast changing to a reddish brown colour, which is a sure indication that the ripening process is going on satisfactorily; but in order that this should be thoroughly completed before the fall of the leaves it is necessary for the cultivator to do all in his power to fully expose every particle of wood required for the production of next year's crop. With this object in view Peach and Nectarine trees from which the fruit has been gathered, should be pruned at once.

When the trees have covered their allotted space, the majority of the shoots which bore this year's crop will require removal, leaving the young shoots at the base to supply next year's fruiting wood, and the requisite number of shoots to succeed them. This thinning ought to be done more freely than usual this year, as the shoots have grown exceptionally strong; and unless these are thoroughly exposed they will fail to set their flowers, although they may produce them freely enough. Bud-dropping may also frequently be attributed to unripened as well as to over-ripened wood, and those cultivators who pay due attention to the autumn thinning of Peach shoots and give good culture in other respects seldom fail to secure even crops of fruit let the season be what it may. However much may be written in disparagement of "ripened wood," I venture to predict it will be a long time before practical cultivators cease to put their faith in it, for they know full well that when the ripeness or maturity is not secured, the best or even good results cannot follow. Neither can they when premature wood-ripening is brought about by unhealthy insect-infested leaves.—POMONA.



CATTLEYA VELUTINA.

THE origin of this beautiful Cattleya is doubtful, many supposing it to be a natural hybrid between some form of *C. guttata* and *C. bicolor*. It is, however, quite distinct from either, and a charming kind. The sepals and petals are orange yellow with purple blotches, the lip white stained with yellow, and having lines of purple from the centre outwards. The pseudo-bulbs are about 1 foot high, slender, and have a pair of stout deep green leaves. It appears to enjoy more heat than most Cattleyas, and is easily grown in well drained pots in the usual mixture of peat and sphagnum. The flowers, which are produced in the autumn, are each 4 inches across and very fragrant.

LÆLIA CRISPA.

This is one of the oldest Lælias in cultivation, a beautiful species, and the seed-bearing parent of many fine hybrids. It is easily grown in the Cattleya house, and may be treated like *C. Trianae*. The lower spikes are produced from the top of the pseudo-bulbs, and bear about five flowers each $4\frac{1}{2}$ inches across. The sepals and petals are white, the latter broad with wavy, crimped edges. The lip is white, with a purple blotch in the throat, the side lobes are stained with yellow, and the front lobe, which is pointed, rosy purple, has darker lines leading to the column. It is a vigorous growing and free flowering Orchid. The pseudo-bulbs are about 8 inches high, bearing a single, large, leathery leaf. This species is also known as *Cattleya crispa*.

DENDROBIUM CHRYSANTHUM.

Although not of a lasting character, the flowers of this fine old species are very welcome at this season by reason of their bright golden colouring and delicate fragrance. These occur in small panicles along the newly formed growths, from fifty to sixty being frequently produced on a single pseudo-bulb. These latter on strong plants attain a length of 5 feet, and grow erect until the increasing weight causes them to assume a more or less pendulous habit. They should be allowed to grow naturally, as they have thus a far more graceful appearance than when supported by tying; the flowers also show to greater advantage. The culture of *D. chrysanthum* differs somewhat to that of the majority of the genus, as it is usually growing through the winter months, indeed it can never be said to rest, as before the flowers are past it usually commences to grow from the base of the flowering pseudo-bulbs.

Teak wood baskets are the best receptacles for the plants, and from the early spring until they flower a sunny position in a brisk heat, with abundance of moisture, will suit them admirably. After the flowers are over very little water is required until the young growths commence to emit roots, when the plants must be surface-

dressed or rebasketed if necessary and grown without a check. The blossoms appear while the leaves are still on the plants, but these usually fall before the flowers open. Good peat, sphagnum, and charcoal used in a rough open condition is the best compost for this species, and being a strong rooted kind the baskets may be comparatively large if good drainage is provided.

ONCIDIUM FORBESI.

This is a rather variable species, and in its best forms, as *grandiflorum*, it is a very superior Orchid. This variety produces spikes from 18 inches to 2 feet in length, branched and bearing a great many flowers. These are $2\frac{1}{2}$ inches across, of a pleasing shade of reddish brown, with a narrow, bright yellow wavy margin. The crest on the labellum is yellow with red spots, and the whole flower has a glossy varnished appearance. In habit it somewhat resembles *O. crispum*, but the pseudo-bulbs are more clustered and not quite so bronzy in appearance. *O. Forbesi* thrives best in a warm greenhouse temperature, or rather cooler than the Cattleya house, if such an one is at command. Our plants are grown close to the door on the side stage of the Cattleya house, and are given all the air possible. The plants are repotted in the spring in shallow pans or well-drained pots, in a compost consisting of equal parts peat and sphagnum, with a little charcoal. This is pressed very firmly round the plants, and very little water is given until they show signs of new growth, only enough, in fact, to keep the sphagnum alive. When rooting freely they receive more, but are allowed an occasional drying even when in full growth. Soon after the pseudo-bulbs are fully matured the flower spikes appear. These last a long time in perfection, and after they fade the plants must be kept drier. A long rest is a very important point in the culture of this *Oncidium*, and although I am not an advocate of overdrying Orchids, I like to see *O. Forbesi* shrivel a little during the winter. This species was introduced from Brazil over fifty years ago, but has never become very common in collections.—H. R. R.

MASDEVALLIA OCHTHODES.

I WOULD feel much obliged if you would kindly answer the following questions:—1, What are the form and colour of *Masdevallia ochthodes*? What treatment suits it best? Are there various varieties of this plant? If so, which is the best?—THE BOY.

[This Colombian species is one of the small flowered kinds, and is not very attractive in colouring, being of a dull shade of yellow. In form it is very grotesque. The upper sepal is erect and concave at the base; the lower sepals are united, and form a small boot-shaped cavity, almost hiding the small petaline segments from view. A cool moist house, such as suits the coolest section of *Odontoglossums*, is the best place to grow this plant. Abundance of air is needed all through the year, and during the winter the lightest available position should be afforded it. It must be grown in small pots or shallow pans in peat fibre, sphagnum, and charcoal, and repotted at least once in two years. Copious supplies of water are needed during the summer, but in the winter less is required, as, like all *Masdevallias*, the roots are apt to decay if kept too moist. There are, as far as we know, no named varieties of this species.]

CURRENT FRUIT TOPICS.

DWARF TREES.

IN the issue of September 20th there are several notes of much interest to fruit growers, particularly the excellent leading article by "C.," and as a fruit grower for market and home purposes I was pleased to see dwarf trees recommended. In former issues the immense advantages of bush trees over standards have been fully detailed, and I think it is only a question of time when all, or the major portion of fruit growers, will adopt the system. Another item mentioned by "C." is the value of planting fruit trees early. I have planted hundreds between the middle of October and the middle of November, which have scarcely missed their move, and have borne regularly the first and every year since planting. The advice on autumn pruning is of great importance. Judging from many years of experience I feel sure that not only would crops be more certain, as the trees and buds would be stronger, and insect pests less troublesome. This may be easily proved by pruning the trees as advised in the autumn, and leaving others until the new year. The result will show a most decided advantage in favour of the former.

FRUIT CROPS.—EAST AND WEST.—COLOURING.

On page 271 "Lincoln" writes on the inferior quality and bad colour of Apples in that county this year. In the West of

England, especially in Herefordshire, Apples are not only finer in size, but also much better in colour than last year. Many varieties of the Warner's King, Bramley's Seedling, and Tower of Glamis type were last year as green as possible, a tinge of colour being an exception, but the same varieties are this year putting on a beautiful flush on the sunny side. Other varieties naturally highly coloured are magnificently finished this year. Worcester Pearmain, Wealthy, Gascoigne's Scarlet, American Mother, and a few others are one mass of red, and I say with "E. M.," on the next page to "Lincoln's" query, "Why this is so I am at a loss to understand." No doubt the Apples and Pears at the Crystal Palace fruit show will be some of the best coloured ever staged.

GRAPES SHRIVELLING.

Some correspondence has recently appeared in the *Journal* about Grapes shrivelling, special reference being made to Muscat of Alexandria. This defect seems to more than usually prevalent this year. Several houses of Muscats, containing noble bunches with fine berries, that I have seen recently were beginning to shrivel considerably, and this in spite of large, clean, and healthy foliage, showing that the Vines were in good condition; and not only are Muscats shrivelling, but also other varieties that stand well as a rule, such as Alicante, Gros Colman, Alnwick Seedling, and Lady Downe's. In several well known Grape-growing establishments the berries more or less shrunk—puzzling the grower as to the cause, as the watering, ventilation, cropping, and general conditions were highly favourable to the berries remaining sound and plump. That splendid Grape Mrs. Pince is well known for its skin shrivelling at the nose of the berry soon after it is ripe, afterwards not spreading, but keeping the same for months. This year in my own case Mrs. Pince shrunk at the point of the berry immediately it was ripe, in spite of all efforts to prevent it.

QUALITY OF FRUIT.

Another matter which is causing some unpleasantness in one or two gardens is the indifferent flavour of Grapes this season, the employer blaming the gardener. This, I think, is wrong, as the sunless season has much to answer for. A man may be one of the cleverest gardeners in existence, but he cannot perform the impossible without sun. Grapes or any other fruit may be very pleasant to the eye, but the flavour will not be excellent. I have been at a few horticultural shows this year, but it has been quite an exception to taste either first-class quality Grapes or Melons, and other judges that I have spoken to on the subject have noted the lack of good flavour in the fruit. Even with outside fruit, the Figs, Pears, Peaches, Nectarines, and dessert Apples are far from being so agreeable a flavour as in more favoured and sunny seasons.—FRUITMAN.

RIPENED WOOD.

The correspondence on "Ripened Wood" has been very interesting, and as a proof that "Sceptic's" theory is not sound is apparent by the absence of supporters. "Azoto" (page 274) gives him a hard nut to crack *re* the unripened wood on the outdoor Vines at Castle Coch. It is seldom that the American Blackberries can be termed a success in this country, but this year they are much better than usual, which arises, I think, from the wood being so well ripened last year.—FRUITMAN.

IN availing myself of the space courteously promised for the desirable object of converting "A Sceptic" to the doctrine of ripened wood, he will please understand that, as a worker, time only allows me to stick my spade in the ground for a brief space, while I ask him to accompany me in an imaginary ramble round my little world of work.

Gossoon! bring me any *Journals of Horticulture* you may find on my desk. What? only the two last numbers. No matter, we shall probably find in them thoughts from other minds bearing on the subject of ripened wood. It does not quite accord with my notion of fair play to bring so powerful an auxiliary to mine aid, especially as "Sceptic" appears to stand alone; yet it is that I am more desirous to place facts for his consideration, and attempt his conversion by moral suasion rather than by force of argument.

Allons! Fruit trees generally are interspersed through the garden. We have had some previous discussion on this point of the question, is there anything relevant to this in these pages of the *Journal*? Yes, "Fruit at Sawbridgeworth," page 220. "In view of the controversy now appearing in these pages *re* the importance of ripened wood, the writer inquires of Mr. T. F. Rivers his opinion on the question. Smiling, the Sawbridgeworth expert said, "If not the frost in May it was probably the winter moth which caused the failure in the crop and not the well ripened

wood." Like many others, indeed one might say all practical growers, Mr. Rivers lays the greatest importance on well ripened wood, and to this having been so well accomplished last year attributes his enormous crop this season.

We pass on by a breadth of Raspberries, in which a man is busy removing the old canes in order to facilitate the ripening process of this year's wood, generally admitted to be sound practice, I believe. Gooseberries come next. Aught bearing on this in the *Journal*? Yes, in "Work for the Week," page 258-9:—"Well pruning and thinning out now . . . to receive the ripening influences of the autumn." To this advice I make bold to include the whole category of fruit bushes according to their individual requirements, so as time flies we proceed. Here are a few pot Strawberries for forcing, no ripened wood in this case I allow, but turning to page 241 we find, "When standing so closely together as the pots will allow the plants grow into a confused mass, excluding air and sunshine, the consequences (please note) being unripened crowns and soft flabby leaves." How strong the Roses have grown this season! Yes, see we are removing all superfluous wood, needless to say why; but you, "Sceptic" are mayhap not a Rose grower. If not, I assure you a severe winter with unripened wood means something like a catastrophe. Presuming that you are noting the flower beds and herbaceous borders I may say that in both the ripened wood process, though not so apparent, is not absent. The succulent crowded growths of the Zonal Pelargoniums are most difficult to propagate; we look out for the hardest wood, which, too, is ripened in some degree. About the borders? Here also I see the beneficent influences of ripening in bulb, root, or stem; but as I am getting rather wide of the text we will—"Oh! yes, come into the houses," say you, "Sceptic." Yes, but you must see my "Mums" first. You are perchance not a "Mum" grower, then I must tell you that in this department ripened wood is a primary article of our faith. Turn to page 246, Mr. Arderie's paper on Chrysanthemum culture, "Plants that have been subjected to doses of nitrate of soda or sulphate of ammonia are very liable to damp when in bloom, especially if the wood has not been well ripened . . . it must be well ripened by natural causes." See, I have even gone so far as to sacrifice some of those large stout leaves to admit the blessed sun rays to their stems. Now for the houses. Vines first. With these, you will recollect, "Sceptic," I broached the subject and elicited your first controversial note, so having had an innings let us see what others say on the matter. On page 234-5 "Work for the Week" gives four instances—viz., Vines early forced in pots . . . "stout, well-ripened wood." Earliest-forced houses . . . "firm, ripe wood." Succession houses . . . "ripening of the wood by increased light." Young Vines . . . "should be assisted with fire heat until the wood is ripe." On page 253 Mr. Pettigrew's lecture on Lord Bute's vineyards is, "In 1879 the fruit did not ripen . . . if the fruit cannot ripen neither can the wood, and without ripe wood there can be no Grapes." We are long enough in the vineries I am sure, now for the Peach houses. In "Work for the Week," page 258-9 is three instances—viz., Peaches and Nectarines, "in the case of trees that do not ripen the wood well." Succession houses, "the wood being ripe." Late houses, "midseason kinds will ripen the wood." Keep the same page open, please, and note as we go through the plant houses. Fuchsias "fully exposed to the sun to ripen and harden the wood."

I will now pocket these two numbers of the *Journal*. Only two, mind, from which I have quoted, and those not selected for the purpose: just the weekly teachings of departmental experts. Pray note the Camellias, Azaleas, and other greenhouse plants; unripe wood means but little or no blossom next season. From the plant stove we are removing the Dendrobies to a light airy place. Ever the same old story.

And now, "Sceptic," my spade awaits, or I would willingly take a turn in the shrubbery and pleasure grounds with you amongst the Coniferae, Rhododendrons, and evergreens; but I trust ere this there is no longer any necessity, that my mission is accomplished, and that you do believe that ripened wood is neither "a fad nor a fallacy of the age;" and that Nature, whose chief object in the animal and vegetable kingdoms is reproduction and perpetuation of each species, in our department never adapts better ways and means to accomplish her desirable objects than that of the text, and he who is desirous that she should do so that he may take his full tribute of fruit or blossom must give that aid our horticultural teachers never cease to point out.

With the text pure and simple I have finished; but it is, I think, capable of reasoning under another head—viz., the severe tax man imposes on Nature in his real or fancied requirements in which "Poverty and neglect sharpen the scythe of Time." We too often expect Nature to do her duty whilst we neglect ours. Here, I think, "Sceptic's" grievance probably lays. "More

acute" observers than myself there are I am sure, and abler pens to express their thoughts; hence I have, as previously intimated, kept to facts rather than subtle reasoning. The latter is, for me, a worker, more suitable for winter nights than summer days.—E. K., *Dublin*.

THIS battle is being waged according to the traditional method of "one down t'other come on." No sooner has an antagonist subsided into silence than another jumps up to attack me. Instead of my inviting them to "tread on the tail of my coat," as asserted by "Azoto" (page 274), it is they who run after and attack me whenever I am retiring from the conflict. "Azoto's" facetious allusion to "lunar influences" is, however, more applicable to himself and others who believe in ripened wood than to the sceptics. Canning once remarked that a man who could talk about dry champagne was capable of saying anything. Had the ripe wood superstition existed in his day he would doubtless have included its devotees in that scathing cynicism. If anyone was required to come forward and knock the bottom clean out of this fallacy, "Azoto" has done it most effectually.

In the first place Grape-growing out of doors has hardly yet passed the experimental stages, for, according to Mr. Pettigrew's own showing, their vintages appear to have been commercially successful only about once in every six years! But my opposition to this ripe wood nonsense is based on experience gained from the cultivation of ordinary fruits, not that of exotics carried on in out of the way parts of these islands. As it happens, however, Mr. Pettigrew is so obliging as to stultify completely the adherents of this ripened wood theory, for in describing his system of culture (page 253) he says, "When the leaves have fallen the canes are cut down to two or three buds, leaving mere stumps for producing fruiting growths another year." Thus the supposed unripe (?) wood of 1879 was entirely cut away that autumn, and whatever Grapes were produced in 1880 were carried by young wood grown that season. How then can it matter whether the 1879 wood was ripe or unripe? Surely even "Azoto" has not the hardihood to aver that those stumps or stools, from whence started the new wood of 1880, were not ripe, having been "planted as far back as 1875," and borne fruit both in 1877 and 1878.

The failure of the vintage in 1880 was probably due to quite another cause than unripened wood, viz, the long and severe winter of 1879-80, which lasted, with the exception of a week at New Year when the Tay Bridge was blown down, from November 20th to the 6th of the following February, a more protracted period of cold than the great frost of 1890-1; 1891-2 was also a long trying winter, and it is worthy of note that Mr. Pettigrew's Grape crop seems to have failed more or less after each.

The year 1879, whether for good or evil, is horticulturally ancient history, and I cannot for the life of me comprehend why any adherent of the ripened wood delusion should trouble to rake up musty details thereof, especially when both the past and present seasons offer such admirable and more valuable object lessons. But as "Azoto," on Mr. Pettigrew's authority, has chosen to cry back so far, perhaps you will allow me to lay before your readers a few meteorological facts connected with some of these periods. Mr. Pettigrew is, I believe, one of Mr. Symons' rainfall observers, consequently we may take his statement, that "upwards of 44 inches" of rain fell in 1879 at Cardiff Castle, as accurate; but the Greenwich return was only 31.36 inches, their 1893 record being 20.12 inches, or 11 inches less; while for the present year the rainfall to date (September 23rd) is roughly 19 inches, showing that in nine months we have had nearly as large a deposit of moisture as for the whole of 1893.

A still more important matter in this connection is the amount of sunshine registered—"solar influence," as "Azoto" amusingly terms it. In 1879 the sun shone for 983 hours, in 1881 1302 hours, in 1887 1401 hours, and in 1893 1454 hours at Greenwich. Just when horticulturists and agriculturists are all groaning about the lack of bright sunshine, a tabular comparison between last year and this may not be entirely without interest. Unfortunately I have been unable to bring my analysis quite up to date, nevertheless the contrast is sufficiently striking.

SUNSHINE AT GREENWICH.

1893.			1894.		
January...	...	14 hours	January...	...	42 hours
February	...	51 "	February	...	63 "
March	...	155 "	March	...	133 "
April	...	231 "	April	...	123 "
May	...	186 "	May	...	136 "
June	...	198 "	June	...	127 "
July	...	140 "	July	...	149 "
August	...	188 "	August	...	104 "
Total	...	1163 hours	Total	...	877 hours

Yet, notwithstanding such an immense deficit of sunshine in eight months, and particularly the six growing months, I find all fruit colouring more highly this season than last, an observation in which I am confirmed by "E. M.'s" note, page 272. All young wood, too, is unusually hard and firm, while the change of tint in leaves indicating that what is called "ripening of the wood" has occurred quite as early as last year. These are hard and obvious facts which it is for the old-fashioned faddists to explain away if they can. What we want from them is some practical proof, or even argument, worthy of the faith which is in them; not wordy generalities or meaningless vapourisation, such as "an invulnerable principle of the horticulturist's creed" and similar nonsense, which carries us nowhere.

"If your correspondent, "Azoto," will turn to page 264 of last week's issue, and read the final paragraph of your leader on "Facts about Fruit," he will then discover much valuable information, showing what intelligent and scientific pruning will do for unproductive fruit trees. I fear, however, he will find no reference to "ripened wood."—A SCEPTIC.



CHRYSANTHEMUM GOLDEN WEDDING.

I HAVE read Mr. Molyneux's note (page 278) respecting the behaviour of this beautiful variety, but my experience is that the cold, sunless summer has nothing to do with it. In fact, last season when we lost several plants I thought the intense heat was the cause, neither can I think shoots exposed to the sun "go off" before those less exposed. This season we have, or rather had, plants in various positions, and they were nearly all attacked with the same complaint; first one shoot, then number two, and finally the total collapse of whole; stimulants or strong manure the plants had none of. I really believe it is a disease to which the American kinds are peculiarly liable. Two other American varieties are going off in the same manner. Maud Pearson (Spalding) I have lost two plants out of three, and also a plant of Captain Torrens (Pitcher & Manda). The habit of these varieties is quite the opposite of Golden Wedding, being rather weak growers.—W. J. GODFREY, *Exmouth*.

[America is a famous country for fungi among other things, and a fungus is the cause of the evil in question. See page 306.]

LIKE your correspondent, "The Boy" (page 278) I have experienced the same failure of the above variety. I commenced with three plants in the spring, and they all did as well as any variety until the first week in August, when I noticed the top half of the shoots and leaves go as if they had received an overdose of something of a very burning nature. I was rather puzzled to know why one shoot should go one after another at short intervals, until I lost the last shoot of the three plants about ten days ago. I quite agree in every point with Mr. E. Molyneux that the present season has been an adverse one to this variety, and like him had formed a very high opinion of it.—W. R., *Heywood*.

MY experience with this variety corresponds exactly with your correspondent's on page 278. I have two plants; on one I took the crown buds, and I have not one bud left. They were attacked just under the flower bud with a decay similar in appearance to the Tomato disease; the other part of the stems then became spotted, and the leaves also decayed, and are now covered with a fungus, evidently a *Peronospora*. The other plant I stopped to take the terminal buds, and it looks quite healthy, not a spot on the stem or leaves. The buds are only just showing. It will be interesting to note if it takes the disease at a later stage. Evidently the check of the flow of sap on disbudding subjected it to this fungus, but it is curious that out of hundreds of varieties this one alone should differ from others. Mr. Agate of Havant has plants of this same variety, and his have gone off in the same way, showing that it is constitutional and not local influences that is the cause of it.—C. ORCHARD, *Bembridge, I.W.*

IT is certainly a little consoling to find the complaints respecting this Chrysanthemum so general. It makes the grower feel the fault is not entirely his own, though I am afraid in most cases we blame ourselves partially for the mischief. In my own case I came to the conclusion it was due to over-propagation, for it will be remembered how scarce this variety was last spring. No doubt many persons who received it this season for the first time have been a little anxious to make the most of it. Now I feel convinced, had it been grown in smaller pots so as to have induced a woody growth, we should have been more successful, but of course we had no idea it was such a gross grower. I have lost two plants out of six growing in 9-inch pots, while I have thirty later plants. These kept quite healthy while they remained in 5-inch pots, but as soon as they were put in 7½-inch pots the evil commenced again, and I have lots

several plants that were the picture of health. In one case a single stem will collapse as though boiling water had been poured on it, in other cases all the leaves will collapse down one side. I have no doubt the conclusions arrived at by Mr. Molyneux are logical, but I cannot yet persuade myself they are absolutely correct, for we have several sappy growers besides Golden Wedding, though they never practise this freak on the would-be growers.—JAS. B. RIDING.

CHRYSANTHEMUMS AT HAVANT.

I MADE a call on Mr. J. Agate at Havant on September 17th, and found that very successful cultivator and exhibitor busy housing his plants. Sharing the general opinion of many growers that this dull and wet season has caused sappy and unripened growth in many instances, I was agreeably surprised to find this collection looking remarkably well, with strong hard wood and plump flower buds, many of which were unfolding their florets, and hence Mr. Agate's anxiety to get them under cover, and not risk having them injured by early autumn frosts. He is certainly favoured with a good open position, where the plants are grown during the summer, a square being sheltered on one side by a span-roof show house and on the other three by hedges high enough to shelter the plants from the wind without obstructing the sunlight. That, no doubt, accounts for their being somewhat early. The collection comprises most all the new varieties of merit, and many duplicates are left to the terminal bud for experiment.

Amongst the earliest to show colour, many of which are half out, are Louise, very dwarf habit and fine, solid incurved Japanese; Beauty of Exmouth looks well this year; Viscountess Hambledon, another very promising variety of good growth, but very prolific in flower buds all the season; Petite Délaux, Mdle. Thérèse Rey, Edith Rowbottom, Mrs. T. Denne, Mrs. C. Harman Payne, E. G. Whittle, Stanstead White, Kentish Yellow, Madame Iwick, Wm. Seward, Puritan, W. W. Coles, Miss Simpkins, G. C. Schwabe, President Borel, Eda Prass, Florence Davis, Chas. Shrimpton, George Savage, President Lincoln, and L'Ami Etienne. These, with the many other varieties forming the general collection, will make a fine show, and be well worth a visit later on.—C. ORCHARD.



EVENTS OF THE WEEK.—As mentioned elsewhere the three-days fruit show and conferences, held under the auspices of the Royal Horticultural Society at the Crystal Palace, will be the principal events of horticultural interest to take place during the ensuing week. The exhibition opens on Saturday, the 29th inst., continuing the following Monday and Tuesday. Particulars are published on page 294.

— THE WEATHER IN LONDON.—Since publishing our last issue but little sunshine has been recorded in the metropolis. Rain has fallen on several days, and slight fogs have prevailed in some districts. Tuesday last was particularly wet, and Wednesday opened dull though fine.

— REV. W. WILKS.—In answer to inquiries on the subject, we are informed that Mr. Wilks has undergone an important and delicate throat operation, and is making favourable progress. We are very delighted to hear this, and our readers will join us in the sincere hope for a speedy recovery. A resolution of sympathy with the rev. gentleman in his affliction was passed unanimously by the members of the Fruit Committee on Tuesday last.

— MR. A. PETTIGREW.—When the talented gardener at Cardiff Castle was reading his interesting paper at the meeting of the Royal Horticultural Society, on the 11th inst., few of his audience were aware that he had left the bedside of a dying daughter to do so. Miss Agnes Pettigrew died on the 19th ult., at the age of seventeen years. Mr. and Mrs. Pettigrew have now lost two bright and promising girls, and it is to be hoped that the sympathies of a host of friends may do something to allay the pain of their great bereavement.

— PEA LATE QUEEN.—Amongst Pea novelties this variety is a first-rate one. I saw it growing and finely cropping at Hackwood Park recently. Mr. Bowerman is greatly pleased with it, not only because it is such a fine late variety, having large blunt-ended pods of the old British Queen type, but is such a capital enduring variety. Duke of Albany growing beside it, and sown later, was over and white with mildew. Late Queen was carrying a very heavy crop, quite green, and reaches 4 feet in height, though ordinarily rather dwarfer. The flavour of the Pea is excellent.—A.

— "PRACTICAL FORESTRY."—We are informed that the first edition of "Practical Forestry," by Mr. A. D. Webster, has run out in less than a year, and a second and enlarged illustrated edition, which is now passing through the press, will be ready by the end of October. The first edition will likewise be republished in its present form, and retained in Rider's Technical Series of Handbooks.

— GARDENING APPOINTMENT.—Mr. T. B. Field, who for the last twenty-two years has been head gardener to the late Sir Hy. Tyrwhitt, Bart., has been appointed to act in a similar capacity to the Baroness Berners, Ashwellthorpe Hall, Wymondham, Norfolk. Mr. Angus McKinnon, for the last seven years gardener and bailiff to W. E. Heard, Esq., Machen House, Newport (Mon.), has been appointed to succeed Mr. James Jones, who has been for the last forty-four years head gardener to Col. the Hon. F. C. Morgan, M.P., Ruperra Castle, Newport (Mon.).

— TROPÆOLUM SPECIOSUM.—I was pleased to see by the note of "E. M." (page 273) that there are some districts in England where this beautiful climber thrives so well, and I hope the information supplied will lead others to succeed in its culture. I fancy, however, that except in particular localities and situations, it will seldom grow so freely in England as in Scotland or Wales, as the climatic conditions of the last named countries are, during ordinary seasons, more favourable to the growth of this Tropæolum than those of England. It is not so much a matter of cultural skill as of cool, moist surroundings.—H. DUNKIN.

— HARPALIUM RIGIDUM, MISS MELLISH'S VARIETY.—Mr. J. Mallender, The Gardens, Hodsock Priory, Worksop, Notts, sends us blooms of Harpalium rigidum, Miss Mellish's variety. This variety was grown at the Royal Horticultural Society's Gardens, Chiswick, and proved to be one of the best amongst a great number sent up for trial. It was shown at one of the meetings and unanimously received an award from the Floral Committee. It is a plant that should be in every garden where hardy plants are grown. It attains a height of about 7 feet, branching freely if planted thinly, each stem producing from seven to ten fine flowers.

— LIATRIS PYCNOSTACHYA.—This is a very striking hardy flowering plant. I saw it in numbers recently in Mr. Ladham's nursery at Shirley, Southampton, where there is also one of the largest collections of hardy flowers in the kingdom. This Liatris has long pointed spikes of bloom that rise to a height of 4 feet, and, oddly enough, the flowers commence expanding from the top; they are of purplish-red colour, and are densely set on the stems. These when fully developed are grand for vases. I observed that in one or two cases where the points of the main spikes had been removed that they had developed side shoots of lesser size, but still not less useful for cutting—indeed, perhaps more so for small vases. As a border plant also, especially for a back row, it is singularly effective.—D.

— A NEW MANURE DISTRIBUTOR.—Owing to the extended use of chemical manures for the cultivation of garden and farm produce, suitable implements, varying somewhat in construction, for distributing the stimulants have been invented. One of the best of these we recently had the opportunity of inspecting at the establishment of Mr. James Coultas, Perseverance Iron Works, Grantham. This distributor appears to differ considerably in principle from other machines used for the same purpose, the material being thrown on to the ground by means of a revolving rake and spreader. An automatic box contains the manure, which can be applied to the soil in quantities varying, as may be necessary, from 25 lbs. to 10 cwt. per acre. As is well known there is a tendency for certain manures when damp to work into a paste if placed in a distributor, but in the one under notice this objection is obviated, which doubtless secured for the maker the silver medal of the Royal Agricultural Society.

— WOOLTON GARDENERS' MUTUAL IMPROVEMENT SOCIETY.—This Society consists of members who not only look for improvement in themselves but try to further it in many directions. For some years past they have organised exhibitions and concerts for the various gardening institutions. This year they are giving, if possible, a local organisation some assistance, and intend opening their sixth season with a horticultural exhibition to be held in the Parochial Hall, Woolton, on Wednesday and Thursday, October 3rd and 4th, in aid of the funds of the Woolton Convalescent Institution. Grand displays of flowering and ornamental plants, groups to effect, herbaceous cut flowers, early Chrysanthemums, choice fruit and vegetables will form the exhibits. There will also be a series of promenade concerts. Mr. W. Disley and Mr. Waterman are Secretary and Treasurer respectively.—R. P. R.

— THE TOWERS, RAINHILL.—I have been much interested in the account of the gardens at The Towers, Rainhill, which appeared in your issue of the 13th inst. (page 246), in which Mr. E. Blythian is eulogised as a single-handed gardener, and very justly too. It is wonderful what amount of time is taken up by the routine of gardening if a place is kept really tidy so as to give pleasure to the employers. May I ask your correspondent "R. P. R.," whose Liverpool notes I am always very much interested in, what is the area of the kitchen and fruit and flower gardens, and the number and size of the plant houses under Mr. Blythian's care, and if he is not allowed some assistance? No one is more aware than myself that the difference between gardeners and gardeners is astounding, but there is a limit to bodily strength, beyond which enthusiasm will not carry a man.—U. T. T.

— ROOT-PRUNING.—When at Coombe Court recently, Mr. Springthorpe drew my attention to a large number, probably some sixty to eighty, of fine bush Pear, Apple, and Plum trees, growing on either side of several kitchen garden walks. These were on the average 8 feet in height, and nearly as much through. Many were fruiting well, and almost every one doing well. They had been planted some twelve years, and now have huge massive stems. All these had become demoralised with strong coarse growth, and rarely fruited. Determined to kill or cure, Mr. Springthorpe last winter opened trenches around each tree some 3 feet from the stem, removed the soil from over the roots, literally threw them on to their sides, and cut off all vertical roots, then replaced them in position. The result has been a remarkable success, though some thanks are due to the season. Coarse growth is now checked, and an era of fruitfulness has set in. A lot of standard Blenheim Pippins served the same way had never fruited, but are in a fair way to do so in a year or two now.—A. D.

— CONIFERS ON LAWNS.—I am sending with this a small landscape photo, a peep of a portion of our lawn. The central tree is a fine specimen of *Abies Nordmanniana*, a remarkably good variety, and is about 35 feet high, feathered to the base. This tree, with others seen in the background, form the boundary of the Conifer ground, planted some fifteen years since by the late Robert Thornton, Esq. Some of the trees are beginning to attain interesting proportions, and comprise most of the choice varieties, such as *Abies Engelmanni glauca*, *A. Hookeriana*, *A. lasiocarpa concolor*, and *A. Veitchi*. *Pinus* and *Thuja* are well represented in many different forms and varieties, as are *Retinosporas*, *Juniperus*, and *Arthrotaxus*. I am sending these few notes thinking it may interest your numerous readers to know what may be done in a few years, and this on a thin heavy loamy soil, with very heavy clay underlying.—CHAS. HOPKINS. [We are obliged to our correspondent for the small photograph, which admirably portrays the fine specimen referred to above, but is scarcely suitable for reproduction.]

— LILIUM HARRISI.—This is truly a beautiful plant, of easy cultivation, and has become exceedingly popular since its introduction a few years ago. I do not know whether it is generally known that it can be flowered twice the same year. I ordered a dozen bulbs last autumn, and treated them similarly to the advice given by your correspondent, Mr. Hedley Warren (page 253). In due time they sent up some strong stems, which flowered beautifully about Easter. After flowering I noticed the bulbs began to grow again, and sent up two and three stems about 18 inches high, each producing two or three flowers, and are at the present time looking very gay dotted about among other plants in the conservatory. Two gardeners calling on me a short time ago, remarked, "Those Lilies ought to have flowered at Easter." I answered, "So they did, this is the second time of flowering;" which greatly surprised them. Perhaps some of your readers can say whether this is common with *L. Harrisii* or not, and whether it will have any detrimental effect on the bulbs next year.—R. MORSE, *Berkeley House Gardens, Frome*.

— COLOURED POTATOES.—As I have never shared in the prejudice which exists in many ways against coloured-skinned Potatoes, I never could understand it, but I rather think the prejudice is held, like to most others, that it is of no use having bias unless it is downright deeply indulged in. Now an eye-opener to some persons was furnished the other day in connection with a trial of Potatoes, conducted under exactly similar conditions—soil, space, seed, and chemical manures in every respect identical—and yet out of some forty varieties, including some of the known heaviest croppers of white sorts, a coloured variety, Reading Russet, came out at the top of the list for weight and cleanness of sample, such sorts as The Bruce, Reading Giant, Magnum Bonum, and Stourbridge Glory being beaten. Thus Reading Russet gave 69 lbs.,

King of the Russets 67, The Bruce 63, Conference 60, and Reading Giant 58 lbs. I had no reason to suppose that the strong-growing whites had suffered more from frost than had the coloured sorts. All indeed suffered severely from the May frosts, with the effect no doubt of discounting fully one-third of what otherwise would have been the tuber crop. The result came as a surprise to me; and yet I knew that Reading Russet—one of Mr. Fenn's famous seedlings which Messrs. Sutton & Sons put into commerce, and still to-day by far the best red round we have—was a capital cropper. One good result of the National Potato Show, if it can be organised, would be to bring once more into their proper place these fine coloured sorts that merit high praise. Reading Russet is a capital cooker, and King of the Russets is a long way preferable to Adirondack.—A. D.

— THE CRYSTAL PALACE FRUIT SHOW AND CONFERENCES.—The Great Fruit Show to be held by the Royal Horticultural Society at the Crystal Palace, on September 29th and October 1st and 2nd, promises to be a very large one. It may be as well to remind exhibitors that they may begin staging their fruit at 6 A.M. on the 29th inst., and must have completed by 11 A.M., at which hour the judges will meet the Assistant-Secretary, Mr. J. Weathers, at the Royal Horticultural Society's temporary offices, opposite the Egyptian Court, to receive instructions. The gardeners' luncheon will take place in the Garden Hall, on the left hand side of the great clock, at 1.30 P.M. punctually, and a large attendance is anticipated. On Saturday, at 3.30 P.M., in the Garden Hall, a paper on "Fruit Growing in Small Gardens," prepared by the Rev. W. Wilks, Vicar of Shirley, and Secretary of the Society, and by Mr. George Bunyard, F.R.H.S., of Maidstone, will be read; on Monday, at the same time and place, one on "Fruit Growing on a Large Scale," by Mr. C. Wise, F.S.I., F.R.H.S., manager of the fruit farms established by Lord Sudeley; and on Tuesday, on "Packing and Marketing Fruit," by Mr. George Monro, F.R.H.S., of Covent Garden Market.

— CEREUS PECTEN-ABORIGINUM.—A recent issue of the American "Garden and Forest" contains an excellent illustration of this little known *Cereus*, which is a tree 20 to 30 feet in height, with a trunk a foot or more in diameter, divided into numerous erect ten or eleven ribbed branches armed with stout, straight, ash-coloured spines tipped with black. The flowers, which are produced at the top of the branches, are 2 or 3 inches long, with purple succulent sepals, fleshy white petals and a hirsute ovary. The fruit is dry and globose, 2½ to 3 inches in diameter, and covered with "pulvinate densely hairy areolæ, which are for the most part beset with stiff setaceous unequal yellowish spines." The Indians of Sonora grind the seeds (as they do those of many other species of *Cactus*) and mix them with their meal, and use the bristly covering of the fruit as hair-brushes. The existence of this species was first made known by Dr. Palmer's discovery in 1869 of these brushes in the hands of the Papago Indians at Hermosillo, in Sonora, although it was not until 1868 that he found the plant that had produced them. So far as we have been able to learn, this interesting plant is not in cultivation, although the author of the species suggested that it may be identical with the *Cereus macrogonus* of Salm-Dyck, of unknown origin, which has been in gardens since before 1850.

— VEITCH'S CLIMBING FRENCH BEAN.—On page 273 "A. D." contributes an interesting note on Runner Beans, in which he refers to the fine cropping qualities of the climbing sports from Canadian Wonder. The note recalls to my mind the grand rows of this type which have for years been grown by Mr. H. W. Ward in the gardens at Longford Castle, Salisbury. During the six years that I served in the capacity of foreman there these climbing French Beans unfailingly produced prodigious crops, frequently attaining a height of 7 feet, and yielding remarkably fine pods from the middle of July till cut down by frost, in fact they were often as prolific in October as in August. Mr. Ward was, I believe, the first to select and grow Canadian Wonder as a Runner Bean, certain it is that years before any Bean of this type was put in commerce it was regularly grown at Longford. Mr. Ward's stock was last year secured by Messrs. Robert Veitch & Son of Exeter, who, in conjunction with the Chelsea firm, have this year sent it out under the name of Veitch's Climbing French Bean. Several fine rows of the variety growing in the gardens at Longford Castle are at the present time worth seeing, and notwithstanding the assertion of "A. D." "That not an atom of difference could be seen between Sutton's Tender and True and Veitch's Climbing French Bean as seen growing side by side at Reading," I emphatically maintain that those who will take the trouble to grow the two varieties side by side themselves will find the latter taller and more uniformly late than the former.—H. DUNKIN.

— THE AMERICAN POTATO CROP.—So bad has the drought been felt by the Potatoes that the supply will be a light one. Even good rains would now be too late to benefit anything except the last plantings, but these constitute the bulk of the area in this crop in Northern New York, New England, and the provinces. Nova Scotia and New Brunswick promise less than the average yield per acre, and the crop of Prince Edward Island is not extraordinary, these being the only sections of Canada that export Potatoes to any extent. The Potato acreage in the United States this season was slightly more than last year; but the late crop must improve wonderfully before September 15th to make more than 56 bushels per acre for the United States. A contemporary states that at an average yield of 56 bushels per acre the total crop would be 147,000,000 bushels. In 1893 the yield per acre was 72.2 bushels, and the total crop was 183,000,000 bushels; in 1892, 62 and 155,000,000 bushels; in 1891, 93.9 and 250,000,000; in 1890, 57.5 and 150,000,000; in 1889, 76.4 and 218,000,000; in 1888, 79.6 and 202,000,000; and in 1887, 56.8 bushels per acre, and a total crop of 134,000,000 bushels.

— LIGUSTRUM IBOTA.—This Privet, from North China and Japan, which was figured in the "Garden and Forest" some time ago, is certainly one of the best exotic shrubs which have been introduced for many years. It is beautiful as a single specimen; attractive when massed on a hill side, as it is in the Arnold Arboretum; beautiful in a mixed shrubbery, and, in short, it is almost invaluable in ornamental gardening. Its long, arching branches give it a character altogether distinct from other Privets. The pure white flowers are borne on pendulous clusters and have a long and slender corolla-tube, and at this season appear in great profusion. The foliage is good, and turns to a dark, rich colour in the autumn, while the dark purple fruit, with a bluish bloom, gives the plant additional interest. It will probably attain a height of 8 to 10 feet in this country, and it does not seem to get straggly with age, for, although it blooms when it is very young, it flowers still more abundantly as it becomes more mature. Large sprays of it in flower are very graceful when used for decorative purposes. It is not only perfectly hardy in America, but seems to take so kindly to the climate that it will probably become naturalised.

— NATIONAL HORTICULTURAL SOCIETY OF FRANCE.—It is reported that this Society "will hold a grand international exhibition of horticultural products, objects of art for decorating parks and gardens and scientific instruments, such as barometers, thermometers, and hygrometers, as far as they bear upon scientific horticulture. The exhibition will be held in the gardens of the Tuileries, Paris, May 22nd to 28th inclusive, 1895. Three hundred and thirty-four classes have been provided; these are divided into sections for new plants, specimen plants, collections of stove, flowering, and foliage plants, Orchids, greenhouse flowering and foliage plants, hardy plants, Conifers, hardy flowering trees and shrubs, forced plants in flower, forced fruit, cut flowers, vegetables, drawings, prints and specimens of plants, garden plans, and materials and instruments used in horticultural industry. A Congress of horticulturists will also be held at Paris during the exhibition. Various interesting horticultural questions will be discussed and papers read, and those who wish to take part in the proceedings or compete for the medals offered by the Commissioners of the Congress for papers treating on the various subjects chosen by them, are requested to communicate with the President, M. H. de Vilmorin, 84, Rue de Grenelle, Paris. The congressional meetings will be held in l'Hotel de la Société 84, Rue de Grenelle, at two o'clock each afternoon, May 24th and 25th 1895."

— AMERICAN DAHLIAS.—Last year we published a complaint that Dahlias in certain sections failed to bloom, the buds seeming to dry off entirely or make imperfect blossoms only. This trouble is prevalent again this season in many places, and in the "Garden and Forest" Mrs. W. Seliger writes from Hartford that she has discovered the cause to be the work of the common corn-stalk borer, *Gartyna nitela*. The moth of this insect is dark brown, sprinkled with yellowish dots, with a whitish band across the wing, and the caterpillar is dark brown, with three white lines on the back, the central one being continuous, while those on each side are interrupted. This borer drills into the stalk near the ground and eats out the pith, causing the death of the plant. The method generally suggested for fighting the insect is to pull up the injured corn-stalks as they begin to wither and throw them to the pigs, so that the worms will be destroyed. If this is carried on regularly there will be little danger that the moth will become so abundant as to be a serious pest. When it occurs on weeds or garden plants these ought to be collected and either burned or given to the pigs. Last year

it was suggested by Mr. Siingerland of the Cornell Experiment Station that the four-lined leaf-bug, *Poecillocapsus lineatus* was the offender, and the fact that this insect attacked Dahlias had been put on record by Dr. Fitch thirty-six years ago. This leaf-bug punctures the flower bud until it withers. A bulletin published by the Entomological Division of the Cornell Experiment Station last year gives all the facts known about this pest. We should like to know whether the corn-stalk borer has been detected preying upon Dahlias in other sections.

— THE PERENNIAL PHLOX.—Most persons will agree with "The American Agriculturist" that no herbaceous plant can excel the perennial Phlox in its rich show of great masses of colour. Clumps three and four years old form a bunch as many feet across, containing scores, if not hundreds, of stalks, each one bearing a great head of flowers. The shades of red and rose are very rich and delicate. A few plants of the white varieties should be used to furnish contrast. To grow this flower well the ground must be made rich in spring, and keep free from weeds. Not infrequently we notice that some horticultural writers advise staking the plants. Do not do so. If you do you make them look so stiff and prim that you spoil them. It is not at all necessary to give them support, as the stalks are strong and quite able to take care of themselves. Those on the outside will be crowded by those in the centre, and quite naturally bend downward when in bloom, but they will not break, and they give the plant a charming effect, making it appear a rounded mass of colour from the ground, an effect impossible to obtain when stakes and strings are used. The great value of this flower for planting amid groups of shrubbery, and especially among evergreens, is just beginning to be understood.

— BIRMINGHAM AMATEUR GARDENERS' ASSOCIATION.—The meeting of the Amateur Gardeners' Association held at 116, Colmore Row, on Wednesday evening in last week was fairly well attended, and was presided over by Mr. C. Shotton. The exhibits of plants, flowers, and fruit were of excellent quality, although the number of entries was not so large as usual. The great feature of the exhibition was a fine display of fruit sent by Mr. J. H. White of Worcester (not for competition), it contained excellent specimens of Apples, Pears, Plums, and Damsons, of varieties suited to this district. Messrs. T. P. Cope, Hy. Beech, and W. H. Peake exhibited plants and flowers, which showed signs of good and careful cultivation. A pot of Fern and hardy Heath growing together, and shown by Mr. Cope, was much admired, as Heath growing so luxuriantly had been rarely seen previously. Mr. W. B. Child of Acock Green exhibited very fine sprays of herbaceous blooms (not for competition). A vote of thanks to the Chairman concluded the proceedings. The Committee has now adopted a special design for their medals, and as the die is its property it will make the Association medal very valuable. As the winter is now approaching and most outdoor gardening for this year is coming to a close, the Committee urge on all amateurs in the district to join the Association and attend the meetings, and so keep up their knowledge, enthusiasm, and love for what should be to everyone a very fascinating hobby.—WM. B. GRIFFIN, *Hon. Secretary, Wychbury, Alcester Road, Moseley.*

— THE LILY DISEASE.—It is sad to see the havoc that has been caused by this disease this season. Among a couple of hundred bulbs planted last autumn not a dozen has borne good flowers. Old clumps of *L. candidum* have been badly attacked, while newly imported bulbs of the best varieties of *L. auratum* and *L. speciosum* have been killed outright. The plants of all varieties look well until the flower buds begin to swell, when first the leaves and eventually the flowers and stems turn black and decay, the bulbs also in many cases being quite rotten. The Martagon section has made the best stand here, such varieties as *L. dalmaticum* and *L. pyrenaicum* not having suffered much. I have also noticed several kinds that produce their leaves in whorls, such as *L. pardalinum* and *L. californicum* have not fared so badly. *L. Krameri*, *L. longiflorum* and its varieties, and the beautiful *L. nepalense*, have all suffered more or less. With the wreck of the flowers outside it is pleasing to turn to the plants that have been grown under glass, and to note the snowy white blossoms of *L. speciosum Krætzeri*, and by contrast *L. speciosum Melpomene*, with its large, richly coloured flowers. These are great improvements on the ordinary *L. speciosum album* and *rubrum*. *L. auratum platyphyllum* and *virginale* are choice and beautiful Lilies, extremely useful for conservatory or room decoration. The broad, overlapping segments of these varieties give the flowers a much more substantial appearance than the ordinary types of *L. auratum*.—H. R. RICHARDS, *Roche Court.*

POTATO-TOP COLLAPSE.

THE disease that has destroyed the leaves and haulm of many Potatoes throughout the country this year is primarily caused by the conidial condition (*Macrosporium commune*, *Rabh.*) of the mature fungus called *Pleospora herbarum*, and is common on the decayed portions of various plants. But *Macrosporium commune* is not the only aggressor, for other species of *Macrosporium* are present on the tops of Potatoes—namely, *M. sarcinula*, *Berk.*, and *M. tomato*. *M. sarcinula* attacks outdoor (also indoor when the houses are cold and damp) Cucumbers, the disease being characterised by retardation of growth and curling of the leaves, especially in the young vines, and the stunted fruits, with yellowness in the whole plants and final collapse, when they become brown or black, and completely withered. *M. sarcinula* is also common on withered grass leaves, from whence the disease no doubt passes to Cucumbers and even Vegetable Marrows. Neglected hedges and ditches are in the main responsible, combined with cold and moist weather, for the prevalence and spread of the disease.

M. tomato, *Cooke*, forms blackish patches on Tomato fruits, especially those nearly ripe, but it also attacks the flowers or rather the ovaries, and prevents the setting of the fruits. It also has a penchant for Potato "apples," and when it does attack the Potato crop it is at or soon after the commencement of flowering. It not only prevents the formation of flowers but spreads to the leaves and haulm. The leaves



FIG. 43.

LEAF OF POTATO AFFECTED WITH BLIGHT (*PHYTOPHTHORA INFESTANS*).

commence curling, assume a sickly hue, and brown or black patches appear on them and the stems. Soon after this the tops wither, hanging flaccid and blackened, as if smitten by frost. This form may occasionally be found on the common Nightshade (*Solanum dulcamara*) so prevalent in hedgerows.

M. commune, however, is most frequently found on Potatoes, and its attacks usually commence when the haulm has arrived at the flowering development, but a plant here and there may take the disease and collapse at an earlier period of the growth, some such sickly plants occasionally being found at earthing up time. If the weather is wet and cold the disease may spread rapidly from these over a whole field, parish, county, or country. The plants look luxuriant for a brief time, owing to the action of the fungus, ultimately turning a sickly hue, black spots or rather patches appear on the leaves and run together, then the leaflets either drop or the whole leaf droops, turns black and shrivels. The tops follow suit partly or wholly down, the stem having some blackish spots here and there, which are the seat or have been of the *Macrosporium*, and it is followed by the *Pleospora herbarum*. This fungus being the final stage is only found on decaying or dead stems and leaves, whence the conclusion is arrived at that the fungus only attacks plants that are unhealthy. This is an excellent thing for the spread and perpetuation of the fungus, for which the grower pays, reaping only half or three parts of a crop of half or three-quarters grown tubers, but they are sound unless *Phytophthora infestans* intervene as it is now doing in some cases. *Macrosporium commune* (other *Macrosporiums* are similar) first appears as a bluish or greenish-grey coat of erect filaments on the sickly plants, made so by permeation of the

tissues by the mycelium, each bearing "conidia variable in form, oblong, obovate or clavate, attenuated at the base, 3—5 septate, septa transverse, oblique or longitudinal, olivaceous, episcore sometimes granular" (*Masse*). These conidia germinate readily, and, in suitable conditions—moisture and a host affording the proper nourishment—produce mycelium, which reproduces the fungus.

Prevention only is possible, and may be effected by spraying with Bordeaux mixture just before the Potato plants come into blossom, or when showing, and again in about ten days. Half strength Bordeaux mixture is quite strong enough to destroy the germ tubes of the *Macrosporium* spores, but as the Potato fungus (*Phytophthora infestans*) generally follows the blossoming of the Potatoes it would be wise to use the full strength Bordeaux mixture at the third spraying, or three weeks after the first at half strength for the *Macrosporium*, and thus both *Macrosporium commune*, which destroys the tops only, and *Phytophthora infestans* attacks may be entirely prevented. Cleanly culture, the avoidance of rank farmyard or stable manure, and abundance of room for the plants, together with silicates for strengthening the haulm, are valuable aids in avoiding both diseases.

Remedies there can be none, as the mycelium of the fungus is internal in its operations. All diseased parts, however, should be burned, as these contain the *Pleospora herbarum* more or less, though not to a great extent at present (September 10th), but it will come more abundantly presently, and by thus proceeding the disease producing power of the parasite (it has hitherto been sneered at as a saprophyte) will be proportionately reduced.

Magnum Bonum has wholly collapsed in some cases, but some have yet green tops more or less, on which we found *Phytophthora infestans*, so that diseased tubers may yet have to be added to the disasters. Satisfaction and Abundance have held their ground quite as well or better than Magnum Bonum, while "The Bruce" has fairly healthy-looking foliage. The fungus (*Macrosporium*) however, has "got hold" of it—robust and strong constitutioned as it is—and it is only a question of a few days for the parasite to compass its destruction, especially if the weather prove cold and wet, and it is being aided by *Phytophthora infestans*, which we found on specimen examined on September 8th.—G. ABBEY.

As bearing on this important subject, and apparently in confirmation of what has been written by our correspondent, we reproduce the following notes and woodcuts from a small pamphlet entitled "Some Destructive Potato Diseases: What They Are, and How to Prevent Them," published by the United States Department of Agriculture. We have also seen large breadths of Potatoes both in Kent and Surrey with the leaves blackened and destroyed, yet the tubers are sound though small.

"Among the many fungus diseases affecting the Irish Potato three are especially worthy of consideration on account of the regularity of their occurrence in the United States and the widespread losses they occasion. The diseases in question are Potato blight or downy mildew, the *Macrosporium* disease, and Potato scab. In the accompanying pages are given some of the more important characters, by means of which the several diseases may be distinguished, together with brief directions embodying the latest information in regard to treatment.

HOW THE DISEASES MAY BE DISTINGUISHED.

"*Potato Blight (Phytophthora infestans)*—This disease (fig. 43) attacks the leaves, stems, and tubers. Generally the first noticeable effect upon the leaves is the sudden appearance of brownish or blackish areas, which soon become soft and foul smelling. So sudden is the appearance of the disease in some cases that fields which one day look green and healthy may within the next day or two become blackened as though swept by fire. The rapid spread of the disease is dependent in large measure upon certain conditions of moisture and heat. A daily mean or normal temperature of from 72° to 74° F. for any considerable time, accompanied by moist weather, furnish the best conditions for the spread of the disease. On the other hand, if the daily mean or normal temperature exceeds 77° for a few days the development of the disease is checked. This fact explains why the Potato blight fungus seldom occurs to any serious extent in sections where the mean or normal daily temperature exceeds for any length of time 77°. The tubers affected with the disease in question show depressed, dark coloured spots on the surface, while within are seen blotches and streaks of a brownish or blackish colour. Other diseases may produce similar effects, so that in this case the changes are not so characteristic as those shown by the leaves.

"*The Macrosporium Potato Disease*.—From reliable evidence there is every reason to believe that this disease is often more widespread and destructive in this country than the true blight. There is no doubt that the two diseases are often mistaken for the same thing; in fact, it has been the custom for many years to attribute nearly all maladies affecting the Potato to the blight fungus.

"The *Macrosporium* disease (fig. 44) attacks the leaves and sometimes the stems, but never the tubers. The disease may appear at any time after the plants are from 4 to 6 inches high. At first the older leaves show greyish brown spots, the affected parts becoming hard and brittle.

The disease progresses rather slowly, the spots gradually becoming larger, especially along the edges of the leaflets. At the end of ten days or two weeks half of the leaf surface may be brown, withered, and brittle, while the rest is of a pale yellow colour. Three weeks or a month may elapse before all the leaves succumb, the stems in the meantime remaining green, until they finally perish through lack of nourishment. The tubers stop growing almost as soon as the leaves are attacked, and as a result the crop is practically worthless.



FIG. 44.—LEAF OF POTATO AFFECTED WITH THE MACROSPORIUM DISEASE.

Potato Scab.—Within recent years this disease has attracted a great deal of attention. Its effects on the tuber are so prominent and easily recognised that nothing further on this point need be said (fig. 45).

FUNGICIDES OR PREVENTIVES TO BE USED FOR THE DISEASES.

“For blight and the Macrosporium disease nothing so effective as the Bordeaux mixture has been found. This should be prepared as follows: Pour into a 45-gallon barrel about 30 gallons of clean water, then weigh out 6 lbs. of bluestone or copper sulphate, and after tying it in a piece of coarse sacking suspend the package just beneath the surface of the water by means of a string tied to a stick laid across the top of the barrel. In another suitable vessel, such as a tub or half barrel, slack 4 lbs. of fresh lime. Slack the lime carefully by pouring on small quantities of water at a time, the object being to obtain a smooth, creamy liquid, free from grit. As soon as the bluestone is dissolved, which will require probably less than an hour, pour the lime milk into the bluestone solution, stirring constantly to effect a thorough mixing; add enough water to fill the barrel, stir again, and the mixture is then ready for use.

“For the treatment of Potato scab a solution of corrosive sublimate has given the best results. This should be prepared by dissolving $2\frac{1}{4}$ ozs. of corrosive sublimate in about 2 gallons of hot water and after an interval of ten or twelve hours diluting with 13 gallons of water.

WHEN AND HOW TO APPLY THE FUNGICIDES.

“For Potato blight and the Macrosporium disease apply the Bordeaux mixture, beginning when the plants are about 6 inches high, and continuing at intervals of twelve or fourteen days, until five or six applications in all have been made. If the season is rainy it would probably be best to make the treatments every ten days, the object being to keep the plants at all times covered with the fungicide. By adding 4 ozs. of Paris green to each barrel of the Bordeaux mixture the treatments will not only prevent the diseases under consideration, but keep in check the Colorado Potato beetle and other insects as well. Before adding the Paris green to the Bordeaux mixture the former should be made into a thin paste by mixing with a small quantity of water.

“The success of this work depends in large measure upon the thoroughness with which the fungicides are applied. To reach all parts of the plants above ground with a fine spray requires a good force pump and a suitable nozzle. The knapsack sprayer now on sale in nearly every section of the country will be found one of the most useful machines for spraying fields of 5 acres or less. For larger plantations more powerful machines should be used. A cheap and serviceable apparatus well suited for this work may be made by mounting a good, strong force pump on a barrel and then placing the barrel and mounted pump in a light wagon. The entire outfit, including barrel, pump, hose, nozzles, operator, and boy to drive, may be drawn by one horse. As the wagon is drawn slowly between the rows the man in the wagon may operate the pump, and at the same time keep the mixture stirred, while two others on the ground hold the nozzles and direct the spray over the plants. The nozzle found best suited to the work is the Vermorel; this

is now offered for sale by pump manufacturers and dealers in seeds and agricultural implements in various parts of the country. Of course where there are only a few plants to treat simple devices for the application of the fungicide, such as syringes, watering cans, and even old brooms may be used. These makeshifts, however, should be avoided as much as possible, as they not only fail to distribute the mixture uniformly, but are wasteful.

“In addition to the line of treatment suggested care must be taken to avoid the use of diseased ‘seed,’ and further, the stems and leaves killed by either the blight or Macrosporium disease should be mowed or cut off and burned.

“Potato scab has been very successfully prevented by the use of the corrosive sublimate solution already described, very smooth Potatoes having been grown from very scabby tubers. The Potatoes to be planted are simply immersed in the solution for an hour and a half, then spread out to dry, cut, and planted in the usual manner. A large barrel offers a convenient receptacle for the solution. The Potatoes may be placed in a coarse sack and suspended in the liquid, care being taken to wash the tubers before dipping, providing they are very dirty. The corrosive sublimate is very poisonous, therefore it must be used with great care and kept out of the reach of children and animals. *All treated tubers should be planted.*

COST OF THE WORK.

“The cost of the work outlined for Potato blight and the Macrosporium disease will depend to a considerable extent upon the kind of machinery used and the price paid for labour. With suitable apparatus, such as has been described, and labour estimated at 1.50 dols. per day, Potatoes may be sprayed six times for about 6 dols. per acre. This estimate is based upon experiments extending over several years, and includes the cost of chemicals as well as of labour. The cost of treating scab is mainly

in the labour involved in dipping and drying the seed, and seldom exceeds 15 cents per acre.

CONCLUSIONS.

“The three diseases discussed cause a loss in this country of several million dollars annually. It is believed that much of this loss may be prevented by following the suggestions made, but it must be borne in mind that the treatments are preventive, not curative. The importance, therefore, of beginning the work in time cannot be too strongly urged.

“In the case of blight and the Macrosporium disease the question may arise as to the advisability of going to the expense of arranging for work that may not be necessary on account of the diseases not appearing. In answer to such a question it may be said that there is scarcely a section of the country where one or another of the diseases mentioned does not occur every year. Furthermore, it is a fact well established by experiments that, even if no diseases whatever appear,

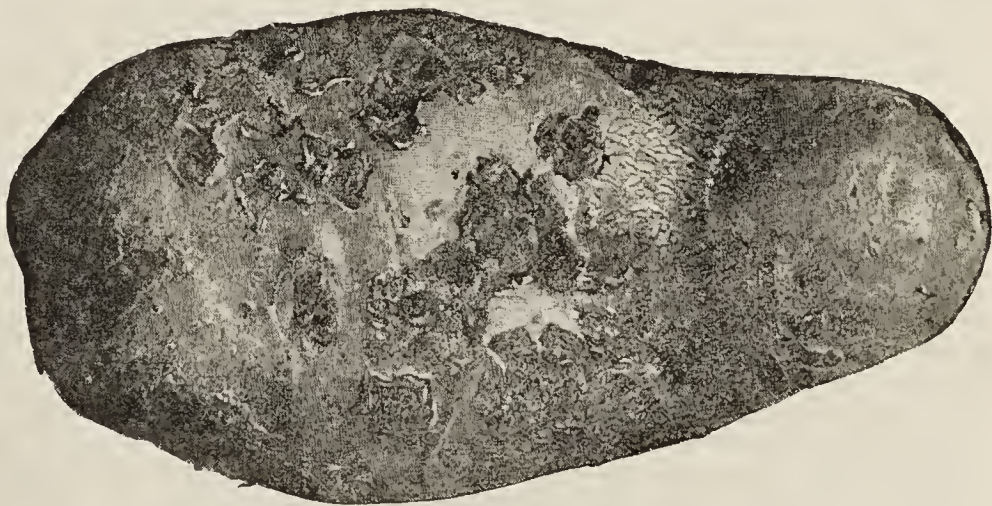


FIG. 45.—POTATO SCAB.

spraying with the Bordeaux mixture will increase the yield to such an extent as to make the work profitable.”

NUTRITION OF ROOTS.

ONE has some compunction in stepping between two controversialists who are supposed to be trying to elucidate an abstruse question like the one at issue, but we cannot help the conclusion that Mr. Bishop is taking us an interminable way round for the short distance accomplished. We have had interlocking of pages and paragraphs, learned disquisitions on vapour, vaporous moisture, steam condensed, steam uncondensed, clouds above and fog below so dense, and the whole so mized together, that Mr. Bishop even does not distinguish between

arguments bearing on side issues and those brought to bear on the main question. Note the side issue *re* condensed steam after Mr. Gilmour's frank and full retraction how persistently Mr. Bishop continues to beat the big drum as if he had scored a decisive victory all along the line.

Again, what need to doubt the intelligence of your readers with diffusive and unnecessary encyclopædian definitions only worthy a second-year pupil teacher to a third standard class of pupils, all this interspersed into column after column of scientific fireworks to prove what? so far, that the moisture in the soil diffused by capillarity, as the result of such diffusion it is changed into vaporous moisture, and on Mr. Bishop's own *ipse dixit* that the roots of plants being cooler than the vaporous moisture the latter is condensed on them. "Vaporous moisture" with Mr. Bishop seems to be a very elastic term, yet according to his own showing, no matter what amount of diffusion short of evaporation it may be subjected to, it is neither more nor less than water as H_2O . If this is so, why then use the term condensation, which, under the circumstances, is both confusing and misleading?

Recent plant physiologists are content with the theory that the root hairs come into direct contact with moisture of the soil which for practical purposes may be called normal water as H_2O , does Mr. Bishop deny this? As such we can understand it being the carrier of the soluble elements of plant food, but if he wants to confuse the issue it is easy enough for him to prove that some amount of evaporation is going on at all temperatures, but how long would the weeds quoted by Mr. Raillém have existed entirely on the infinitesimal proportion of water condensed on their roots? Supposing Mr. Bishop can prove to us that the root-hairs are cooler than their surroundings, and his condensation theory, it will be interesting to know how he is going to supply the plant with its sulphur, potassium, iron, which are necessary, or have definite relation to special physiological purposes. If the discussion is worth anything let us keep to the question at issue—viz., "How the root supplies of plant food are obtained."—T. G. W.

I WILL now attend to and endeavour to answer Mr. Gilmour's questions, which appear on page 218.

Question 1, Do plants absorb their food in (a) actual liquid form? In every instance I have stated the roots do absorb their food in solution with water. Professor Johnson, Sir Chas. A. Cameron, and other eminent men confirm this. Do the roots (b) imbibe vapour? I am open to conviction on this, if I am not already half a convert. Baron Von Liebig, Johnson's book on "How Crops Grow," and other authorities support this. I will give an extract or two:—"Water is found in plants, but it enters rather in the shape of vapour." "The plants which have most water in them grow in the driest place." "A wet soil is totally unfit for plant growing." "A good soil is not one which will hold water, but one in which it will rapidly pass away." "The soil itself is composed of minute particles, through which air spaces abound. The water must be just enough to keep the particles moist, and the air in the spaces is thus kept in the condition of moist air. The roots traverse these air spaces, and it is moist air that roots want and not water."

Questions 2 and 3, I believe that roots can concentrate water, and also condense vapour into liquid; therefore would have the power of condensing moisture in the process of evaporation.

Question 4, The moisture existing in the soil mentioned by me is vapour partially condensed, and it is capable of dissolving any soluble matter. The roots can and do appropriate this. If Mr. Gilmour pass Scotch mist, clouds, or visible steam (the intermediate state) through a tube containing porous matter saturated with plant food, condensing this intermediate state into liquid (water), he will find, by using the proper tests, that the plant food will be present.

Question 5, Is ammonia plant food? If ammonia does not pass off with the vapour how would it be on the glass? As to the condition it exists in it is not clearly known, but it is called diffused. All we know at present is that with a certain test we get ammonia.

Question 6, Moisture existing low down in the soil. Some of this is brought to the surface by capillary attraction, while the other is diffused, some of it rising owing to its rarification, having passed into vapour. Twenty authorities might be quoted to bear out this fact.

Question 7, What does Mr. Gilmour consider clouds, mist, fog, and the visible steam from a boiler or tea-kettle? Water I presume. Why then does it not fall as rain? Professor Tyndall calls it water dust. Some call it one thing and some another, but scientific authorities do not call it water. I have shown this to my scientific instructor, and he confirms what I say. He has obtained several medals for efficiency, also upwards of £400 in government grants this year, and has been a teacher for fifteen to twenty years in all grades of chemistry and other sciences.

Question 8, Moisture as existing low down in the soil may be at different degrees of wetness, it may be a running current or at all degrees up to dryness. If there was merely a trace of moisture there would be no water nor liquid, but a degree of wetness.

I must ask "R. C. S." (page 219) to look to the above for replies to his questions. Relative to the Cabbage and 6 inches of manure 2 feet deep without any food closer to the roots, I remember trenching in 100 loads of manure on some sandy soil, 30 yards square. There was

slow growth, and the next year we could scarcely trace the manure, the soil was so poor. This question wants treating in a different way.—G. A. BISHOP.

MR. BISHOP is getting on, I cannot say he is improving. In the last issue of the Journal (page 274) he puts forward a statement, the accuracy of which anyone may test. Here it is. On page 100, paragraph 4, he says, speaking of Mr. Raillém's statement, "In his last paragraph he (Mr. Raillém) states that it is not generally understood that roots of plants only imbibe moisture as it is in the process of being evaporated, and asks if it is true. If he leaves out the 'only,' I (Mr. Bishop) say it is true, and defy contradiction." Replying to my remarks on the foregoing paragraph, Mr. Bishop says (page 274, last paragraph but one), "Here I stated that roots imbibe moisture in the process of evaporation *by condensing it into liquid*." Will my readers and the Editor please refer to the original statement (page 100, paragraph 4) and verify the fact that the words in italics are *not* there? They can then, if they have not already done so, form their own opinion of Mr. Bishop and of his method of conducting an argument.

May I here remind my readers that my original contention with Mr. Raillém was that plant roots absorb their food in actual liquid water. Mr. Raillém contended that this was not so, that the water was not actually liquid, but, as he put it, in process of evaporation. Mr. Bishop came forward to support Mr. Raillém, and stated that "it is true that plants imbibe moisture in process of evaporation;" he also explained that this moisture was not liquid (page 100, paragraph 2). So readers can see from this that the whole basis of this weary argument is: "Do roots of plants absorb their food in actual liquid or not?" I say they do, and Mr. Bishop now says they do, for he says (page 274, last paragraph but one) roots absorb moisture in the process of evaporation, "by condensing it into water." Again he says (same paragraph) "moisture . . . was condensed by the roots and imbibed." Yet again (page 169, paragraph 6) he says: "roots . . . condense the moisture into water and assimilate it." If Mr. Bishop were trying to demolish his own argument, could he do better than this?

Mr. Bishop says that the eight numbered statements I have put forward "do not honestly treat upon what was said." It is very laborious to have to do it, but I will go over these eight statements and satisfy every reader of the *Journal of Horticulture*, except Mr. Bishop, that I have been most scrupulously fair to my opponent. I again challenge and defy Mr. Bishop to produce any authority which will go to prove that the following statements which he has made are correct.

Statements 1 and 2, That roots of plants do not absorb their food in actual liquid water, and that they absorb their food in moisture not actually liquid, but in process of evaporation.

Mr. Bishop (page 100, paragraph 2), speaking of the state of the moisture which plant roots absorb says, "Can this moisture be called water? Can it be called vapour, while one is a liquid and the other an invisible compound? I say no. It is a condition between the two," &c. Page 100, paragraph 4, Mr. Bishop says, "It is true that the roots of plants imbibe moisture as it is in process of being evaporated."

3, That roots of plants condense moisture and assimilate it. This statement is in Mr. Bishop's own words (page 169, paragraph 6).

4, That moisture in the soil, not in a liquid form, can and does contain all the elements of plant food.

5, That vapour can and does hold in solution elements of plant food, gaseous or otherwise.

Mr. Bishop says (page 169, paragraph 3), "This vapour would still retain its compound nature . . . and be capable of dissolving other gaseous compounds and elements, and holding them in that condition."

6, That moisture not being actual liquid water, can rise in the soil by capillary attraction.

Mr. Bishop says (page 100, paragraph 2), "Moisture low down in the soil . . . becomes rarefied, and is diffused, carried by capillary attraction to the surface."

7, That oxide of hydrogen exists in an intermediate state between vapour and water.

Mr. Bishop says, "There is a state in which oxide of hydrogen exists between water and vapour." (Page 100, paragraph 6).

8, That when the surface of the soil becomes dry by excessive heat, that the moisture which exists low down in the soil is not a liquid nor yet vapour. See his statement above quoted.

I here ask, in reference to the foregoing statements, whether I have treated Mr. Bishop fairly and honourably, or not?

Now a few words on a personal matter. Mr. Bishop states (page 274, last paragraph), "That I have put forward eight questions especially constructed to answer my own purpose, ignoring the fact that they do not honestly treat upon what was said." These words are an insult to me. They practically charge me with dishonourable dealing towards Mr. Bishop. I call on the Editor to ask Mr. Bishop either to prove his words, quoted above, to be true, or to withdraw them.—D. GILMOUR

[We think, with "T. G. W.," that this correspondence is becoming somewhat involved, and the more briefly and courteously the discussion is conducted the more it will be appreciated. Mr. Gilmour, as an honourable man, if a trenchant critic, has a right to what he asks of Mr. Bishop, and Mr. Bishop has an equal right to defend any of his propositions which he thinks have been assailed by Mr. Gilmour. We shall not be able to find space for lengthened communications.]



NATIONAL ROSE SOCIETY.—THE TROPHY QUESTION.

"*Parturiunt montes, nascetur ridiculus mus!*" Whilst reading "E. M., Berkhamsted's," letter the above well-known quotation flashed across my mind. It is simple truth to say that most of us who are interested, although in my case not directly, in the trophy question, must feel disappointed at the official view being sent forth in such a half-hearted and dispiriting manner. I am not sufficiently in touch either with racing or boating men to know whether "E. M.'s" bathos at the end of his letter is an appropriate comparison or not, but it is well known that the Derby is not now the race it once was in the estimation of sportsmen, and that Thames sculling races are now almost a bye-word amongst those I may call "wet bobs." The appositeness of the comparison is therefore alone complete in the fact that like as the Derby (as the blue riband of the turf) and Thames boat-racing are steadily going downhill, so the amateur trophy competition of the N.R.S. seems likely to degenerate and become uninteresting, for an exactly similar reason, that is, want of competitors.

A lady friend of mine who read "E. M.'s" letter said, "But why does Mr. Mawley wish the same people alone and always to compete?" The query seemed to me to be absolutely hitting the right nail on the head. This year most of us who are in touch with the great amateurs were able, not only to tell who were likely to compete, but who was fairly certain to win. Surely this is not a desirable position? Does the official mind in the N.R.S., as in Government offices, scout popular approval? Is the championship merely intended for the big growers? Are not the subscriptions and the support of the smaller men, who outnumber the larger growers by twenty to one, of far greater moment than those of the few who alone can compete under the present arrangements—in fine, is the Society being run for the few against the many?

Can any of us now doubt why the Society requires a public appeal, *urbi et orbe*, for its subscriptions, when one of the Secretaries openly sets forth as his view that "It is extremely undesirable that this coveted prize be won by an amateur grower of very moderate calibre whose garden the season and date had specially favoured." I should myself like to see this phenomenon amongst small rosarians! In the only slightly similar instance I am aware of, that of Mr. Slaughter (a small grower, but not thereby one of "moderate calibre"), who won the trophy in 1883, most people would say that his victory was most creditable to him. I am also certain that if, to suggest another possible case, the trophy were won by Mr. Orpen (whom I instance as the best small grower), or a grower of similar standing, who cultivates under 1000 plants, that victory would be received with delight by the majority of the Society, who are small growers. It would also give that stimulus and interest which seem wanting, but which, if merely dormant, will receive a further set back from what I can only characterise as a most dispiriting and disappointing reply from one of our principal officials.—CHARLES J. GRAHAME.

P.S.—Since sending you the foregoing letter I have heard from "D., Deal," that he thinks my communication to you of last week will be construed into a charge of personal want of zeal by him in the N.R.S. Nothing can be further from my intention or belief. I am also aware that several doubtful recent changes in our arrangements, such as that of the new Hybrid Tea class, have very properly met with strong opposition from him as being opposed to the best interests of the Society. My letter and other letters are directed against what appears to be a general apathy in the Society's affairs, and this view is accentuated by the knowledge that many local secretaries and members of Committee are so merely in name, and literally do nothing for us. I am perfectly aware that "D., Deal," has worked loyally and heartily for the Society since its inception, and this is a matter of general knowledge and acceptance.—C. J. G.

["D., Deal," has worked too long and indefatigably for the National Rose Society to be in the least open to the misinterpretation suggested. If all were as zealous as he no charge of "apathy" could possibly be sustained.]

FASHION IN ROSES.

A LETTER from Mr. William Paul (page 269) in the Rose column of the *Journal of Horticulture* is an event and will carry much weight. He gives

us to understand first of all that there has been lately a change of fashion in Roses, and relates the history of the different forms which fashion has put in the foreground at different times. First the flat, and then in order the cupped or hollow, the compact, the imbricated, and the globular. But is not this procession of types, which is not very easy to follow, a list of the dates of their creation rather than of their fashion? Does Mr. Paul mean to tell us that flat or hollow Roses were ever preferred as more fashionable than the imbricated or pointed globular forms?

But we are anxious to know what is this new change of fashion. It appears to be a preference for what are generally called by the loose term, "Garden Roses"—i.e., inferior types (for everyone nowadays who brings out a new Rose and finds it not up to the mark, calls it "a good garden Rose") over the triumphs of selection and hybridisation which some of us at least will continue to prize as the queens of the Rose world. It seems absurd to ask, "Can this be true?" Mr. Wm. Paul has not only a name quite sufficient for any statement to which it is joined, but also a finger on the pulse of the demand of the general public which must be superior to the belief of any amateur. But may there not be some mistake? I made inquiries some short time ago as to the alleged increased demand for "garden" Roses, and the answers I obtained were to the effect that there was some increase, but not out of proportion to the growing demand for Roses of all sorts. May it not be possible that Mr. Wm. Paul, being perhaps considered to some extent identified with the types alluded to, has himself felt an increased demand which does not really represent a change of fashion?

What is the reason alleged by him for this change? A preference to-day for sorts hitherto unfashionable, which would yield "hundreds of blooms and set the whole garden aglow," rather than for the hitherto "fashionable flowers giving only a flower now and then." In other words, surely nothing else than a preference of quantity to quality! I feel bound to say, in the *Journal*, that I have seen no signs of this alleged change of fashion; and that as far as I can I will endeavour to show that the beauty of the Rose lies in its individual blooms, and that it is worthy of a higher rôle than mere colour decoration for which inferior orders of flowers are more suited. Mr. Paul gives two lists of Roses on the page cited. The first is said to be of florists' flowers, and the second of "painters' and poets' Roses," presumably not show flowers. Will it be believed that Ulrich Brunner figures in the latter list?

Again, "the result of increased knowledge and a more widely cultivated taste" will prevent anyone "who sets any value on the beauty of his garden or the brightness of his dwelling," from planting such Roses as Susanne Marie Rodocanachi (among others), "when he has access to such kinds as Charles Lawson and Madame Plantier." The former is not only one of the brightest of Roses, but also hardy, thoroughly free blooming and perpetual, and the other two are actual summer Roses, blooming only once, and very inferior in brightness and form!—W. R. RAILLEM.

GARDEN ROSES.

THE contributions of Mr. William Paul to horticultural literature are all the more valuable because they are so comparatively rare. With the observations on garden Roses which he contributed to the *Journal of Horticulture* (page 269) I entirely coincide. Had he made his list of free blooming and highly ornamental varieties more extensive he would doubtless have included the Crimson Bedder, a Rose which is not so widely cultivated in Scotland as it ought to be. Its complexion is of the brightest crimson; it is very fragrant—no unimportant qualification in a Rose for the garden; its shoots, which are very numerous, are short-jointed, and it blooms the whole season without intermission. Unlike most garden Roses, which are not sufficiently large for exhibition, it is wonderfully full. It was raised, I believe, by Mr. Cranston of Hereford in 1874.

Two other invaluable "garden" varieties not included in Mr. Paul's admirable selection of last week are Madame Pernet Ducher and Gustave Regis, which I reckon among the most beautiful and interesting of modern French Hybrid Teas. When fully expanded they are only semi-double, but when in the bud, or even when half developed, they are marvellously pretty, surpassing L'Idéal or William Allen Richardson. Throughout the summer and autumn they are in constant bloom. So soon as one splendid shoot crowned with glory has finished flowering, another equally fascinating springs up as if by magic to take its place. One of the many precious Roses eulogised by Mr. Paul may be described as equally valuable for exhibition and for garden decoration; I mean Caroline Testout, a seedling from La France, and transcending its parent, if not in fragrance, at least in colour, in fullness, and productiveness. Its importance for all purposes can hardly be over-estimated.

One of the finest of garden Roses rejoices in the affectionate name of Papa Gontier; it is, like Gustave Regis and Madame Pernet Ducher, exquisite in the bud, and greatly resembles a Camellia when full blown. It is one of the most beautiful productions of Nabonnand, to whom we are also indebted for L'Idéal, a Rose of great charm, well worthy of its name. Papa Gontier (which I usually call M. Gontier) is rosy crimson in its primary stage, turning considerably lighter in colour as the flower expands. It is very conspicuous among modern Teas by reason of its remarkably attractive complexion.

I am not surprised to find that Mr. Paul has made special mention of that charming China Rose Laurette Messimy, which I have of late been doing my utmost to popularise. That it will ere long be universally cultivated I cannot doubt. So also will Madame Georges Bruant, a most interesting hybrid between the white Rugosa and Sombreuil, and embodying the fairest characteristics of both. The White Lady, though of dwarf habit, is an excellent flower for the adornment of the garden. Another highly decorative variety is Mr. Cant's Prince Arthur, one of the best of dark crimson Roses, which is also a most valuable exhibition Rose. Very beautiful in the autumn is Duke of Albany, whose colour is bright scarlet, deepening towards the centre into a rich maroon.

I think there can be no question that Hybrid Perpetuals are rapidly being supplanted in the popular estimation by the more perpetually flowering and more artistic Teas. In my garden such superb Hybrid Perpetuals are Marie Baumann, Mrs. John Laing, La France, Caroline Testout, and A. K. Williams, probably because they were not neglected after their first efflorescence, are more brilliant at present than they were at any period during the summer months; but they must receive periodical nourishment at this season, otherwise their strength will inevitably decline. This I have learned from observation of other gardens, rather than from painful experience of my own.—DAVID R. WILLIAMSON.

A CIRCULAR TOUR.

WHEN an estate is advertised for sale of course it will be fertile, picturesque, and enclosed in a "ring fence." This must not be taken too literally, for the "ring" may be of a very different shape to the symbol that affects the momentous issues in the economy of Nature. So in respect to the outline of a tour. It may be regarded as circular if you keep going on and arrive at the point of departure without going over the same ground twice, and it is only in this sense that the round-about method of reaching Shrewsbury from London and back again can come within the hackneyed denomination. It may be well also to further explain that it was not a writing but a resting tour that a jaded man indulged in; so you can picture him as worn to a shadow with hard work, seeking repose and inspiration. His memory jottings will therefore be brief, amounting to a mere record of impressions gained at Osmaston, Shrewsbury, Bristol, and Bath.

OSMASTON MANOR.

A princely place is this, the residence of Sir Peter Walker, Bart., in the mansion and surroundings, the pleasure grounds and gardens being, as is well known, in the charge of Mr. W. Bardney. Osmaston Manor is not a particularly easy place to reach. The train service from London to Derby is all that can be wished for; but though from there the distance as the crow flies is only about ten miles, the local train takes us round thirty miles, and has a habit of appearing to stop at every station as long as possible; then there is a change and wait at Uttoxeter for Ashbourne, and after arriving there an uphill road journey of three miles. This route is "circular" enough and not soothing. It is a relief to reach the end of the journey, but if any weary pilgrim thinks he will find rest there he will be very much mistaken.

Mr. Bardney is an active man, and appears to think everyone should move as quickly as himself, when he is moving; because he can stand and talk, plan out improvements, explain how to carry them out, and enlarge on methods of cultivation till you are glad to sit down. He is earnest, able and thorough. There is not very much of him, but a good deal in him, and he is credited with being able to get a full share (of work) out of others. It must be good work too, or a few words might be heard about it; and hence it is that "Bardney's men" have a reputation for acquitting themselves well in the gardening world.

When Osmaston Manor was built, and the gardens and pleasure grounds formed and planted, it is known that the question of cost was not considered. The work was the life work of a wealthy ironmaster, the late Mr. Frank Wright, from whose son the estate was purchased by the late Sir A. B. Walker for a trifle of some £200,000 to £300,000. Great improvements have been effected by the present Baronet, a large share of these falling under the superintendence of Mr. Bardney; and if all is done that ought to be done in thinning and opening out valuable trees he has something of a life work before him. Choice trees appear to have been planted lavishly and let alone until they have formed a thicket. Much has been done, thoughtfully and carefully, in relieving the crush from time to time during the past few years; and if similar judgment were exercised, and the work systematically and continuously pursued, Osmaston might soon have a grand arboretum.

In other respects Mr. Bardney has been busy. He has rescued the grand rockery from semi-obscure, and revealed its characteristic holdness. This great feature of the grounds is at all times interesting, but must be singularly charming when the spring flowers, which sweep down from the rocks to the water, are in full beauty. Nor have the workers been overlooked, for a new bothy, with every requisite for health and comfort, has been provided for eight men—a provision as excellent as it was necessary in such a notable garden establishment.

Considerable alterations have also taken place in the heating arrangements during the time Mr. Bardney has had the charge of the gardens. In this work he is an expert. The old stokehole for the conservatory and other places required to be heated near the mansion, was in a most inconvenient place, and proved a nuisance in more ways than one. A new stokehole 14 feet deep has been made some 100 feet or more away, and the main pipes conveyed in a tunnel 4 feet high and 3 feet wide beneath the racket court to the point desired—a no light undertaking. Before saying anything about the boiler we may describe briefly the arrangements for emptying and filling the pipes. All can be emptied apart from the boiler and stokehole. A 2-inch cold water main runs under the conservatory. This has been tapped and connected by a 1½-inch pipe to one of the returns; two valves are used, one near the cold water main, and the other near the return. When the pipes are empty, all that is needed for filling them is to open the two valves, and it is done in about one hour instead of four hours, as before the alteration. For emptying a piece of pipe 1 foot long can be removed in a few seconds, and the 2-inch valve turned on, the water being conveyed to a drain and carried away.

The boiler is one Mr. Bardney has had specially made, and is 8 feet in length, 4 feet high, and 4 feet wide. It may be termed a large saddle with waterway end, and sixteen 3½-inch horizontal tubes, expanded, running through it. The flame strikes the back of the boiler, and is then conveyed by eight tubes to the front and back through the top row of tubes. The smoke then enters a flue in the stable wall, which it traverses for several hundred feet before it reaches the main shaft or smoke tower situated in the centre of the gardens. To the front of the boiler is arranged a cap or small boiler instead of a brick arch; the flow pipe from this enters the main flow, while the returns are united into the returns to the large boiler on each side. The front is Bramham's, a strong massive imposing affair. The boiler is rivetted, made of 4 feet steel plates, three-eighths thick, with a large manhole on the top, and a 2-inch outlet on each side for emptying purposes—a splendid provision for removing all sediment from boilers, a matter too frequently neglected. Again, we find that if the valve is close on the main pipe the boiler cannot well be injured because a 1½-inch safety pipe is arranged direct from the boiler through the roof of the stokehole.

Two other large rivetted Trentham boilers, with water bridge and cross tubes, have been erected under the smoke tower in the centre of the garden for heating the fruit and other houses. In this case the old form of Trentham has been improved upon—the return pipes have been rivetted on near the front, and thus form two legs to the boiler. At the base of the return sockets 2-inch pipes are arranged for the removal of sediment, in addition to a 2-inch pipe at the lowest part of the boiler itself. These pipes are fitted with 2-inch steam valves. It will thus be seen that the boilers can be cleaned out whenever thought necessary with a minimum of labour. These are but a few of the heating arrangements which have been carried out since Sir Peter Walker inherited the manor from his father about eighteen months ago. Mains have been carried 147 feet up the garden, and then right and left to heat six Peach houses, four of which were formerly cool houses. The mains that pass up the garden have been covered by one of Messrs. Foster & Pearson's span-roofed pits, 8 feet wide—an excellent idea, provision being thus made for growing thousands of small plants, and thus utilising warmth that would be otherwise wasted.

It is not deemed advisable by the writer to enter into a description of the contents of the different structures, as if he began he would not know where to stop. It must suffice to say, therefore, that it is the habit of this thorough gardener to make the most and best of the means at his disposal. The glass ranges have been erected at great cost, but the long flat ridge-and-furrow-roofed houses (iron) are quite unsuited to the purpose for which they were erected—Grape growing, more especially as they were glazed with thick rough plate glass. Mr. Harrison, late of Knowsley, also other gardeners, struggled with them, and now it is Mr. Bardney's turn. In one range, now clear glazed, he has an excellent crop of late Grapes, and the Vines are in admirable condition; but try as he may, and there is scarcely any limit to his determination, he will never succeed in growing early Grapes satisfactorily in the other range. It would make a fine house for Palms and other ornamental foliage plants, but for Grapes it is wholly unsuited; and if ever a full supply of the princely fruit is needed, early and late, suitable structures must be erected, or the requirements cannot be met in the best form, and only the best is appropriate to this splendid establishment.

With Peaches and Nectarines there is no difficulty. Trained trees and standards, with round, free, bush-like heads, were laden themselves with fruit. Mr. Bardney avers that for growing Nectarines for sale untrained standards are the kind for affording the most fruit and bringing back the most money. Though that is not the object at Osmaston the trees and their crops afford a lesson all the same.

There is a handsome conservatory connected with the mansion by a long covered verandah. At one end is a double staircase, balustraded and covered with Asparagus plumosus, and this, with the hanging baskets in the colonnades behind, was a beautiful feature; in the

remaining part of the house alterations and re-arrangements were in progress; it was, in fact, *en deshabille*, and we will say no more about it at present.

Another beautiful, indeed almost unique, adjunct of the mansion was *not* in an undressed state. This enclosure was once a huge aviary, with lofty, massive walls. Being the reverse of ornamental a happy idea occurred to Mr. Bardney to transform it into a tropical house. A roof in two spans was placed on by Messrs. Foster & Pearson, ample means of heating provided, and the work of furnishing commenced. A dell was formed in the centre and a path all round next the walls. These are being rapidly covered with *Ficus repens*, relieved by choice, compact, ornamental creeping plants in niches of rockwork. The irregular sloping sides of the dell are in rockery fashion. In the luxuriant undergrowth *Selaginellas*, foliage *Begonias*, *Caladiums*, *Peperomias* and other appropriate plants on knolls; also here and there *Crotons*, *Dracanas* and *Aralias* rising boldly above them, with a canopy of Palms over all; also, in addition, hanging baskets of Ferns, we have a combination to be remembered, such as we should have to travel far in search of the like, and then, perhaps, not find it. It is a grandly picturesque "group for effect," worthy of Osmaston, and more need not be said.

Just a word on Daffodils. Someone challenged the accuracy of one of Mr. Bardney's statements in the *Journal of Horticulture* respecting the number of blooms he could cut from boxes of the dimensions he gave. He is not the man to forget a challenge of that kind. Some thousands of fine home-grown bulbs of the grand old *Telemonius plenus* were being boxed, and we shall presumably hear something about the result, not of a humiliating nature to the grower. For this we must wait.

Any reference to Osmaston, however discursive, would be necessarily incomplete without a look outside the garden, and a mention of a feature in the boldly undulating park. There in a great enclosure is the herd of elk sent by Sir Peter Walker from the Rocky Mountains. They cost, it is said, £75 each, and look worth it. They have improved greatly under good attendance in the rich pasture, and are noble, finely horned animals, many of them the size of Jersey cattle, but a good deal more active. They add a tone of novelty to the beautiful park, and lend a charm even to princely Osmaston.

Mr. Bardney has plenty of scope here for his energy and work, for his active and practical mind. He is a man who would not rust out under any circumstances, and it is hoped he will be long in wearing out, for he would be missed in the world of gardening, in which he occupies such a creditable position, won, be it said to his honour, by persevering industry, or in other words close study and hard work.

The next fatigue journey was to Shrewsbury and Bristol, where a discovery was made in horticultural structures, said to be as cheap as they are novel—"Wire Tension" houses.—A JADED LONDONER.

THE BITE OF A SPIDER.

THE effect produced by bites and stings of our English insects depends greatly on the condition of health and the peculiar temperament of the recipient. As a boy at school I had many pet spiders, which I handled frequently. Most, if gently handled, would not bite.

Your correspondent "E." in last week's issue, page 270, speaking of the effect of a bite on a lady, says, "No doubt in self-defence the spider used its sting." Have they any sting to use? Spiders are not insects, as they have eight instead of six legs; they are allied to Scorpions. The bite of our spiders may certainly produce very uncomfortable effects, as when they bite the jaws fill with a fluid that does possess in very faint degree the poisonous properties of the venomous snakes. The Rev. J. G. Wood mentions the case of a lady bitten by an angry spider on the back of her hand, the arm swelled so as to be hardly recognisable as the limb of a human being.

I was a witness of the following incident. At the same school where, by-the-by, the love of natural history was inculcated and encouraged, we kept a large number of the pretty little sand lizard; these we fed with flies, small spiders, and other insects. On one occasion we had captured a remarkably fine specimen of the common house spider. From the tip of the front legs to the tip of the hind legs it must have measured quite 5 inches, with proportionately large body. This was placed in the box, where lived some ten or fifteen lizards; as the box was covered with netting the spider could not escape but only run about in the box. The lizards for some time took no notice of it, or if it touched them got out of its way. We began to think that they would decline the contest, but after a while, when the spider's rambles had sobered down, we saw one of the lizards arching its neck and raising its

head preparatory to the striking. The blow fell, the spider was seized firmly by the abdomen. Immediately lizard and spider were rolling over and over in a fearful struggle, but the lizard held on with the tenacity of a bulldog. After a minute or two, the spider in one of its contortions managed to get its jaws under the armpit (if I may so style it) of the lizard, and presently in its turn laid firm hold of this more tender skinned portion of the lizard. It was now the turn of the lizard to writhe and twist itself, and it loosed its grip of the spider, and in a few seconds they were separated. The lizard retired from the fray, the others, emboldened attacked the damaged spider and at length devoured it, but the following morning the lizard was defunct. It had only received that one bite, whilst the struggle had not apparently injured it.—Y. B. A. Z.

A STEAM LAWN MOWER.

In the *Journal of Horticulture* for August 16th (page 161) reference is made to a steam lawn mower which one of our representatives saw

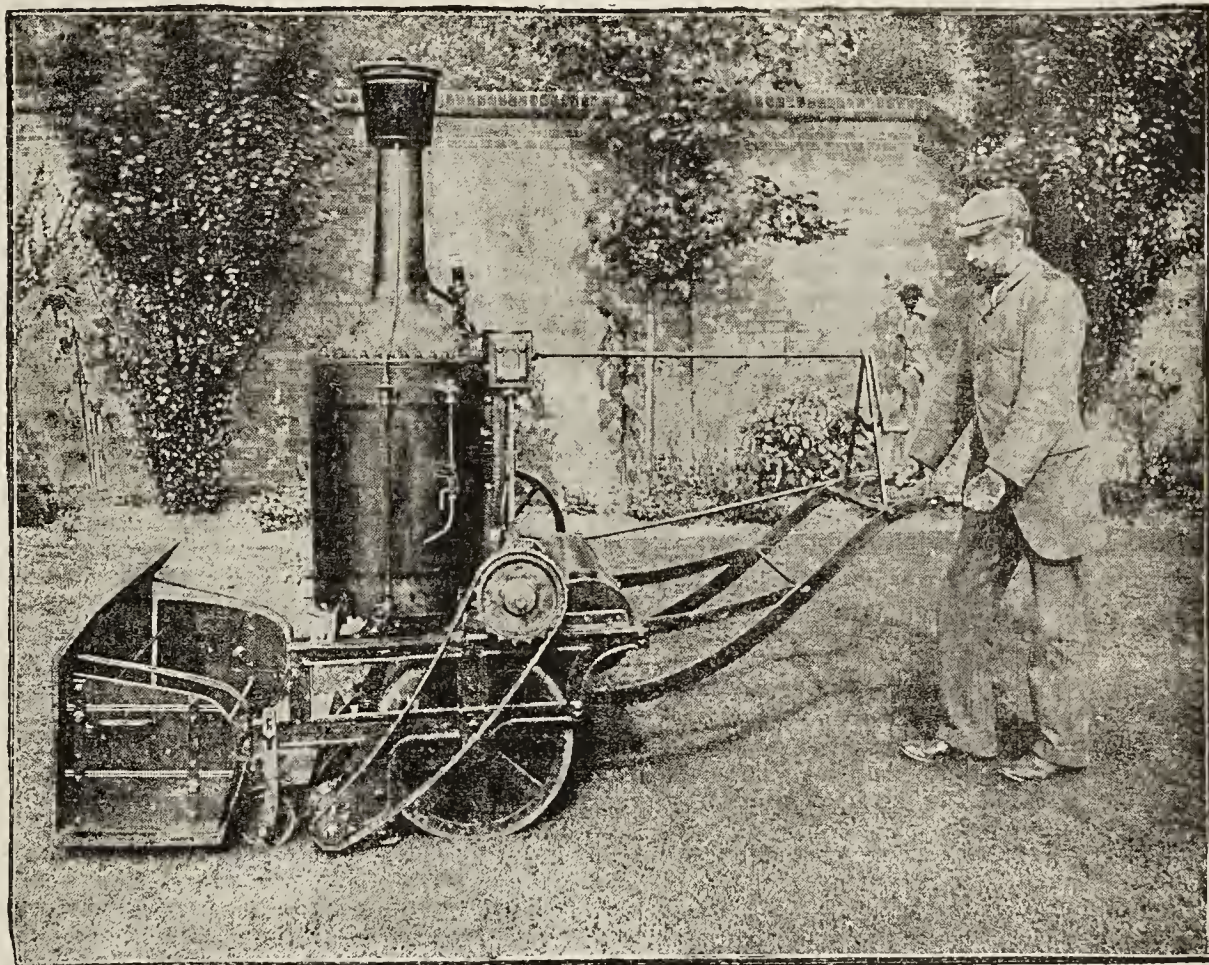


FIG. 46.—A STEAM LAWN MOWER.

working at the Lord's Cricket Ground, London, during the summer. As there remarked the machine was invented by Mr. J. Sumner, Leyland, and the Stott Distributor Company, Manchester, has taken the agency for it. The illustration (fig. 46), for which we are indebted to the latter firm, portrays the general character of this lawn mower, and the details as to its mechanism and management are published in the issue above mentioned.

A CALL AT CHEALS'.

IF one is desirous of appreciating to the full the interest and instruction to be derived from a visit to any one of the great nurseries of the kingdom it behoves them to, if possible, choose a fine day. These latter have, however, been somewhat scarce during the past week or two, at any rate in the neighbourhood of London, though we hear much better accounts from the provinces. Fate, however, decreed that the writer should be accompanied by glorious sunshine; to such an extent, in fact, that at two o'clock in the afternoon the thermometer stood at 99°. This, it will be readily admitted, is sufficiently warm for poking about amongst fruit trees, admiring an Apple here and a Pear there. Yet such is the interest created that the heat is unnoticed until the searcher after knowledge (and perhaps an Apple wherewith to refresh himself) finds the perspiration running down his face in such manner as one only expects during the sweltering months of July and August. Such was the case at the Lowfield Nurseries, where Messrs. J. Cheal and Sons have made their home and their name. Not that they confine themselves to fruit growing, for there are to be seen *Begonias*, *Chrysanthemums*, and *Roses* in pots, all in grand condition in the houses; while out of doors *Dahlias* make a glorious display, as also do many other hardy perennials and annuals. Another interesting feature of this enterprising firm is the landscape department, which, it may be men-

tioned, is under the more immediate supervision of Mr. Joseph Cheal, though we learn he has a son who is rapidly coming to the fore, and of whom we shall doubtless hear more as the years roll by. That the firm has been highly successful in this branch of horticulture everyone knows by the admirable manner in which the Broadstairs Public Gardens and Ramsgate Park were laid out, besides many other public and private places. But it is to the nursery department that attention is to be directed in these notes, so we will go and see Mr. Alexander Cheal, and he will doubtless put us in the way of seeing something good.

Before going right amongst the trees and flowers it may be well to call attention to the progress of the firm, which has, since its establishment about twenty-five years ago, continually moved onward. Each year, almost without exception, it has been found necessary to secure more land, until, from a comparatively small undertaking, the nurseries have reached an extent of nearly, if not quite, 100 acres, all of which are under cultivation at the present time. This proves beyond a doubt the zeal and determination of the two brothers, and mayhap, of their father, too. The latter, who is now in his ninety-fifth year, was out when the visit was paid, so that the pleasure of seeing and talking with him were withheld. Crawley air is evidently conducive to good health, both in human and in plant life, for both are alike hale, sturdy, and strong. Let us hope that Mr. J. Cheal, sen., will live still many more years to see the fruits of his sons' labours, and those also of his grandson, who, as has previously been said, is just entering on what cannot prove other than a busy life.

TRAINED AND OTHER TREES.

In point of numbers the stock of fruit trees at Lowfields is very extensive, and though of course it is well-nigh impossible to give precise figures, Mr. Wallis, the experienced foreman of this branch, is of the opinion that there are now about 300,000 trees on the place, these, of course, covering all ages and all shapes, of which upwards of 8000 are what are known as trained trees, but exclusive of cordons. In one new piece of the nursery, the latest addition in fact, there are about 60,000 Apple, Pear, Plum, and other fruit trees, the former greatly predominating, in the course of formation, some having been budded this year, but the majority were manipulated last season. The trees throughout have this season made splendid growth, as much as is sometimes made in two seasons, and this is attributed to the hot summer of last year thoroughly ripening all parts of the tree, and leaving the soil warm to such a depth as to encourage the production of very large numbers of fibrous feeders.

THE CORDONS.

When we reach the cordon-shaped trees we have found the firm's specialty, and it is represented in a fairly substantial manner just now by about 10,000 trees. And such trees too, clothed to the ground with spurs and fruits and to the tip with healthy green leafage, and standing stout and strong, in heights varying with the age of the trees, they formed a picture such as one cannot see every day much as one might like to do so. It is surprising the amount of fruits these trees will, when properly trained, carry. It is claimed by advocates of this form of tree that for covering a wall to give early and remunerative crops of fruits there is not another form to equal them. As illustrative of the advantages of cordon trees for planting in small gardens such as more especially preponderate in the neighbourhood of towns, there was erected many years ago rough frameworks of wood about 8 feet apart, and to these the trees were trained. Now, with the minimum amount of attention bestowed on them they are carrying grand crops of medium-sized, shapely fruits, proving their adaptability for the purpose in view. Apples and Pears are principally comprised in this interesting trial. A little later and we come to a broad stretch of cordon Apples, amongst which some trees of Colonel Vaughan, most handsomely coloured are highly prominent. From the bottom to the top they are bearing fruit, some more than others, but in all cases the shape, size, and condition of the fruits leave nothing to be desired.

One could without difficulty go on citing case after case of the utility of cordons in the open ground, but these must suffice, and we will turn our attention for a brief space of time to another phase of their cultivation which is also to be seen here—namely, a medium-sized house of cordon Pears. They are now a perfect spectacle, with the fruits hanging in a most charming profusion all over the roof. The trees are probably 10 feet high or rather more, never having been stopped as is usually done, but they are nevertheless fruiting from one end to the other, though the fruits are, owing to the wet and sunless weather during the past summer, not quite so large as is usually the case, but they are sufficiently so to demonstrate the correctness of this system of training to insure a large amount of produce from a small space. It may be interesting to many readers if some of the varieties represented in the structure and which are doing particularly well are mentioned, and amongst these a prominent place must be accorded to Belle de Bruxelles, a large Pear of great beauty. The Beurrés are numerous, and include Sterckman's, Alexander Lucas, and Superfin, the latter of which splendidly upholds its name. Maréchal de Cour and Louise Bonne of Jersey are each producing creditable fruits; also Doyenné Boussoch and General Todleben, while the usually so large Pitmaston Duchess is not so good, the fruits being very small this season, much more so than was the case last year. But we must not linger longer with the cordons, or we shall not be able to see all there yet remains to be seen.

AMONGST THE FRUIT.

Perhaps the most interesting, and undoubtedly the most palatable to many persons, is to wander here and there amongst the fruit-bearing trees, to see and to taste, in order to be able to pass a just verdict. We will look first at the Apples, of which there are very many thousands, comprising, it is almost superfluous to say, all the leading varieties. For richness and depth of colouration, freedom of bearing, and general exemplary behaviour Duchess of Oldenburg must be placed first, for the sight it presents is very remarkable, not even rivalled by Colonel Vaughan. Bushels of fruit have already been taken, and there are still more to come; and as for the appearance, readers have but to wait patiently until the Crystal Palace Fruit Show, when Messrs. Cheal will assuredly show it, as it has rarely been seen before. Everyone knows what a grand variety Bismarck is; its reputation has even reached Germany, where it is said thousands are being planted. It succeeds on almost all soils, so is pretty certain to give great satisfaction. Beauty of Bath is an early dessert Apple, which does not appear to be sufficiently known, while Blenheim Pippin, as seen at Cheals' this year, leaves little to be desired. Of Bramley's Seedling much has been said, and it is undoubtedly bearing out the excellent character given it by its introducer, for it is a certain and heavy cropper of fine quality fruits. Frogmore Prolific and Ecklinville are magnificent, and the same may well be said of New Hawthornden and Golden Noble. Histon Favourite and Gospatric are two cooking Apples which present a very fine appearance on the trees, the fruits of both being singularly beautiful. King of the Pippins is bearing splendidly this year, as also are Lady Sudeley and the old Kerry Pippin. Lords Derby and Grosvenor, Peasegood's Nonesuch, Potts' Seedling, The Queen, Warner's King, and Lane's Prince Albert form a septet of Apples deserving of a place in every fruit garden, both for their excellent cooking and show qualities. Each of these is exceptionally fine at Crawley this year. Yorkshire Beauty and Stirling Castle, too, are not by any means to be despised, any more than is the useful Manks Codlin. But enough Apples have been noted, and we must turn now to the Pears and Plums.

It is perhaps needless to say that Pears are making as good a display here as appears to be the case throughout the country this season, while Plums have not by any means been a light crop. The former are represented by such sterling kinds as Beurrés Clairgeau, d'Amanlis, de Capiaumont and Hardy; Brockworth Park, Clapp's Favourite, Duchesse d'Angoulême, Durondeau, Jersey Gratioli, King Edward, Princess, Vicar of Winkfield, Williams' Bon Chrétien, besides those in the house mentioned above, and many others. In almost all cases the form of the fruits is very fine and well in character, while, as has been said, the crops are of very great weight. Among the Plums that are and have been fine this year may be mentioned Archduke, Belgian, Purple, Jefferson's, Pond's Seedling, Cox's Emperor, Prince Engelbert, The Czar, Gishorne's, Kirke's, Washington, and Victoria, this, of course, being only a severely abridged selection. Cherries are not now in evidence so far as fruit is concerned, but Crabs—and more especially Dartmouth—are of great beauty. The variety named is perhaps the most ornamental, its bright crimson fruits, which are covered with a bloom like a Plum, being exceedingly handsome and very much larger than the more commonly seen Siberians. But we have now taken up quite enough of Mr. Wallis' valuable time, so we will now have a glance at the flowers, which are principally hardy and are very numerous.

THE DAHLIAS.

Renowned as is this firm for its cordon fruit trees, it is certainly equally so for Dahlias, and more especially so for Cactus varieties. The plants grown are, as will readily be imagined from the extent to which blooms are staged, very numerous, and from the growth one cannot be surprised that such grand flowers are produced. It is obviously impossible for mention to be made of all the varieties grown, and therefore a very short selection will be given of the best, and these only amongst the Cactus kinds. If a crimson-scarlet coloured one is desired, then Crawley Gem should be procured, while the deep orange flowers of Duchess of York find many admirers. One of the richest of the velvety crimson varieties is Sir Francis Montefiore, and for rich scarlet crimson Gloriosa is superb. Lady Penzance is one of the most charming yellows, though May Pictor, also yellow, is very beautiful. Such as Beauty of Eynsford, Robert Cannell, Delicata, Duke of Clarence, and Josephine are now so well known as to render any description here superfluous. Single and single Cactus kinds are also grown in very large numbers, and are of superb quality. Of the many other flowers to be seen, as well as coniferous and other shrubs, mention cannot now be made, and those readers who are able to do so will do well to go and have a look round for themselves, in which case they should go to either Horley or Three Bridges stations, to and from which there is a very fine service of trains.—NOMAD.

ROYAL HORTICULTURAL SOCIETY.

SEPTEMBER 25TH.

THE last fortnightly meeting of this Society was held in Chiswick Gardens, and was favoured with very bad weather, rain falling more or less throughout the day. Hardy flowers, including Dahlias and Gladioli, made a good display in the large vinery, as also did fruit and vegetables, but Orchids were not by any means numerous. Trees and shrubs were extensively shown, chiefly on tables in the open, in view of the Conference, notes on which will be found elsewhere.

FRUIT COMMITTEE.—P. Crowley, Esq. (in the chair), with Messrs. Henry J. Pearson, G. Bunyard, Peter Veitch, J. H. Veitch, F. Q. Lane, G. Norman, G. Sage, J. Hudson, W. Bates, J. Willard, A. Dean, G. W. Cummins, C. Herrin, H. Balderson, J. Smith, G. Reynolds, G. Wythes, and J. Wright.

Certificated Potatoes.—Potatoes which obtained three marks of merit at Chiswick—Hill's Superb (Stokes), Boston Bountiful (Johnson), Daniells' Special, Field King (Haward), Poor Man's Friend (Eaton)—were awarded first-class certificates.

Mr. J. Buxley, gardener to Mrs. Long, Blandworth Lodge, Hants, sent *Buxley's Seedling Cucumber*, a cross between Lockie's Perfection and Beckett's Victory, fruits of excellent form and quality, and a first-class certificate was granted.

General Sir R. T. Farren, K.C.B., Bealings House, Woodbridge, sent a seedling Apple of the type of Fearn's Pippin, but more striped. It was requested to be sent again in a month, with particulars of tree and bearing.

Mr. W. Parish, 17A, Cambridge Street, Cambridge, sent a dish of a seedling Plum, named Meridian, a large greenish yellow russety fruit, a late fruit, a clingstone, passed.

Mr. F. Q. Lane sent a splendid sample of *Rivers' Monarch Plum*, a cooking and preserving Plum growing in repute yearly. As it was found it had not been certificated a fruit-class award was proposed and promptly and unanimously granted.

Mr. Peter Veitch sent a plant of *Veitch's Climbing French Bean*. This was first sent to Chiswick in 1885, Mr. Barron stating that, in his opinion, it was distinct from Tender and True. A first-class certificate was awarded. The plant was 8 feet high, bearing clusters of pods the whole length.

Mr. Peter Veitch also sent a dish of *Late Devonian Peach* grown in the open, a dark fruit of fair quality for a late Peach (award of merit). Mr. C. Herrin sent from Dropmore a fruit of his Supreme Green-flesh Melon, obtained by crossing Hero of Lockinge and Blenheim Orange; over-ripe, may be sent next year.

Mr. C. Penfold, Leigh Park, sent gigantic Onions, considering they were from seed sown in the spring; but they were flat and coarse, hence passed.

Mr. R. Dean, Ealing, sent Bismarck Apples, evidently seriously affected by frost on Wednesday night in last week—a remarkable occurrence. The same night Tomatoes were cut by frost in some parts of the Thames Valley (vote of thanks).

Mr. A. Young, Abberley Gardens, sent samples of Apples and young shoots of the Apple Standard Bearer. Fruit was placed before the Committee by Mr. Bannister, Coote House, Westbury-on-Trym, early in the year. It had been recently granted an award of merit. Mr. J. Smith brought fruits of the true Cobham from Mentmore to show the distinctness of the two. On the present occasion the fruit of Standard Bearer was not ripe.

Mr. C. Turner, Slough, sent Apples of A. F. Barron, large Warner's King-like fruits (vote of thanks), also large fruits of Turner's Prolific Tomato.

Mr. Owen Thomas sent fruiting plants of Frogmore Selected Tomatoes, grown and ripened out of doors, some of the plants having seventy fruits, very bright and of the medium size, now esteemed for market (cultural commendation).

Mr. James, Sudbury House Gardens, Harrow, and Mr. A. Basile, St. George's College Gardens, Weybridge, sent collections of vegetables, and votes of thanks were accorded. A collection of vegetables and fruit came from the Richmond allotments, forty dishes of most meritorious produce, and a silver Knightian medal was unanimously awarded, the first ever awarded for allotment produce as grown by *bona fide* working men, and the Richmond cultivators are to be congratulated on their well won success.

Mr. Miller, gardener to Lord Foley, was awarded a silver Banksian medal for forty-two dishes of fruit.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); Messrs. H. Herbst, G. Paul, J. T. Bennett-Poë, J. H. Fitt, C. F. Bause, G. Stevens, C. Jefferies, R. B. Lowe, and Jas. Walker.

Messrs. R. Wallace & Co., Colchester, staged a charming collection of flowers mainly comprised of Lilliums, which included Henryi, speciosum Melpomenc, Krætzleri, nielgherense, also Montbretias (silver Banksian medal). Messrs. Keynes, Williams & Co., Salisbury, showed Cactus Dahlias in fine form and great variety. Among the best were Countess of Gosford, The Bishop, Brilliant, Harmony, Marquis, Lady Penzance, and Earl of Pembroke (silver Banksian medal). Cactus, Show and Fancy Dahlias in good form came from Mr. Walker, Thame, Oxon (silver Flora medal), and also from Mr. G. Humphries, Kington Langley, Chippenham, to whom a silver Banksian medal was accorded. A bronze Banksian medal was also given to Mr. J. Hudson, Gunnersbury Park, for a collection of Cactus and other Dahlias arranged with Ferns and Asparagus. Mr. S. Mortimer, Farnham, staged some very handsome Dahlias, including almost all of the leading varieties, and deservedly received a silver Flora medal; also an award of merit for the variety Novelty.

Mr. Chas. Turner, Slough, showed new Show, Fancy, and Cactus Dahlias, including Shotesham Hero and Mrs. Turner, each of which secured an award of merit. Messrs. J. Burrell & Co., Howe House Nurseries, Cambridge, staged Roses and a number of grand Gladioli, of which Little Dorrit, Muriel, and Cygnet received awards of merit. The same firm also showed Cactus and Pompon Dahlias (silver-gilt Flora

medal). Mr. Anthony Waterer, Woking, staged Spiræa Anthony Waterer splendidly flowered; while Mr. W. Wells, Redhill, showed Chrysanthemums, including Rose Wells and Miss Dorothy Frankland, to which awards were given (bronze Banksian medal). Mr. J. Hudson was recommended a gold medal for a group of scented Pelargoniums.

Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, contributed a splendid collection of Dahlias, chiefly consisting of the Cactus and decorative varieties. These were arranged in bunches with sprays of Asparagus, the whole making a very fine display. But few of the varieties were named, however, and this somewhat detracted from the value of the group. Awards of merit were granted for Mrs. Frances Fell (Cactus), and Cissie, a single variety (silver-gilt Banksian medal).

Miss Debenham, St. Peter's, St. Albans, sent a collection of hardy flowers, consisting of Michaelmas Daisies, perennial Sunflowers and Chrysanthemums (bronze Banksian medal). Mr. J. Fitt, Panshanger Gardens, Hertford, had blooms of Magnolia grandiflora and a plant of Zephyranthes carinata, for which a first-class certificate was awarded.

Messrs. G. Paul & Son, The Old Nurseries, Cheshunt, sent a box of Tea Rose Maman Cochet, and an award of merit was accorded. Messrs. F. Sander & Co. also secured an award of merit for Eriocnema Sanderæ, which is described below.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); Messrs. J. O'Brien, J. Douglas, Thomas Statter, T. W. Bond, H. J. Chapman, and Walter Cobb.

As is usual when the meeting is held at Chiswick, comparatively few Orchids were shown. Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, sent a number of choice species and varieties. Conspicuous amongst these were Sophro-Cattleya eximia (first-class certificate), Cypripedium Astræa, Lælio-Cattleya Nysa var. picta, L.-C. Nysa var. purpurea, and L.-C. Nysa var. superba, awards of merit being adjudged for the three last-named Orchids. These are described below. Matthew Wells, Esq., Broomfield, Sale, Cheshire, secured an award of merit for Cattleya × Wellsia.

Messrs. F. Sander & Co., St. Albans, sent a small group, and secured a first-class certificate for Cypripedium Arnoldiæ, and an award of merit for Cattleya albanese. Descriptions of these two Orchids will be found elsewhere in this report. Mr. J. Prewett, Swiss Nursery, Hammersmith, had a group of Orchids with other plants, for which a vote of thanks was accorded. Mr. Thomas Statter, Stand Hall, Manchester, won a first-class certificate for Cattleya bicolor cœrulea, and also showed varieties of C. granulosa. Mr. C. L. N. Ingram, Godalming, sent cut blooms of Lælia elegans Ingrami, and a plant of Cypripedium Rosy Gem.

CERTIFICATES AND AWARDS OF MERIT.

Acer purpurascens Nizette (Paul & Son).—The leaves of this Acer are green blotched with dull yellow (award of merit).

Cattleya albanese (F. Sander & Co.).—The sepals and petals of this are blush coloured and the base of the lip white, the lobe purplish crimson (award of merit).

Cattleya bicolor cœrulea (T. Statter).—An attractive form; the sepals and petals are bright green, the lip being slate blue and white (first-class certificate).

Chrysanthemum Miss Dorothy Frankland (W. Wells).—A very narrow petalled Japanese variety with a slightly incurved form. The blooms are of good size and substance (award of merit).

Chrysanthemum Rose Wells (W. Wells).—This is a floriferous summer flowering variety, with deep rosy purple coloured flowers (award of merit).

Cypripedium Arnoldiæ (F. Sander & Co.).—This is a new hybrid, the result of a cross between C. bellatulum and C. superciliale. It resembles the former parent somewhat, and there is a tinge of green in the dorsal sepal and petals, which are thickly spotted dark brown. The lip is dull white suffused brown (first-class certificate).

Dahlia Mrs. Francis Fell (T. S. Ware).—This is a white variety of the Cactus type, the flowers being large and of a good form (award of merit).

Dahlia Cissie (T. S. Ware).—A single Dahlia of a bright rosy pink colour, darker in the centre (award of merit).

Dahlia The Bishop (Keynes, Williams & Co.).—This is a narrow petalled Cactus variety, the colour of which is a very bright brick red (award of merit).

Dahlia Earl of Pembroke (Keynes, Williams & Co.).—This is a large flowered kind, with deep velvety ruby red flowers (award of merit).

Dahlia Harmony (Keynes, Williams & Co.).—This is a Cactus flowered variety, with medium sized flowers. The colour is yellow flushed with rose (award of merit).

Dahlia Miss Horniman (J. Cheal & Sons).—This variety must be classed in the decorative section, and has medium sized blooms. The petals are yellow flushed with rose, and having a band of rosy carmine, which renders it most distinct (award of merit).

Dahlia John Welch (G. Humphries).—This is another addition to the already numerous scarlet flowered Cactus varieties (award of merit).

Dahlia Novelty (S. Mortimer).—This is a charming Fancy variety with delicate rose coloured petals, many of which are splashed rosy purple (award of merit).

Dahlia Shotesham Hero (C. Turner).—The flowers of this variety are perfect in form, and have white petals tipped with bright purplish crimson (award of merit).

Dahlia Mrs. Turner (C. Turner).—A yellow flowered decorative variety of good size and substance (award of merit).

Eriocnema Sanderæ (F. Sander & Co.)—This ornamental foliaged plant bears a resemblance to some of the Bertolonias. The leaves are brownish green, striped and spotted silvery grey (award of merit).

Gladiolus Little Dorrit (Burrell & Co.)—A handsome variety with large white blooms, the lower half of which is marked with purple (award of merit).

Gladiolus Muriel (Burrell & Co.)—The colour of this variety is rich red, marked with brown, with a pure white throat (award of merit).

Gladiolus Cygnet (Burrell & Co.)—This is a very beautiful variety, with creamy white blooms faintly flushed with rose (award of merit).

Holly Lawsoniana (Paul & Son).—This variety has large leaves, having scarcely any prickles, of a very dark green colour patched with yellow (first-class certificate).

Lælio-Cattleya Nysa var. picta (J. Veitch & Sons).—This is a distinct form, the lip being of unusually rich velvety crimson colour, and the sepals and petals pale rose (award of merit).

Lælio-Cattleya Nysa var. superba (J. Veitch & Sons).—A lemon yellow throat characterises this form, the lip being large and richly coloured (award of merit).

Lælio-Cattleya Nysa var. purpurea (J. Veitch & Sons).—Like the two foregoing this is the result of a cross between *Lælia crispa* and *Cattleya Warscewiczii*. The sepals and petals are darker in colour than the others, as is the throat (award of merit).

Rose Maman Cochet (Paul & Son).—This appears to be an excellent Tea Rose, the blooms being cream suffused pink (award of merit).

Sophro-Cattleya eximia (J. Veitch & Sons).—This charming little Orchid is the result of a cross between *Sophranites grandiflora* and *Cattleya Bowringiana*. The sepals and petals are a bright and new shade of rose, the lip being darker with a pale yellow throat (first-class certificate).

Veronica lycopodioides (Paul & Son).—This is a dwarf growing plant of a bright green shade (first-class certificate).

Veronica cupressoides (Paul & Son).—Like the last named this is dwarf in habit, the growth resembling a Cupressus, hence apparently its specific name (first-class certificate).

Veronica salicornoides (Paul & Son).—A compact growing shrubby plant with a yellowish green shade (first-class certificate).

Zephyranthes carinata (J. Fitt).—This is comparatively a well known plant of attractive appearance. The flowers are bright pink in colour and very effective (first-class certificate).

HARDY TREES AND SHRUBS.

It seems unfortunate that the day should have proved so wet, especially when it is remembered that the exhibits included in the Tree and Shrub Conference were staged out of doors, thus rendering it impossible to give detailed reports of the bewildering number of exhibits. Mr. J. W. McHattie, gardener to the Duke of Wellington, Strathfieldsaye, arranged a handsome and extensive collection, comprising Acers, Hollies, Oaks, Spiræas, and many less frequently seen though useful plants and shrubs. An exhibit composed principally of Hollies, Oaks, Pyrus, Cerasus, Box, Ruscus, and Conifers was staged by Sir P. R. Murray, Bart., Ochtertyre. Mr. Maher, gardener to A. Waterhouse, Esq., Newbury, showed *Viburnum lantanum*, *Dimorphanthus manchuricus*, and Acers in variety amongst others.

Mr. G. Wythes, gardener to the Duke of Northumberland, Syon House, Brentford, covered a good amount of tabling with a collection that consisted of 150 kinds, and including many very handsome examples. A small but very choice and interesting exhibit came from W. H. Maxwell, Esq., Munches, Dalbeattie, while Mr. D. Crombie, gardener to Viscount Powerscourt, Ennisbury, showed Conifers somewhat extensively amongst other kinds. One of the most extensive exhibits was that from Mr. M. Dunn, Dalkeith Gardens, N.B., which comprised *Deutzias*, *Eucalyptus*, *Jasmines*, Oaks, Cedars, Hollies, *Arbutus*, *Pittosporums*, and *Cotoneasters* amongst numerous others.

Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, exhibited a very choice collection, including *Vitis Coignetæ*, *V. flexuosa*, Citrus, Magnolias, Acers, *Philadelphus*, *Hypericums*, *Alnus*, *Styrax japonica*, Rosas, *Ulmus*, *Cotoneasters*, *Fraxinus*, *Calycanthus*, *Prunus*, *Castaneas*, *Callunas*, *Cratægus*, *Euonymus*, Oaks, and many others. Mr. T. Rattray, gardener to Mrs. Holford, Weston Birt, Tetbury, staged an extensive collection of trees and shrubs, probably the largest of any. It consisted of *Pyrus*, *Cratægus*, *Cerasus*, Oaks, Magnolias, *Cotoneasters*, *Euonymus*, *Cornus*, Acers, *Viburnums*, *Betulas*, and a grandly berried piece of *Hippophae rhamnoides*. Messrs. R. Veitch & Son, Exeter, staged *Ligustrums*, *Cornus*, *Poplars*, Acers, Oaks, and others.

Mr. H. Smale, The Gardens, Fawsley, Daventry, showed branches of *Pyrus domestica* and *Cedrus Libani*, and Mr. J. Fitt, gardener to Earl Cowper, Panshanger, Hertford, staged a small exhibit, including Magnolias, The Loquat, *Ceanothus*, and others. Messrs. Paul & Son, Cheshunt, showed a collection in the vinery, including many interesting plants, amongst which were *Veronica lycopodioides*, *V. salicornoides*, *V. cupressoides*, to each of which first-class certificates were accorded, as was also the case to a Holly named *Lawsoniana*, and an award of merit for *Acer purpurascens* Nizetti.

From Mr. O. Thomas, the Royal Gardens, Windsor, came a collection of tree branches. Messrs. G. Bunyard & Co., the Old Nurseries, Maidstone, showed an interesting exhibit of hardy plants in great variety, while Messrs. C. Lee & Sons, Hammersmith, also sent a few examples of hardy trees and shrubs, and an extensive and interesting collection also came from the Royal Gardens, Kew.



HARDY FRUIT GARDEN.

Preparing Ground for Fruit Tree Planting.—This important work ought to receive attention at once, in order that the ground may be in readiness to receive the trees in November. All soils, especially light ones, require time to become settled and consolidated somewhat, more so when they have been deeply moved, as they invariably should be before planting such permanent occupants as fruit trees. The due preparation of the ground must, therefore, be looked on as of paramount importance, inasmuch as no fruit trees can properly thrive in an inferior rooting medium. The time spent in thorough preliminary cultivation will in the future be amply rewarded by the successful results secured.

Draining Soil.—The greatest difficulty experienced in preparing a site for fruit cultivation is when the soil is wet, containing stagnant water which cannot freely escape. The soil is then waterlogged, its temperature reduced, and it is impervious to the mellowing influence of air circulating through it. Fruit trees will not succeed in ground anything like approaching this state. They may grow, but the wood made is soft and cannot possibly ripen. The only remedy for such positions is to drain the land, and to do this effectually a system of 2-inch tile drains should be laid down 3 feet deep, with a proper fall to main drains of 4-inch core tiles, these communicating with an outlet at the lowest part of the plot. The 2-inch drains usually run into the mains diagonally, and are placed at distances ranging from 15 to 24 feet apart, according to the nature of the soil. That of the least retentive character but still needing draining may have the tiles laid at the wider distance apart, but where the subsoil is clayey, consequently more liable to hold water within 3 feet of the surface, the lesser distance must be employed.

Effects of Draining.—The beneficial effects of draining water-charged soils are seen not only in the healthier and more productive state of vegetation growing therein, but in the warmer and drier condition of the soil generally. It is a well-known fact that draining raises the temperature of soil considerably, simply because the superfluous water passes away. Warm air follows, and rain has a chance of carrying its fertilising properties down also.

Soil Preparation.—Trenching.—This is a most effective way of deeply stirring the soil and breaking up the subsoil. It consists of entirely reversing the position of 2 or 3 feet of soil, bringing the bottom to the top, and placing the top soil in the bottom. Trenching only acts satisfactorily when the soil is good throughout. Bringing a hard, inert pan of impoverished subsoil to the surface, or mixing much of such material with good surface soil, renders the quality of the whole too inferior for planting. If there is time to improve it by well manuring, freely stirring, and cropping with Potatoes, Celery, or Onions to bring it into condition, thorough trenching, with a view of hereafter planting fruit trees, may wisely be adopted. An increased depth of good substantial material is useful, not only as a means of providing suitable food for the sustenance of trees, but of filtering away superfluous moisture during wet periods, and conserving a store which can be drawn upon by the roots during drought.

Bastard Trenching.—This method is employed when it is desirable to move without mixing the upper and lower spits of soil and the subsoil below. Each strata or layer is well broken up and manured if necessary, but left in its original position. This mode of deepening soil answers well, being especially useful when there is no time for a prolonged course of preparation, which in ordinarily good soil is not absolutely needful.

FRUIT FORCING.

Peaches and Nectarines.—Late Houses.—When the fruit has been gathered, as will be the case where there are midseason varieties, the next important object is to secure the ripening of the wood. This can be done by thinning unnecessary shoots in addition to those that have borne fruit, the latter being cut out to a successional shoot at the base, and the former being thinned where overcrowded. In the case of strong, vigorous trees it may be necessary to accelerate the ripening of the wood by gentle fire heat, especially in dull weather, at the same time admitting air freely. Some of the late Peaches, as, for instance, Walburton's Admirable, Golden Eagle, and Comet, will require gentle fire heat in cold localities to ripen them thoroughly. An occasional syringing will be necessary for trees from which the fruit has been gathered.

Unsatisfactory Trees.—Where the trees cast their buds, do not set the fruit well, or fail to stone and finish their crops satisfactorily, something is amiss either in the management or with the roots. Either the roots are too deep or the soil is too rich or loose, unsuitable material, or imperfectly drained. Trees in an unsatisfactory condition should be partially or wholly lifted as soon as the wood is mature. If this be done whilst the trees are in leaf the house should be shaded before commencing operations, and the old border made evenly moist. In removing the soil commence at the point most distant, and work towards the trees, and when it has been cleared away the exposed roots should be drawn aside, damped and covered with mats whilst the drainage is being attended to. This should consist of 12 inches thick-

ness of rubble, largest at the bottom and smallest at the top, and if a covering be placed on of old mortar rubbish freed from all bits of wood, it will make all secure and be a source of calcareous matter. A drain below the rubble must be provided to carry off all water, and it must have proper fall and outlet. Strong loam is most suitable. If inclined to be light add a fourth of clay marl as fine as practicable; if very strong add a fourth of road scrapings, and in any case a tenth of old mortar rubbish, taking care to remove laths and other pieces of wood.

A cartload of wood ashes may be added to every ten cartloads of the compost, with about 2 cwt. of crushed bones and a similar amount of basic slag or Thomas' phosphate powder. The whole well incorporated should be put in the border firmly, and the roots, after having any fibreless portions shortened with a knife, must be spread out evenly over the bed, placing them in layers, and all within the top foot depth of the border, the topmost roots not being covered deeper than 3 inches. The border need not be more than 24 inches deep, and in no case wider than the width or height of the trellis. A good watering will be needed to settle the soil about the roots. The shading must remain on if the weather be bright, and afford ventilation by the top lights only, syringing the foliage lightly in the morning and afternoon until it is seen that the roots are working in the fresh compost, when the shading may be removed and the house opened. Trees so treated rarely cast their buds, the flowers set well—indeed, the operation of lifting is the only method of successfully treating trees in an unsatisfactory condition from root causes.

Cucumbers.—The plants for winter fruiting must be in their places by the middle of October to insure a good supply at Christmas and onwards. Keep them near the glass to insure a sturdy growth, not allowing them to become root-bound. See that the fermenting material is in a due course of preparation if any is to be employed for bottom heat, and make certain of the heating apparatus being in proper order. A bottom heat of 85° to 90° will be safe, but the latter temperature should not be exceeded; if from hot-water pipes a bottom heat of 80° to 85° is sufficient. As there are so many failures with winter Cucumbers through disease, it will be necessary to take proper precautions in the way of thorough cleanliness and choice of soil. Turfy loam of a light nature is best cut about 3 inches thick, or less, with the turf, and this baked in an oven or on an iron plate over an improvised furnace formed of loose bricks, being careful not to bake it to a cinder, but only to destroy fungoid germs and nematoid worms, a temperature of 212° being sufficient. The eelworms are generally located in the decayed parts of the herbage, and that part should be placed on the hot place, and when heated through so that hand cannot be held on the soil side it is cooked enough. This will not injure the compost in the least, while it will certainly kill eelworms, and though somewhat troublesome is far the best of preventives, as acids render the soil more or less sterile for a time, and mineral salts have a tendency to induce grossness in the plants.

A tenth part of freshly slaked lime mixed with loam is also an excellent means of avoiding eelworm, and 2 ozs. of kainit mixed with one-third of a yard of soil, or spread the soil out 1 foot deep, and sprinkle 2 ozs. of kainit on square yard of surface, and mix thoroughly. About a third of old mortar rubbish may be added, especially if there is a tendency in the loam to produce gumming in the plants or fruits, and this more particularly applies when the loam is of a very fibrous or peaty nature. If the loam be rather heavy add grit or road drift, and put it together rather firmly so as to induce a sturdy growth. Sulphate of iron quarter of an ounce per square yard of bed surface is said to strengthen the plants against fungoid attacks, and even against eelworms, but eelworms care very little for sulphates, and iron sulphate is of small consequence to fungi in such infinitesimal doses. Basic slag, 4 ozs. per square yard of bed, is more potent, as it supplies phosphoric acid and lime; the latter acting on nitrogenous matter, converting it into nitrate, frustrates the efforts of eelworms, and the plants derive a plentiful supply of nutritious food, one that eelworms do not like.

Manure is best given at the surface, and it should be heated, as advised for the turf, before being applied, for that not only kills eelworm, but all destructive larvæ and fungoid germs. These may appear troublesome processes, but what are they in comparison of a complete failure of the Cucumber crop?

THE BEE-KEEPER.

APIARIAN NOTES.

AT THE MOORS.

THE Heather is now, owing to the dry sunless weather, as pretty as it was nearly two months since, when our first bees were taken to it. With the exception of three or four full bee working days all the others have been merely snatches of a few hours.

September has been exceptionally warm and fine, still somehow the honey flow never was great. The doings of the bees may be summed up—less swarming, owing to the untoward August; full sized hives are much heavier than they were in 1893; under-sized hives of the standard type considerably lighter, with little if any surplus; supers scarce, the bodies of the large hives well filled with honey; prime swarms from the same from 120 to 150 lbs,

those having young queens introduced after being hived are by far the heaviest. Old queens of a year everywhere show a great shortness of honey.

Punics are in every instance good, and in the hands of experts a first class bee, but neither they nor any of the Eastern races will give good results when managed in standard hives. They are easily made spiteful at the Heather, which tells against them, and unlike Syrians, which leave off every attack shortly after, annoy one during the whole day, seemingly never requiring a rest. In large hives they do not swarm readily at first, but are inclined to throw many after swarms, while the surplus queens are apt to enter other hives.

Carniolans are more liable to send off prime swarms before the space at their command is filled, but I prevent this by having all hives filled with comb in the autumn. Their mild temper, together with their cleanly habits, render them my favourite bees. The greatest achievements at the Heather have been made by these bees, where nuclei—the ninth size of a full sized hive—have gathered enough to tide them over the winter, while crosses of these with Punics have two, and in one instance three crates of sections filled, in a season far from being favourable to honey gathering.

Since commencing these notes the temperature has become lower, with a strong breeze, which will probably stop honey gathering, but otherwise putting the bees in condition for moving homewards.—A LANARKSHIRE BEE-KEEPER.

DRIVING BEES.

As some people still keep bees in straw skeps, and through various causes have not taken the honey, no time should now be lost in driving the bees. During the past week I have driven several stocks, or more correctly speaking, have taken the honey. The weather now being much colder, the bees will not leave their combs freely, so after a few puffs of smoke, and a sharp rap or two on the hive to cause the bees to fill themselves with honey, the hive is turned up and the cross sticks withdrawn, the combs being then taken out and the bees brushed off into the hive, the whole operation taking but a few minutes to perform. The bees should then be left till evening, when they may be removed to their permanent stand, two or three lots of driven bees being put together.

Young queens should be kept in preference to old ones, and if a person is not an adept at finding the queen the bees will soon settle the matter by killing all surplus ones. If the bees are sprinkled with a little thin syrup it will prevent their fighting. Driven bees at this season should be put into frame hives on fully drawn out combs. As it is now fully late to use foundation I always keep a stock in hand for an emergency; combs that have been used for extracting purposes will do well. Each stock of bees should have at least 25 lbs. of thick syrup, and they must be encouraged to take it as rapidly as possible, as with a good feeder placed on the top of the hive they ought to secure sufficient in two or three nights to last them until the spring. The feeder should be well covered to prevent an escape of heat from the body of the hive. It is much better to give them an extra supply of syrup in the autumn than to run short of stores during the winter, as the less bees are interfered with during the cold weather the stronger will they come out in the spring.—AN ENGLISH BEE-KEEPER.



TO CORRESPONDENTS

All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Unsatisfactory Grapes (H. T. B.).—The Grapes through lack of firm packing arrived in a miserable state—little more than a mass of pulp. There are too abundant evidences of mildew and soft unripe wood. To enable any useful reply being given information is necessary on the following points:—1, The approximate age of the Vines.

2, The distance apart of the main rods and the fruiting laterals on them. 3, The condition of the border, whether it is out or inside the house, or both. 4, The variety or varieties of Grapes. 5, The temperatures employed. 6, The method of ventilation pursued. There is something radically wrong, and information on those points might possibly reveal the origin of the evil.

Locality for Growing Bulbs (C. W.).—The Channel Islands are well adapted for the growth of bulbs quite as well if not better than the south coast of England generally, but there are certain places in both districts that are suitable for growing early produce. Thus, particular spots in the Scilly Islands and along the coast here and there, being sheltered from every point but the south, and this with temporary protection enables growers to secure early produce. Certain parts of Cornwall are quite as well if not better than the Channel Islands for early production, especially the sunny sheltered nooks, which not only get all the sun but retain its heat, and are more favoured by the Gulf Stream than the Channel Islands.

Mushroom Farming (A. W. H.).—You should procure the seventh edition of "Mushrooms for the Million." It supersedes the others, the price remaining the same. You will find Mr. Barter's present address on page 1, and on pp. 104-5, the best, next best and a bad time for commencing operations. Without the assistance of a man of *proved* competency in the work you are not advised to risk the outlay suggested under the circumstances. There is always a sale for good Mushrooms throughout the winter and spring months, the prices not infrequently being higher in populous provincial cities and towns than in London. Full crops (not half crops) of good Mushrooms properly marketed pay the growers well. We should be sorry to advise any inexperienced man to risk the whole of his savings in either this or any other particular crop. Sound knowledge of any undertaking we regard as absolutely necessary before "launching out" in that way.

Ants on Fruit Trees (M. B.).—Ants are best extirpated by poison, and the arsenical solution given below is efficacious. It is, however, extremely dangerous, and must be used with the utmost caution, as it is fatal to animal life. Place 1 oz. of ordinary arsenic in an old iron pot with a quart of water, and boil gently until it is reduced to about a pint, a little more rather than less, and to this liquid add half a pound of Demerara sugar, which will form a syrup. A little of this should be placed in saucers in the runs, around the nests or haunts of the ants. We repeat, this mixture must be used with the greatest possible care, not entrusting it to careless persons, or placing it where it is likely to be partaken of by any animal than that to be destroyed. To rid soil in pots or other places of ants dissolve a piece of camphor the size of a cob nut in 2 quarts of hot water, and when cool enough apply it, and the ants will be destroyed without prejudice to the roots or other parts of plants.

Tomato Leaves Diseased (J. S. Uper).—The leaves are covered with a black mould—a fungus (*Capnodium Footii*)—and it is a consequence of the attacks of the "white fly." The white mould is also an after consequence—that of the decay of the leaf tissues, and is generally considered a saprophyte, living upon dead matter. It is *Penicillium glaucum*, and may possibly have been accelerated by the moisture. The attacks of the white fly are, however, really the beginning of the trouble. It is difficult to destroy by ordinary means, though repeated fumigation and well damping the floor prior to each subdues it, or the fumes of sulphur, obtained by heating the hot-water pipes and painting them while hot with a cream formed of sulphur and skim milk, keeping the house close for a few hours, will kill it. The affection on the leaves will not do a great amount of harm, but by impeding the functions of the leaves it must impair their vitality. Eradicate the white fly, and you will not be troubled by the fungus.

Learning Gardening (Enquirer).—Plant-growing requires more forethought than fruit-growing inside, as there is a much greater variety, embracing plants from all the temperate and tropical regions that demand close attention so as to succeed with them. But there is a great difference between the two as regards consequences. A man may fail with plants and not receive nearly the same condemnation as would be lavished on a failure with fruits, as the results are more apparent and come to the knowledge of the proprietor more prominently than plants. For this reason it is most important to serve the kitchen, and that means the dining table, well; hence a regular succession and an abundant supply of fruits and vegetables throughout the year are of primary consequence. At the same time the indoor department generally brings forth most appreciation when the other department is done well, and only then as the one adds to the charm or merits of the other.

Seedling Gloxinias (C. H.).—Seed of Gloxinias sown early in March, placed in a moderate heat, and kept moist, soon germinates, and the young plants make rapid progress, being soon furnished with a pair of leaves. When the seedlings are large enough to handle they should be carefully lifted with the point of a label and placed about an inch asunder in pans, the object being to secure a sturdy habit and free growth. Only the forwardest plants are treated in this way, the later plants being left in the seed pan a time longer, and then are subjected to like treatment. Before the seedlings become crowded place them singly in 3-inch pots, and grow near the glass. Transfer from these pots to 5-inch pots, which under good treatment may be effected by July, and the plants so grown will flower finely in the autumn in a light, moist, and well heated house. After flowering they should be dried, and started in February or March, they making very fine plants the second year. Your plants appear to have been left to take care of themselves, and are only now as large as they might have been in June. The best thing to do with them is to leave them in the pans, keeping

rather dry, and they will form fairly good bulbs, which started in spring will flower well next year.

Peach Tree Stems Infested with "Maggots" (G. K.).—The "maggots" are the caterpillars or larvæ of the Wœberian Tortrix moth (*Tortrix* or *Semesia Wœberana*), which are small and a dirty green colour, with a light brown or chestnut head, and possess three pairs of legs. Unlike the larvæ of most moths, it does not eat the leaves or shoots of fruit, but feeds on the inner bark of Plum, Apricot, and Peach trees—indeed, all stone fruit trees, and burrows beneath the outer bark, so as to reach its food. It may, however, be detected by the small round holes it leaves in the bark, and the yellowish powder which falls from them. The caterpillars may be destroyed by brushing a little oil into the holes. When the caterpillar is full fed it passes into the chrysalis state within a cocoon, and the moth appears first in May. There is said to be a second brood towards the end of summer, and to prevent attack it has been advised to syringe the trees at intervals from May to September with soapsuds, or preferably petroleum emulsion, to prevent the moths laying eggs on the trees. We have found this effectual as a preventive, and good against other insect pests. The moths are hardly likely to have been introduced with the soil, unless the cocoons were in it, which adds another phase to the life history of the moth, but it requires confirmation.

Chrysanthemum Diseased (H. C.).—The plant is infected by more than one fungus, but that causing the browning and destruction of the leaves is *Macrosporium commune* or the early form of *Pleospora herbarum*, which usually attacks the growing or extremity parts, causing the leaves to curl, which become yellowish green, growth being entirely retarded. Finally, brown spots appear, and after a time the whole stalk, with its leaves, withers and dies from the upper part downwards. This is the *Pleospora* stage, but the earliest to appear is the *Macrosporium*, as a bluish or greenish grey coat of erect filaments, each bearing on or near the tip one or two conidia of a cylindrical or elliptical form, and entire or two-celled. The conidia germinate readily, and in suitable conditions of moisture and nourishment produce mycelium, which produces the fungus anew. Owing to the internal growth of the mycelium remedial measures are hardly procurable, but all diseased parts should be burned. The fungus is considered to be seldom, if ever, observed in plants of quite a healthy appearance, but it undoubtedly exerts its action some time before it is externally visible, and the sickly appearance is produced by the penetration of the tissues by the colourless, branched mycelium. The variety, Golden Wedding, has come to grief in several places this season, as mentioned on another page of this issue, and in some cases of eelworm attack, in others of mildew, of which we found some spores on your plant, and though said to be induced by over-propagation, the evidence points to a plethoric habit, probably induced by the rather wet season, as favouring the disease. Spraying with Bordeaux mixture, half strength, will destroy the spores, and a rose-coloured solution of permanganate of potash or Condy's fluid has been found useful. These are preventive, and should be used early in July, and repeated once or twice at intervals of three weeks. Frequent dustings of Anti-Blight powder—of which Mr. R. Fenn will have something to say before long—have a similar effect.

Heating a Greenhouse and Stove (A. B.).—It will be necessary to have the stove next the boiler so as to save pipes, valves, and economise the heat or fuel. A check and saddle boiler would be the best for your purpose, as it will burn anything and requires ordinary stoking. Four rows of 4-inch hot-water pipes will be sufficient for the stove compartment, and may be fixed along the front, but clear of the front wall. We should have them on the flat, that is, the flow pipe from the boiler branching into two where it enters the stove, taking these on the same level to near the end of the stove, then brought together again, *i.e.*, to one pipe by a two-way socket. Next this introduce an H piece, and then continue the one flow pipe through the greenhouse, returning with a syphon by another pipe immediately below, which will be sufficient for the greenhouse. The return pipe must be branched again in the stove so as to get two returns through it, diminishing to one just before leaving the house for the boiler. You will need a valve on the H piece between the flow and return pipes, which is provided with it for such purpose, and there must be one on the flow just within the greenhouse and another on the return at the same point. By opening the H piece valve, and closing the top and bottom valve on the greenhouse pipes, you can heat the stove separately or concentrate the heat upon it, and you will need heat there when it is not needed in the greenhouse. When you want heat in the greenhouse open the bottom valve full, and the top so much as necessary. In ordinary cases it will not be requisite to close the H piece valve, but it may be desirable to regulate it so as to cause a circulation in the greenhouse pipe, and when the weather is severe and more heat wanted in the greenhouses it may be closed altogether, but the valves in the greenhouse must have been opened. An air pipe will be required on the flow pipe of the stove just before reaching the H piece and another on the syphon at its higher point in the greenhouse. The pipes must rise from the boiler gradually, but half-inch in 9 feet length of piping is ample in the houses, and the return pipes must have a similar decline.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior

varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (W. E).—The Fig is Black Ischia. (S. W. F.).—English Codlin. (H. M.).—The Pear is Williams' Bon Chrétien, the Apple Warner's King. (F. B., Reigate).—The oval or egg-shaped Pear marked No. 1 is Fondante d'Automne; the other marked No. 1 is not the same Pear; 5, Belle Julie; 6, Baronne de Mello; the others are too hard for naming; see notice above. (Cymru).—The Pears are quite hard, and far from being in a condition to be named. (A. B.).—Apples: 1, Round Winter Nonesuch; 2, Not known; Pears: 3, too hard; 5, Marie Louise. (F. B. B.).—The Apple is Winter Majetin. (Somerset).—1, Bonne d'ézée; 2, Fondante de Charneau; 4, Beurre Diel; 5, Marie Louise d'Uccle.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (Lanarkshire).—1, Phalaris arundinacea variegata (Gardeners' Garters); 2, Lysimachia vulgaris; 3, Aster bessarabicus; 4, Antennaria margaritacea; 5, Coccothraustes platyclada; 6, Pyrethrum tanacetum (Costmary). (J. P.).—Catasetum tridentatum, and a poor form of Epidendrum fragrans. (T. R. B.).—Much larger specimens are needed. for identification with an idea of the character of growth. 1, Uncertain; 2, perhaps Garrya elliptica; 3, Quercus rubra; 4, Populus tremula. (F. B. B.).—1, A Solanum, send when in flower; 2, Spiraea Billardi. (Cymru).—1, Hypericum Moserianum; 2, Send when in flower; 3, Teucrium Scordium (Water Germander); 4, Centranthus ruber (the Valerian).

COVENT GARDEN MARKET.—SEPTEMBER 26TH.

TRADE quiet. Nuts and Pears in heavy supply. Other goods light. Indoor fruits and vegetables more than equal to the demand.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, per half sieve	2	0	to	3	Peaches, per doz.	1	0	to	1
Grapes, per lb.	0	6		1	Plums, half sieve	1	6	3	0
Cobs per 100 lbs.	22	6	24	0	St. Michael Pines, each	2	0	6	0
Lemons, case	10	0	15	0	Strawberries per lb.	0	0	0	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per half sieve	1	1	to	1	Mushrooms, punnet	0	9	to	1
Beet, Red, dozen	1	0	0	0	Mustard and Cress, punnet	0	2	0	0
Carrots, bunch	0	3	0	4	Onions, bushel	3	6	4	0
Cauliflowers, dozen	1	6	3	0	Parsley, dozen bunches ..	2	0	3	0
Celery, bundle	1	0	1	3	Parsnips, dozen	1	0	0	6
Coleworts, dozen bunches	2	0	4	0	Potatoes, per cwt.	2	0	3	6
Cucumbers, dozen	1	6	3	0	Salsafy, bundle	1	0	1	5
Endive, dozen	1	3	1	6	Scorzonera, bundle	1	6	0	0
Herbs, bunch	0	3	0	0	Shallots, per lb.	0	3	0	0
Leeks, bunch	0	2	0	0	Spinach, bushel	1	6	3	0
Lettuce, dozen	0	9	1	0	Tomatoes, per lb.	0	2	0	4
					Turnips, bunch	0	3	0	0

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.	
Arum Lilies, 12 blooms ..	2	0	to	3	Myosotis or Forget-me-nots, dozen bunches ..	1	6	to	2	0
Asparagus Fern, per bunch ..	1	0		2	Orchids, per dozen blooms ..	3	0		12	0
Asters (English) doz. bunchs.	2	0		5	Pansies, dozen bunches ..	1	0		2	0
Bouvardias, bunch	0	6		1	Pelargoniums, 12 bunches	4	0		6	0
Carnations, 12 blooms ..	0	6		1	Pelargoniums, scarlet, doz.					
" doz. bunches..	4	0		6	bunches	2	0		4	0
Chrysanthemums ..	3	0		9	Primula (double), dozen					
" doz. blooms	0	6		1	sprays	0	6		1	0
Cornflowers, doz. bunches	1	0		2	Pyrethrum, dozen bunches	2	0		4	0
Dahlias	2	0		4	Roses (indoor), dozen ..	0	6		1	0
Eucharis, dozen	1	6		3	" (outdoor), doz. bunchs.	3	0		8	0
Gaillardia, dozen bunches	1	0		2	" Tea, white, dozen ..	0	6		1	6
Gardenias, per dozen ..	1	6		3	" Yellow, dozen	1	0		1	6
Gladiolus, dozen sprays ..	0	9		1	" Safrano (English), doz.	1	0		2	0
Lavender, dozen bunches	4	0		6	" Maréchal Niel, doz..	1	6		4	0
Lilium lancifolium, dozen					Smilax, per bunch	1	6		3	0
blooms	1	0		2	Stephanotis, dozen sprays	2	0		3	0
Lilium longiflorum, dozen	2	0		4	Stocks, dozen bunches ..	2	0		4	0
Maidenhair Fern, dozen					Sunflowers, various, dozen					
bunches	4	0		6	bunches	1	0		3	0
Marguerites, 12 bunches ..	1	6		3	Sweet Peas, dozen bunches	1	0		2	0
Mignonette, 12 bunches ..	1	0		3	Tuberose, 12 blooms.. ..	0	4		0	6

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.	
Arbor Vitæ (golden) dozen	6	0	to	12	0	Fuchsia, per dozen	3	0	to 6	0
Aspidistra, per dozen ..	18	0	36	0	0	Heliotrope, per dozen ..	3	0	6	0
Aspidistra, specimen plant	5	0	10	6	0	Lilium auratum doz. pots	12	0	18	0
Asters, dozen pots	3	0	4	0	0	„ Harrisii, per dozen	12	0	24	0
Chrysanthemums, per doz.	3	0	6	0	0	„ laucifolium, dozen				
„ large, per doz.	9	0	18	0	0	pots	9	0	15	0
Coleus, per dozen	2	0	4	0	0	Lycopodiums, per dozen ..	3	0	4	0
Dracæna, various, dozen ..	18	0	42	0	0	Marguerite Daisy, dozen ..	6	0	12	0
Dracæna viridis, dozen ..	9	0	24	0	0	„ yellow, doz. pots	6	0	10	0
Euonymus, var., dozen ..	6	0	18	0	0	Mignonette, per doz... ..	3	0	6	0
Evergreens, in var., dozen	6	0	24	0	0	Myrtles, dozen	6	0	9	0
Ferns, in variety, dozen ..	4	0	12	0	0	Palms, in var., each	1	0	15	0
„ (small) per hundred	4	0	6	0	0	„ (specimens)	21	0	63	0
Ficus elastica, each	1	0	7	6	0	Pelargoniums, per dozen ..	6	0	12	0
Foliage plants, var., each	2	0	10	0	0	„ scarlet, per doz.	2	0	4	0



CHEESE MAKING.

COMMON principles form the basis of all cheese making, the difference in colour, flavour, quality, firmness, form, and size being entirely a matter of locality. It is simply owing to the systems of makers that we have cheese of such distinct characters as Stilton, Cheshire, Derbyshire, Gloucester, Cheddar, and others, and modern experts may well claim that they can imitate any cheese by following the dairying conditions or system under which it is produced. Though this may be done the beginner must not suppose that the making of a good cheese is to be taught by any such description of the process as we have scope for here. Some good may be done, some help given, by a glance at the leading points of practice, which are the preparation of the milk, coagulation, separation of the whey, ripening of the curd, salting, moulding and pressing, curing or ripening of the cheese.

1, *Preparation and ripening of milk.*—This consists in thoroughly mixing the evening and morning milk, and in bringing it to a proper state of acidity or ripeness. This is caused by the fermentation which commences soon after the milk is taken from the cow, and the presence of acidity is ascertained by testing with litmus paper. Slight acidity is required, this is shown by the blue litmus paper becoming a pale pink; a deep pink or red indicates excessive acidity.

2, *Coagulation.*—This is done by applying rennet at the rate of half pint to 100 gallons of milk. With the milk at a temperature of 80° it will coagulate in an hour. Before applying the rennet skim the evening milk, mix it and the cream with the morning milk, stirring in the cream, or as some good makers prefer, pouring in the cream with the morning milk, and then thoroughly stirring to mix it with the milk. Then comes the rennet, and sour whey if found necessary. Much depends on the caution exercised in the use of sour whey, and it is here precisely that the value of litmus paper is recognised. Such whey tends to accelerate fermentation, and if the litmus paper test shows a deficiency of acidity some whey must be used with judgment, from two to six quarts may be wanted for 100 gallons of milk. Care is also necessary about temperature, which must be ascertained by a thermometer, and if necessary the temperature is raised by heating, 80° being the best in the summer, and 82° to 84° in the winter. In this matter of temperature much depends on the dairy, which must have glazed windows and well-fitting doors. Surely it was impossible to make good cheese in the old farmhouse dairy, with its strong draughts and perforated zinc windows? Colouring is altogether a matter of fancy. If required, it is done with liquid annatto, which is poured in with the rennet, and well stirred in for five minutes to insure evenness of colour.

In using a new form of rennet its coagulating power must be first ascertained, because if the curd is ready too soon it will be tough and hard, or if not ready at the expiration of an hour it may be tender, soft, and difficult to separate from the whey.

3, *Separation of the Whey.*—The curd knife has a blade long enough to pass through the curd to the bottom of the tub. With it the mass is divided into blocks 6 inches square. Then with the skimmer passed in and withdrawn edgewise so as to cause the curd blocks to break up into lumps of about equal size, then with the breaker comes its division as uniformly as possible into pieces about the size of large peas. To use the

breaker aright requires skill only to be acquired by practice. The condition of the curd is the guide as to speed; if used rightly the whey is clear enough to reflect the worker's face, if too fast the whey becomes white, if too slow the curd becomes so tough as not to be reduced easily to the proper size.

4, *Ripening the Curd*.—To do this heat is at once applied after the curd is reduced by the breaker to the size of peas. It is varied gradually till in about fifteen minutes curd and whey are at a temperature of from 98° to 100°, the lower range in summer, the higher in winter. The breaker is kept moving with the end pressing upon the bottom of the vat, the stirring being continued till the curd becomes so firm that after being squeezed in the hand it can easily be rubbed into separate particles. The curd is then drawn to one side or end of the vat, where it packs into a compact mass, for this half an hour is allowed, and then the whey is withdrawn. The curd is then cut into squares, piled quickly, and turned from bottom to top two or three times. From half an hour to an hour is required for the ripening. Test with litmus paper by inserting a piece in the pile. When it changes to a deep lake colour the curd is ripe.

5, *Salting*.—The pile of curd is cut, the curd turned, dried gradually, and divided into pieces 2 or 3 inches thick, spread out, and when the surface is crisp and yellow it is turned, then when the crispness and yellowness is repeated it is ready for the salt; this applied at the rate of 1 lb. for every 56 gallons of milk, scattering it over the curd and mixing it thoroughly. The curd is then ground in the curd mill, then put into the hoops, care being taken that it has cooled to a temperature of 60° in the summer or 65° in the winter. It is kept under pressure for two days, and is then ready for the cheese room. But as a high authority has said, "It is only curd yet, and the process of mellowing down into a ripe, clear flavoured, and luscious article of food fit for table has yet to come. Here may be stored perfect and well pressed curd, promising to become all that we could wish—a credit to the maker, the desire of the dealer, and a source of gastronomic pleasure to the consumer; and here it may by overheating acquire a sharp, strong, and unpleasant taste; or by the temperature being kept too low may become soapy and characterless in flavour; here, in fact, it may be spoilt by simple neglect." The cheese room is, therefore, a place where there are no draughts, and where an even temperature of 60° to 65° can be maintained, care being taken that no hot-water pipes are in contact with or very near the cheese, which will require from two to three months to ripen. A cheese dairy should consist of the making room, press room, curing or ripening room, and boiler shed, and if cheese making is attempted at the home farm, though it may be managed in connection with other dairy work, a making and cheese room would certainly be necessary.

The process we have given is that followed for Cheddar cheese. Though it has the characteristic of simplicity, it demands intelligence, watchfulness, and care to produce cheese of a uniformly high quality, in which is combined richness, digestibility, pleasant flavour, good keeping, and sound texture. Toughness and poor flavour are common faults in home-made cheese. By regarding the making of the first few cheeses as purely experimental, by close attention to mistakes or failures, however trifling, so as to acquire a thorough grasp of details, the making of good cheese can be done with certainty, and we doubt not with profit. Facilities for students are increasing, and thoughtful young men are awakening to the folly of regarding dairying as women's work. The wife of a farmer in the midlands—a first-class maker of Stilton cheese—recently expressed her delight that her son "had taken to the cheese making." That he had done so was mainly owing to the influence of another farmer's son who had been trained in a dairy school.

WORK ON THE HOME FARM.

Highly favourable has the weather been for the sowing of autumn crops, the first sown being *Trifolium incarnatum*, then came Rye, winter Oats, Wheat, and winter Tares. We have been told of some slovenly practice with Rye which has been sown on poor land as a catch crop unworthy of particular care. Apart from the fact that every farm crop should be well done, Rye is worthy of our best care, because it affords us green food earlier in the year than any other crop. But bulk and earliness both depend on fertility of soil, and where anyone has been so foolish as to sow it on poor land we advise the sowing of 1 cwt. per acre of sulphate of ammonia at once, and a similar amount of nitrate of soda about the beginning of next March. With a thick plant of Rye there need not be any fear of loss from the use of a nitrogenous manure this autumn, and the growth will be so robust and early as to well repay one for the cost of the manure. If winter Oats are suffering at all from poverty of soil they should have a similar dressing. What Wheat has to be sown on the home farm should certainly be got in before the end of the month, so that the only sowing left for October is a successional crop of Tares.

See now that yards and all buildings used for live stock are in perfect order for winter. Frosts are already beginning in valleys, and cattle should have shelter in good time from cold and wet, one of the best safeguards being a commodious open hovel out on pasture, with the floor kept clean and unbroken. Straw is plentiful enough, but where rough litter and bracken can be had there should be an ample supply in stacks in or near each yard. Drains and water pipes should be examined, roofs, ventilators, and windows also, and any faults set right at once. To have a full supply of eggs in winter laying hens must have snug quarters where there are no draughts, and where they can have access to dust and grit. We were recently shown a poultry house with the floor raised a few feet from the ground, and we advised that the space under the floor should be enclosed with wooden sides, with plenty of glass for light on the south side, as it would then be a capital dusting place for the fowls during winter; openings from it into a boarded enclosure on the south front would afford them a run on fine days. Fowls are very susceptible to cold and wet, and never wander far on wet or stormy days.

OUR LETTER BOX.

Rough Pasture (W. W. W.).—By "fields very full of rough grass, which bullocks and sheep will not eat," we gather that your pasture is in the condition of very much other pasture everywhere just now. The dripping summer has induced so free a growth of herbage, that the live stock has found enough without touching the rank growth which comes where animal excreta has fallen, and which is invariably left for other herbage, if it is to be had. We have seen much of this rank growth in patches on several dairy farms, which the tenants will compel the store beasts and cows to clear up by keeping them out on it without other food. We do not approve of this process of "starving them down to it," both because of its absolute cruelty and the serious loss of condition of the poor animals, to say nothing of the loss and risk to the farmer. Much better mow it, and convert it into savoury silage, which they would eat fast enough. Your idea of salting can easily be put to the test. Six bushels of salt per acre is often applied immediately after the hay is cleared. Try it; it can do nothing but good to the land, and the bullocks might be induced to eat herbage flavoured with salt, of which they are fond, but it is more doubtful about the sheep, as they do not like bents or coarse herbage. Possibly the pasture may be inferior. We shall have something to say about such pasture shortly.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet

DATE.		9 A.M.					IN THE DAY.				Rain.
1894. September.	Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature			
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.		
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.	
Sunday .. 16	30.345	56.3	54.2	N.E.	56.0	62.4	52.1	76.9	48.0	—	
Monday .. 17	30.316	57.2	53.3	N.	56.0	61.7	52.3	73.6	48.4	—	
Tuesday .. 18	30.181	57.1	55.6	N.E.	56.1	68.9	54.0	105.3	52.3	—	
Wednesday 19	30.104	53.9	53.2	N.E.	56.2	67.7	49.9	83.2	43.6	—	
Thursday .. 20	30.126	56.6	55.4	E.	56.2	63.2	53.2	73.7	45.4	—	
Friday .. 21	30.0.8	55.8	54.9	E.	56.7	58.6	53.0	66.3	52.4	0.1 L	
Saturday .. 22	29.901	53.3	52.0	E.	56.1	58.9	47.1	68.6	45.7	0.219	
	30.140	55.7	54.1		56.2	63.1	51.7	79.1	48.0	0.320	

REMARKS.

16th.—Slight showers early; overcast day.

17th.—Overcast all day.

18th.—Dull early; cloudy morning; bright sunshine in afternoon.

19th.—Dull and misty early; occasional sunshine in morning; sunny afternoon.

20th.—Overcast and dull all day.

21st.—Dull early; frequent showers of fine rain after 11 A.M., and dull and damp between.

22nd.—Gleams of sun early; overcast from 9 A.M., and frequent drizzle from 10 A.M.

A week with small rainfall, but very little sunshine. Temperature much the same as that of the preceding week, and near the average.—G. J. SYMONS.



THE Royal Horticultural Society is to be congratulated on the successful results of the series of conferences that were held under its auspices in connection with the splendid exhibition of British grown fruit at the Crystal Palace a few days since, as reported elsewhere in this issue. For many years past this organisation—the recognised leader of horticultural societies—has made commendable efforts to promote the extension of fruit culture in this country by inaugurating shows and holding meetings, whereby the opinions of experts have been publicly expressed, and a knowledge of the subject thus widely disseminated. Much good work has undoubtedly been accomplished in this direction, and we notice with pleasure that the Society is still endeavouring to further the movement, considering the interests of amateurs as well as the growers of market produce. If one may judge by the opening conference of the series referred to, it would appear that the smaller cultivators appreciate what has been done on their behalf, inasmuch as the hall in which the gathering took place on Saturday last was crowded, so much so that many persons were unable to find even standing accommodation. If such were needed this fact alone affords ample proof of the public interest that is now being taken in the cultivation of fruit, though corroborative evidence may be seen on every side. On this occasion the chief feature for discussion was a paper entitled, “Fruit Growing in Small Gardens,” by the Rev. W. Wilks, the indefatigable Secretary of the Society, and whose enforced absence through illness was so much deplored. The essay was admirably read by Mr. G. Bunyard, after a few introductory remarks by Mr. J. Douglas, who presided, and as showing the zeal of the reverend gentleman it was announced that he had prepared his paper whilst suffering intense pain from a dangerous affection of the throat.

In opening the subject the author made a clear statement as to the definition of “small gardens,” remarking that if a succession of fruit is expected under such circumstances quite one-half of the space at disposal should be devoted to that purpose. He said, and with some justification, that owners of gardens often did their gardeners an injustice in that respect, urging that when fruit was required in proportion to vegetables the various kinds should be cultivated correspondingly. Where the area of ground is limited it was pointed out that fruit trees might advantageously be planted on lawns, thus embracing utility with ornamentation, for many of them were really beautiful objects when in bloom or laden with fruit. Amongst others the Yellow Ingestrie Apple, Williams’ Bon Chrétien Pear, and Cherries were particularised as being suitable. Mulberries and Medlars, too, if grown at all ought to be planted on a lawn. The essayist went further, and said that every third tree in the shrubbery should be a fruit tree, which course ought certainly to be adopted in small gardens. As regards the kinds of fruit to grow, that depends entirely on individual tastes and requirements. Personally he considered cooking Apples formed by far the most important fruit crop in an amateur’s garden, and with this contention many persons will concur. Raspberries he grew in preference to Red Currants. Peaches, Nectarines, and Apricots although hardy were, according to his experience, best grown in orchard houses, and if any wall space is at disposal it might be better devoted to Plums and Pears.

The number of varieties of each kind of fruit should be restricted as far as possible, and an example of this could, he thought, be taken from the market growers. In recommending Apples for culinary use he considered from five to eight varieties of these would be sufficient to form a continual supply of fruit for many months. For early use Potts’ Seedling, Ecklinville, and Lord Grosvenor were useful, these to be followed by Warner’s King, Waltham Abbey, Blenheim Orange, Lane’s Prince Albert, Alfriston, and Lord Derby. Some excellent advice as to the manner of gathering and storing Apples was given, the results of damaging the fruit being emphasised. Plums for cooking were afforded a second position as being especially serviceable to small growers, and of these Rivers’ Prolific, The Czar, Belgian Purple, with a few Damsons were advised to be grown. For a third place Gooseberries were enumerated, and whilst the ordinary method of growing bushes had its advantages cordons were very profitable. Early and late fruit may be obtained by growing cordon Gooseberry trees on south and north walls respectively. Strawberries were, he thought, worthy of a fourth position, from 350 to 500 plants of these being sufficient for a small garden. On his light soil Vicomtesse Hericart de Thury was an excellent cropper, while President and The Countess had proved useful sorts to grow. Empress of India had not done well in his garden, but Waterloo was a grand wet-weather Strawberry. Of Raspberries Fertility and Red Antwerp were named, the former for culinary purposes and the latter for dessert. A dozen bushes of Red Dutch and Raby Castle Currants were sufficient, and white varieties he did not think worth growing where space was limited. Apples for dessert came next in order of importance, allusion being made to Irish Peach, Devonshire Quarrenden, and Cox’s Orange Pippin. There is, no doubt, much truth in the assertion of the essayist that the best of American Newtown Pippins could not be compared with well grown samples of British Cox’s Orange Apple. Following in rotation were mentioned Plums for dessert, Cherries, Black Currants, Pears for dessert and stewing, Medlars, Quinces, and Mulberries. Thus would the essayist, who is a successful cultivator, devote a small garden to fruit culture, and there is but little fault to be found with the selection. For early use Williams’ Bon Chrétien Pear might well be grown by amateurs. Marie Louise, however, was to his mind a much overrated variety, though, as afterwards shown, opinions on that matter varied. Mr. Bunyard read a short supplementary paper, chiefly dealing with the renovating of fruit trees. This authority strongly advised what has so often been urged in these pages—namely, thinning out the shoots in the autumn and the planting of selected varieties. Too frequently, remarked this expert, the fruit trees in some villa gardens are planted by speculative builders, many of the varieties being comparatively useless.

Mr. J. Douglas, in opening the discussion which followed the reading of the essays, pointed out the common error of planting fruit trees too deeply, also that of burying carcasses of animals near the roots. Mr. J. Wright said in listening to Mr. Wilks’ paper he might have fancied it had been written by a first-class professional fruit grower with literary talent, so admirably was it done. There may have been one or two omissions, as, for instance, he had not heard anything about that old favourite Strawberry Sir Joseph Paxton. It was here remarked by someone in the audience that this variety was “worn out” and poor in flavour; but he ventured to say that “Sir Joseph” was not “worn out,” and if obtained from a healthy stock and properly treated it would do its duty to the grower. Whilst admitting the value of Apples and Pears, we must not he said, underrate the worth of bush fruits such as Gooseberries, Raspberries, and Currants. Those were most useful for the amateur and cottager, and he concurred with the essayist in recommending the cultivation of Gooseberries as cordons; indeed, they might be thus grown and a hedge both ornamental

and profitable formed of them. Raspberries, too, formed a remunerative crop in small gardens, and mention was made of an allotment holder who for the past fifteen or twenty years had never failed to realise £3 to £4 annually from his Raspberries grown in a line round his small plot of land. The splendid show which they had all seen that day told him, as it must everyone else, that with the intelligent cultivation of wisely chosen varieties England can produce as good fruit as any country in the world. He should like to see this event a great annual attraction, and it had been hinted to him that if such a fruit show could be repeated next year at the Crystal Palace it was very probable the incoming Lord Mayor of London (Sir Joseph Renals) would attend in State and open the exhibition. Mr. H. R. Williams, as a Past Master of the Fruiterers' Company, corroborated the latter statement, remarking that if such were to come to pass it would bring together a great concourse of people, and assist the fruit-growing movement considerably. He had been much amused with the controversy in the daily press regarding the price of Pears, and said that as a nation we did not eat enough fruit. His trees were properly thinned and root-pruned, and with very satisfactory results; but he took the precaution to point out the importance of planting good trees of suitable varieties obtained from a reliable source. Mr. A. H. Pearson recorded his experience in regard to fruit culture, observing he did not quite agree with the statement that Marie Louise Pear was overrated. When grown on an east wall it was a very good and useful variety; but he considered Doyenné d'Été was one of the best Pears to grow in the midland counties. Mr. T. F. Rivers also briefly expressed his views on the matter, as did others, the majority of the speakers concurring with what had been mentioned in the paper.

On Monday also a very large audience assembled under the presidency of Mr. G. Bunyard, and on this occasion Mr. C. Wise, agent for the Toddington Estates, and manager of Lord Sudeley's fruit farms, read a paper on "Fruit Growing on a Large Scale." After remarking that, in his opinion, many of the reports referring to the profits of fruit cultivation were greatly exaggerated, he proceeded to show how moderate prices may be realised if the crops are judiciously managed. Soil and situation were important items to bear in mind in selecting a site for a fruit farm, and he advised all intending planters to avoid valleys or low positions where spring frosts do much damage. According to his observations the trees should be at least 250 feet above the level of the sea, and if sheltered so much the better. The protection may be afforded by planting belts of Larch and other quick growing trees, but each plantation at Toddington was surrounded with a double row of Damsons. In making a selection it was absolutely necessary to notice what kinds did well in the locality, and whether there was a market for such sorts. On the fruit farms which he managed they had thirty-five varieties of Apples, but he thought a dozen would be ample. Strawberries did well in his locality, especially Vicomtesse Hericart de Thury, President, and Sir J. Paxton. As regards the demand for fruit he had every reason to believe that this would still increase, as it had done during the past decade.

Some very valuable and interesting figures in reference to fruit crops and their prices were recorded. Mr. Wise said that during last summer he knew of one instance where 170 tons of Strawberries had been sold for making jam, and he had been offered £40 per ton for Raspberries, although the average price was £25. Generally Strawberries and Raspberries produced 2 tons of fruit per acre, the cost of planting, management, and other details, exclusive of manuring and picking, being from £10 to £14 per acre respectively. Black Currants were an uncertain crop, the prices also varying considerably according to the supply. About 2 tons per acre may be estimated as an average crop, and this season he had obtained £14 per ton. The cost of planting an acre of Black Currants was about £12, including the bushes.

There was not, he said, a great demand for Red Currants, but the crops and returns were much the same as for the Black kinds. Gooseberries were profitable, especially Whinham's Industry, Crown Bob, and Keepsake. He had known the latter variety to produce a crop of 5 tons per acre, which was however unusual, these realising from £9 to £14 per ton. Where it would thrive the cultivation of the Prune Damson was strongly advised by the essayist, who mentioned the fact of having gathered as much as 7 tons of this fruit, and 1 ton of Black Currants from an acre of land under his management. He admitted, though, that this was an exception to the 600 acres which constitute the Toddington fruit farms. As to Apples he considered a good early cooking variety was the most profitable, one that will enable the grower to place fruit on the market when the foreign samples are scarce. After giving some excellent advice on planting, pruning, gathering, and packing the fruit, and urging growers to make an attempt to obtain a reduction in railway tariff for the consignment of their goods, Mr. Wise concluded by saying that bees and osiers should always be adjuncts to a large fruit farm. Apart from the profits made out of the honey the bees assisted in the fertilisation of the fruit, and the osiers could be utilised for making baskets.

Mr. Smith, a Kentish grower, said, as pointing out the importance of remarks of the essayist with respect to planting certain kinds of fruit, that in his district there was no market for yellow Plums, and the Pershore variety, so largely grown in some localities, was also utterly worthless with him. Mr. Hammond, an Essex grower, assured the audience that it was possible to grow fruit profitably; but from his experience of the past would advise tenants not to plant fruit trees on land which they held on a short lease. Despite the preferential rates of the railway companies, and the enormous importations of foreign fruit, he was of the opinion that home growers could hold their own by producing superior fruit, and placing it on the market in a proper condition. Mr. J. Cheal thought the facts given in the essay would do a great deal of good in contradicting many statements which had recently appeared in the daily press. By exercising forethought and care in planting he had no doubt that fruit culture was remunerative, and instanced a case in point. He considered preserving the fruit in seasons of abundance was of great importance, and predicted a future for this industry. Mr. Bashford briefly alluded to the culture of fruit in Wales, remarking that he had produced a crop of Gooseberries at the rate of 8 tons per acre. Mr. D. T. Fish, too, supported the views set forth, and urged all who could to give the matter their consideration.

The important subject of "Packing, Grading, and Marketing Fruit," was dealt with by Mr. George Munro at the third Conference held on Tuesday last, when Mr. Philip Crowley presided. Having had considerable experience as a fruit salesman, the essayist naturally impressed his audience with these matters. He first reviewed the system of packing now generally adopted, and compared the methods of the home growers to those followed abroad. Hothouse produce, such as Grapes and Cucumbers, was on the whole fairly well packed, and it was mentioned that English Cucumbers were now finding a ready sale in Antwerp, Hamburgh, and other continental towns. As to packing Strawberries and Cherries, growers here have, he said, much to learn from the French, the same applying to Apples and Pears. The two last-named fruits were, it was asserted, consigned to market in a worse condition now than they were twenty years ago. It was advised that growers should take as much trouble in packing Apples and Pears as the foreigners did with Oranges and Lemons, each fruit being wrapped in paper. He considered that such firm fruit would be better, and meet with a more ready sale, if sent to the market tastefully packed in boxes and cases after being graded. These questions were fully detailed, and their importance cannot be over-estimated. As the essayist observed, were they more frequently taken into consideration, many thousands of pounds

would be kept in this country which now go to the foreign growers.

An interesting discussion followed, in which Messrs. J. Cheal, J. McIndoe, S. T. Wright, W. Roupell, and other gentlemen took part, all of whom supported the opinion of the lecturer. Mr. S. T. Wright said according to his experience, however, the northern buyers did not care to have the Apples packed separately in paper, although as regards Pears he had found the plan answer admirably. He also said that the labour troubles affected the sale of fruit, in the manufacturing districts especially. Mr. Roupell mentioned the pleasing fact of his having sent Muscat of Alexandria Grapes to Chicago, and was informed that they had arrived in excellent condition. On this occasion the Conference was held in a much larger hall than the previous ones, but this room was crowded, which, as before remarked, goes to prove the great interest that is at present being taken in the cultivation of fruit. In consequence of this we give prominence to the report of a magnificent show, which it is to be hoped will be repeated by the Royal Horticultural Society next year, and under similar circumstances.

THE CRYSTAL PALACE FRUIT SHOW.

SEPTEMBER 29TH, OCTOBER 1ST AND 2ND.

WHEN the idea of holding a three-days exhibition of British grown fruit at the Crystal Palace, under the auspices of the Royal Horticultural Society, was first made public, various opinions were expressed as to whether the venture would prove a success. It was thought by some that the dates selected would prevent many growers exhibiting, but such apparently was not the case. Considering the season it was, on the whole, a magnificent show, affording ample evidence of what can be done when two powerful bodies amalgamate. Both transepts at the Crystal Palace were required to stage the exhibits, these being placed on many thousand cubic feet of tabling. About 138 exhibitors competed, these coming from many parts of Great Britain, while Scotland was splendidly represented, especially in the Grape classes.

Regarding the quality of the fruit, that was generally considered to be excellent. The colour of many of the Apples shown by Kentish and other southern growers was remarkable, and caused much surprise, inasmuch as those staged by the northern cultivators were, in many instances, practically colourless. Neither Apples nor Pears could be compared with those of last year as regards size, the latter this season being much smaller than usual. There were, of course, exceptions in this respect, as in some of the competitive classes splendid Pears were shown, but on the whole they were below the average. Grapes were excellent, and in some classes the competition was unusually keen, the same applying to various other classes in which the exhibits were numerous. The nurserymen's productions were for the most part arranged by themselves in one of the transepts, and made an imposing display. Most of the well known growers in the kingdom were represented, some of them sending extensive collections of splendid fruit, as notified in the report which follows.

OPEN CLASSES.

The first division of the open section comprised twenty-one classes, which included those for collections of fruit grown in the open air or under glass, also Grapes, Peaches, Tomatoes, and Figs. In some of the smaller ones of these there were several exhibitors, but the larger classes did not appear to induce a very keen competition. As an example there was the class for a collection of ripe fruit of fifteen distinct varieties, to include two varieties of Melons and dish each black Grapes, white Grapes, white or yellow Plums, red or black Plums, Peaches, Nectarines, Apples, Pears, and five other dishes of fruit of distinct varieties. Mr. McIndoe, gardener to Sir J. W. Pease, Bart., Hutton Hall, Guisborough, was apparently the only exhibitor, and received the premier award. His Grapes were Foster's Seedling and Gros Colman, both of which were well finished. Melons, Verdant Green and Noble; Plums, Magnum Bonum and Pond's Seedling; Nectarines, Humboldt; Apricots, Moor Park; Figs, Brown Turkey; Apples, Washington; Pears, Pitmaston Ducebess; Peaches, Exquisite; Gooseberries, Warrington; Musa Cavendishi, and the Passion fruit. There were four competitors in the class for a collection of ripe fruit of nine distinct varieties, Pines excluded. The schedule stated that two dishes of Grapes, one Melon, one dish of Peaches, Nectarines, Pears, Apples, and two other dishes of fruit were to be included. Mr. J. Masterton, gardener to the Countess of Camperdown, Weston House, Shipston-on-Stour, Warwickshire, was placed first. This exhibitor had good Muscat of Alexandria and Black Alicante

Grapes, King of the Pippin Apples, Morello Cherries, Barrington Peaches, The Countess Melon, Brown Turkey Figs, Pineapple Nectarine, and Beurré d'Amanlis Pears. Mr. S. Haines, gardener to Hon. D. P. Bouverie, was second with a good collection. Mr. W. J. Empson, gardener to Mrs. Wingfield, Amptill House, Beds, being third.

Grapes.—These were splendidly shown, particularly in the class for six distinct varieties. The first prize went to Mr. Alec Kirk, gardener to J. Thomson Paton, Esq., Norwood, Alloa, N.B., for magnificent bunches. The varieties shown were Muscat of Alexandria, Gros Maroc, Mrs. Pearson, Madresfield Court, Black Hamburg and Duke of Buccleuch, the latter being especially fine. Mr. J. Berry, gardener to C. Bower, Esq., Tewesbury Lodge, Forest Hill, was awarded the second prize, Muscat of Alexandria, Gros Maroc and Alicante being the best. The third prize went to Mr. J. McIndoe, whose best Grapes were Gros Guillaume.

Mr. G. Reynolds, gardener to Messrs. Rothschild, Gunnersbury House, Acton, secured the first prize for three varieties of Grapes, two bunches of each. The kinds shown were Alicante, Muscat of Alexandria, and Gros Maroc. The second prize went to Mr. James Day, Galloway House, Garliestown, Scotland, who staged two grand bunches of Mrs. Pince amongst others. In the class for three bunches of Madresfield Court Mr. W. F. Empson was first, the second and third prizes going to Mr. J. Gibson and Mr. W. W. Farr. The prizes for Black Hamburg Grapes went to Messrs. J. Gibson and W. Howe, who had fair examples. Mr. G. Reynolds won the premier award for three bunches of Gros Colman, Mr. McIndoe being second, and Mr. S. T. Wright third, the competition in this class being unusually keen.

For three bunches of white Grapes, Mr. Tbos. Osman, gardener to L. T. Baker, Esq., was awarded the first prize for fine examples of Dr. Hogg, the second prize going to Mr. G. Reynolds for three bunches of Buckland Sweetwater, and the third to Mr. J. Wallis, Keele Hall, Newcastle, Staffs, for Golden Queen. Muscats formed an interesting class, four exhibitors competing, and the first prize was awarded to Mr. W. Tidy for large well coloured bunches. Mr. W. H. Lees, Trent Park, New Barnet, was a close second, the third prize going to Mr. J. Bury.

In the class for three bunches of black Grapes the competition was very keen. Mr. James Day was first in the class for three bunches, staging fine and well-coloured examples of Gros Guillaume. This was another instance of what can be done over the border. Mr. Hudson, Gunnersbury House, Acton, was second with Alnwick Seedling, and Mr. W. Sanders, Andover, Hants, third with the same variety. Mr. G. Giffin, gardener to J. Astley, Esq., Coombe Bank, Kingston-on-Thames, was first with three bunches of Alicante, the second prize going to Mr. W. Tayler, and the third to Mr. W. Howe, all of whom showed well. Messrs. T. Rivers & Son were the only competitors in the class for three Vines in pots bearing ripe fruit, and deservedly received the premier award. Two of the Vines were Black Alicante, and the other Gros Colman, each in fine condition.

Peaches and Nectarines.—The classes confined to these fruits were not very numerous, but the produce staged was of very fair quality, especially in the case of the first named. For three dishes of Peaches, distinct, Mr. J. Gore was a good first with Walburton Admirable, Princess of Wales, and Sea Eagle, all in fine form. Mr. G. Woodward was second, and Mr. McIndoe, third. For one dish of Peaches Mr. Wallis, gardener to R. Sneyd, Esq., was first with Sea Eagle. Mr. T. Lunt, Dunblane, second with Walburton Admirable; and Mr. Markham third with Princess of Wales; each of the competitors showing well. Mr. Wallis was first for a dish of Nectarines with Victoria; Mr. W. Pope being second with Balgowan, and Mr. Haines, gardener to the Hon. D. P. Bouverie, third with Pineapple.

Figs and Tomatoes.—The prizes for a dish of Figs went to Messrs. W. Pope, Kerry and Haines, each exhibitor staging Brown Turkey. The classes devoted to Tomatoes provoked keen competition, and some superb fruits were staged. The principal class was for four dishes of distinct varieties, nine fruits of each, and Mr. J. Gore was accorded the premier position with Polegate, Trophy, Ham Green Favourite, and Challenger. Mr. Howe was a capital second with Hackwood Park, and in good condition; Mr. E. Ryder, Orpington, being a creditable third. In the class for a dish of any one variety Messrs. Garraway, Blake, and Thompson were the most successful competitors, each staging fine examples of Perfection. The only other Tomato class was for six clusters of one variety as cut from the plant, and in this Mr. J. Gore was first prizewinner with grand specimens of Polegate; Mr. J. Hill, jun., being second with Conference; and Mr. Farr, gardener to A. Peads, Esq., third with All the Year Round.

Dessert Apples.—These were very numerous staged, and some highly creditable specimens were noticed, though not perhaps so good as might have been expected. The following classes were confined to single dishes of certain varieties, and the prize list is appended hereto. For a dish of Adams' Pearmain to Messrs. Geo. Woodward, W. Tayler, and the English Fruit and Rose Co. For Braddick's Nonpareil to the English Fruit and Rose Co. and Mr. W. Tayler. For Cox's Orange Pippin to Messrs. Strugnell, G. Woodward, and Empson. For Duke of Devonshire to Messrs. Ross, H. Berwick, and Helman. For Golden Reinette to Mr. H. Berwick. For King of the Pippins to Messrs. Cotterell, the English Fruit and Rose Co., and Garraway. For Lady Sudeley to Messrs. R. Edwards and H. Berwick. For Mannington's Pearmain to Messrs. Mackenzie, Nicholson, and G. Woodward. For Margil to Messrs. Geo. Woodward, Jas. Spottiswood, and Helman. For American Mother to Messrs. Mackenzie, Geo. Woodward, and Wright.

For Reinette de Canada to Messrs. G. Woodward, W. Tayler, and the English Fruit and Rose Co. For Ribston Pippin to Messrs. Wright, Mackenzie, and Turton. For Rosemary Russet to Messrs. Turton, P. Cavanagh, and H. Berwick. For Scarlet Nonpareil to Messrs. Geo. Woodward and Garraway. For Worcester Pearmain to Messrs. Geo. Woodward, Wright, and Mackenzie.

Cooking Apples.—In these classes for single dishes some magnificent specimens were exhibited and in large numbers. For a dish of Alfriston the prizes went to Messrs. G. Wythes, H. Berwick, and P. Cavanagh, Roehampton. For Beauty of Kent to Messrs. Geo. Woodward, Herrin, and H. Berwick. For Bismarck to Messrs. Mackenzie, G. Woodward, and the English Fruit and Rose Co. For Blenheim Oranges to Messrs. P. Cavanagh, Barleycorn, and Woodward. For Bramley's Seedling to Messrs. S. T. Wright, the English Fruit and Rose Co., and G. Garraway. For Cellini to Messrs. H. Berwick, the English Fruit and Rose Co., and P. Cavanagh. For Cox's Pomona to Messrs. Mackenzie, Geo. Woodward and Turton. For Duchess of Oldenburg to Messrs. T. Killick, the English Fruit and Rose Co., and W. Tayler. For Northern Greening to the English Fruit and Rose Co., Messrs. Cotterell, and W. Tayler. For Newton Wonder to Messrs. S. T. Wright, and G. Garraway, Bath. For Peasgood's Nonesuch to Messrs. Geo. Woodward, Mackenzie, and W. Tayler. For Pott's Seedling to Messrs. W. Tayler, the English Fruit and Rose Co., and Geo. Woodward. For Sandringham to Messrs. H. Berwick, Wythes, and Geo. Woodward. For Spencer's Favourite to Messrs. Geo. Woodward, Wright, and Killick. For Stirling Castle to Messrs. Mackenzie, C. Houlton, and T. F. Rivers. For Stone's to Messrs. Geo. Woodward, Mackenzie, and H. Berwick. For The Queen to Messrs. Geo. Woodward, H. Berwick, and W. Tayler. For Tower of Glamis to Messrs. Mackenzie, Geo. Woodward, and S. T. Wright. For Tyler's Kernel to H. Berwick. For Warner's King to Messrs. Woodward, Mackenzie, and A. T. Killick. For Waltham Abbey Seedling to Messrs. Geo. Woodward, Mackenzie, and Turton.

Dessert Pears.—Some beautiful examples of Pears were shown in the undermentioned classes, the prizewinners in which are here given. For a dish of Beurré Bosc to Messrs. Thomson, Colville Brown, and W. Fife, Wantage, Berks. For Beurré Diel to Messrs. W. Tayler and G. Wythes. For Beurré d'Amanlis to Messrs. Spencer, Gibson, and Geo. Woodward. For Beurré Hardy to Messrs. Geo. Woodward, Jas. Spottiswood, and J. Turner. For Beurré Superfin to Messrs. Geo. Woodward, Bannister, and Spencer. For Williams' Bon Chrétien to Messrs. Day, Heston, and Barleycorn. For Comte de Lamy to Messrs. G. Woodward, Turton, and Ross. For Conference to Messrs. Rivers, J. Nicholson, and G. Woodward. For Maréchal de Cour to Messrs. G. Woodward, Hulse, and Slowgrove. For Doyenné du Comice to Messrs. Potter, Allen, and Helman. For Durondeau to Messrs. Geo. Woodward, Potter, and Allen. For Emile d'Heyst to Messrs. George Woodward, Allen, and Berwick. For Fondante d'Automne to Messrs. Heston, W. Tayler, and W. Fife. For Glou Morceau to Messrs. Allen, Potter, and Geo. Woodward. For Josephine de Malines to Messrs. Geo. Woodward, J. Hill, Cambridge, and H. C. Moffatt. For Louise Bonne of Jersey to Messrs. T. Rivers & Son, J. Hill, and Spencer. For Marie Louise to Messrs. Salter, C. Chard, and Turton. For Nouvelle Fulvie to Messrs. Spencer, G. Fennell, and Wythes. For Pitmaston Duchess to Messrs. Allen, Harcourt Rose, and W. A. Cook, Calne, Wilts. For Souvenir de Congiès to Messrs. Ross, Thomson, and Hudson. For Thompson's to Messrs. Allen, H. Berwick, and Heston. For Triomphe de Vienne to Messrs. Geo. Woodward, Heston, and Silk. For Winter Nelis to Messrs. Cotterell, Garraway, and Salter.

GARDENERS AND AMATEURS.

Apples.—These were on the whole of excellent quality in this section. Mr. Woodward won the premier prize in the class for eighteen dishes of Apples, distinct, showing splendid fruit of Stone's, Emperor Alexander, Northern Dumpling, Peasgood's Nonesuch, Belle Dubois, Warner's King, Lord Derby, Mère de Ménage, Bismarck, Golden Spire, Lord Suffield, Beauty of Kent, Cox's Orange Pippin, Worcester Pearmain, Washington, Wealthy, Ribston, and Barnack Beauty. Mr. S. T. Wright had excellent fruit, but was disqualified for having (accidentally) duplicate dishes of Warner's King, though he was recommended an extra prize. In the class for twelve dishes of Apples in distinct varieties, eight cooking and four dessert, there were six competitors. The first prize was accorded to Mr. A. Killick, Maidstone, who staged New Hawthornden, Peasgood's Nonesuch, Warner's King, Bismarck, Ecklinville Seedling, Mère de Ménage, Stone's, Blenheim Orange, Worcester Pearmain, Ribston Pippin, Cox's Orange and King of the Pippins, all in splendid form. Mr. G. Helman, gardener to Viscount Gage, Lewes, was second with good examples, especially of Peasgood's Nonesuch, Emperor Alexander, Bramley's Seedling and Ribston Pippin. The third prize went to Mr. Graves, gardener to the Rev. E. Bartrum, D.D., Wakes Colne Rectory, Halstead, Essex, who staged well coloured examples. For nine dishes of Apples, distinct, six cooking and three dessert varieties, there was only one exhibitor, this being Mr. C. Herrin, gardener to Lady Fortescue, Dropmore, Maidenhead, to whom the second prize was awarded. The varieties shown by this grower were Lord Grosvenor, Lord Derby, Gloria Mundi, Grenadier, Warner's King, Peasgood's Nonesuch, Cox's Orange Pippin, Worcester Pearmain, and Ribston Pippin.

There were four competitors in the class for six dishes of cooking Apples, distinct, and the first prize was taken by Mr. G. Woodward, Teston Court, Maidstone. This exhibitor had grand examples of Belle Dubois, Peasgood's Nonesuch, Alexander, Warner's King, Stone's, and

Lord Suffield. The second prize went to Mr. S. T. Wright, gardener to C. Lee Campbell, Esq., who staged fine fruits. Mrs. L. A. Killick, Langley, Maidstone, was a good third in this class. There were fifteen competitors in the class for three dishes of cooking Apples, Mr. A. Killick being deservedly placed first with grand examples of Mère de Ménage, Peasgood's Nonesuch, and Ecklinville. Mr. W. Jones, gardener to G. R. Badingham, Esq., Carshalton, was second with Dutch Codlin, Peasgood's Nonesuch, and Warner's King, each in good form. Mr. Turton, gardener to J. Hargreaves, Esq., was third with Peasgood's Nonesuch, Warner's King, and Lord Suffield.

Dessert Apples were fairly good in this section. In the class for six dishes of distinct varieties there were seven competitors, and the first prize was taken by Mr. G. Woodward. The varieties shown were Washington, Wealthy, Barnack Beauty, Worcester Pearmain, Cox's Orange Pippin, and Ribston Pippin. Mr. S. T. Wright was a good second, the third prize going to Mr. T. A. Hesler, The Links, Plumstead Common. For three dishes of dessert Apples Mr. P. Potter, gardener to Sir Mark Collet, Bart., St. Clere, Kemsing, was first with King of the Pippins, Baumann's Red Reinette, and Cox's Orange Pippin. Mr. T. Turton was second, and Mr. Apthorpe third.

Pears.—There were four competitors in the class for eighteen dishes of dessert Pears, and here Mr. G. Woodward was first. The varieties shown were Marguerite Marillat, Beurré Dumont, Beurré d'Anjou, Doyenné du Comice, Durondeau, Beurré Diel, Pitmaston Duchess, Beurré Hardy, Doyenné Boussoch, General Todleben, Marie Benoist, Gansel's Bergamot, Triomphe de Vienne, Duchesse d'Angoulême, Marie Louise, Princess, Maréchal de Cour, and Beurré Superfin. The second prize was taken by Mr. Thos. Spencer, gardener to H. C. Moffatt, Esq., Goodrich Court, Ross, and the third by Mr. G. W. Cummins, gardener to A. H. Smee, Esq., The Grange, Carshalton. For twelve varieties of dessert Pears, distinct, Mr. Bannister, gardener to H. St. Vincent Ames, Esq., Westbury-on-Trym, was placed first with General Todleben, Beurré Rance, Durondeau, Beurré Diel, Pitmaston Duchess, Souvenir du Congrès, Doyenné Boussoch, Beurré Superfin, Maréchal de Cour, Duchesse d'Angoulême, Hacon's Incomparable, and Beurré Clairgeau, none of which were particularly noteworthy.

Mr. W. Allan, gardener to Lord Suffield, Gunton Park, Norwich, secured the premier position for nine dishes of dessert Pears, distinct varieties, with Pitmaston Duchess, Marie Louise d'Uccle, Beurré Diel, Doyenné Boussoch, Doyenné du Comice, Marie Louise, Glou Morceau, Durondeau, and General Todleben, all in superb condition. The second prize went to Mr. W. Cotterell, gardener to Captain Harcourt Rose, Tonbridge, whose best were Pitmaston Duchess, Brockworth Park, Marie Louise, Durondeau, and Beurré Bosc; and Mr. W. Jones third. There were ten competitors. In the class for six dishes of dessert Pears there were no less than eleven entries, and the competition was very keen. The fruit, moreover, was, on the whole, of good quality. The first prize was secured by Mr. W. Slowgrove, gardener to Mrs. Crawford, with Brockworth Park, Pitmaston Duchess, Doyenné du Comice, Beurré d'Amanlis, Doyenné Boussoch, and Beurré Superfin. Mr. J. Gibson, gardener to Earl Cowley, was second; and Mr. W. A. Cook, Compton Bassett, Wilts, was third, all staging fine fruit. Mr. A. H. Rickwood was first in the class for three dishes of dessert Pears; Mr. J. Hill, Cambridge, second; and Mr. Apthorpe third.

Stewing Pears made a good show, and in the class for three dishes Mr. G. Woodward was first, staging General Todleben, Catillac, and Vicar of Winkfield. Mr. Cotterell, gardener to Captain Harcourt Rose, was second; and Mr. J. Blake third. Mr. J. Masterson, gardener to the Countess Camperdown, was first with Uvedale's St. Germain in the class for a dish of stewing Pears; Mr. W. A. Cook being second with Catillac; and Mr. T. S. Gridler, Rosedale House, third with Grosse Calabasse. There were twelve exhibitors in this class.

Peaches.—Those shown in the classes confined to this section were in most cases creditable, though some very poor examples were staged. For three dishes, distinct, Mr. G. Woodward was first with Princess of Wales, Nectarine Peach, and Walburton Admirable; Mr. Masterson second with Barrington and Walburton and Late Admirable; and Mr. W. H. Lees, gardener to F. A. Bevan, Esq., New Barnet, third with Exquisite, Princess of Wales, and Golden Eagle. For a dish of any one variety, Mr. Markham was first with Princess of Wales; Mr. Sclater, gardener to Mrs. Hulse, second with Sea Eagle; and Mr. G. Fennell third with Princess of Wales. Nectarines were not particularly well shown, neither were they numerous. In the class for three dishes, distinct, Mr. W. Pope, Newbury, was the only exhibitor, and received the second prize with small fruits—Lord Napier, Balgowan, and Stanwick Elrue. Mr. Farr was first for a dish of any one variety with Albert Victor; Mr. Gibson, gardener to Earl Cowley, second with Old Newington; and Mr. Griffin third with an unnamed kind of little merit.

Plums.—These were numerous shown, and in the majority of cases were of fine quality. For four dishes, distinct, dessert, Mr. W. Strugnell, gardener to W. H. Long, Esq., was a capital first with highly creditable examples of Transparent Gage Bryanston Gage, Reine Claude de Bavay, and Coe's Golden Drop. Messrs. Masterson and Day were second and third as named. For one dish of dessert Plums, exclusive of Gages, Messrs. Turton, Empson, and R. Edwards received the prizes, each staging Coe's Golden Drop. For a dish of any Green or Golden Gage Mr. Masterson was first with Reine Claude de Bavay. Mr. Herrin, Dropmore Gardens, second with Transparent Gage, and Mr. McIndoe third with Bryanston Gage. For a dish of Purple Gage Mr. J. Neighbour was awarded the second prize. Cooking Plums also made a capital display, though only two classes were accorded to them. The

principal one was for four dishes, distinct, and the first prize was taken by Mr. W. Pope with Coe's Golden Drop, White Magnum Bonum, Victoria, and Pond's Seedling. Mr. Day, gardener to C. J. Massey, Esq., was second with Victoria, Prince Englebert, Magnum Bonum, and Pond's Seedling. For one dish of cooking Plums Mr. Empson was first with Grand Duke, Mr. Graves second with Pond's Seedling, and Mr. Markham third with Grand Duke.

In the class for a dish of Damsons, Mr. A. T. Killick was first, and Mr. Heston, gardener to G. W. Dawson, Esq., second. For a dish of Bullaces Mr. G. Tebbutt was first, Mr. Wells second, and Mr. Heston third. For a dish of Morello Cherries Messrs. Masterson, Rickwood, gardener to the Dowager Lady Freake, and R. Edwards received the prizes; while for a dish of Quinces four prizes were accorded to the following:—Messrs. Harcourt, Rose, Pentney, Barleycorn, and Empson. In the class for a collection of Nuts, one dish of each, Mr. Turton was a good first with Cobs, Filberts, and Walnuts in variety, Mr. Goodwin, Mereworth, was second, and Mr. Colville Brown, Horticultural College, Swanley, was third.

NURSERYMEN'S AND MISCELLANEOUS EXHIBITS.

As already mentioned, the trade exhibits were numerous and made a grand show. According to the schedule there were only three classes provided for competitive exhibits, the gold, silver-gilt, and silver medals of the Royal Horticultural Society being awarded as prizes. Similar honours were also given for the non-competitive collections, and to ordinary observers it was a difficult matter to distinguish one from the other.

The English Fruit and Rose Company, King's Acre Nurseries, Hereford, arranged a fine collection of fruits, mainly comprising Apples and Pears. Amongst the former Lord Suffield, Colonel Vaughan, Royal Codlin, Cellini, Gascoyne's Seedling, Lady Sudeley, Wealthy, Warner's King, Peasgood's Nonesuch, Potts' Seedling, Yorkshire Beauty, Duchess' Favourite, Grenadier, Ecklinville Seedling, and Tom Putt were the best; the Pears being admirably represented by Doyenné du Comice, Beurré Superfin, Durondeau, Gratioli de Jersey, and Beurré d'Amanlis (silver Banksian medal).

Messrs. Chas. Lee & Son, Hammersmith, staged a very fine collection of Pears, including Brockworth Park, Beurré d'Amanlis, Souvenir du Congrès, Vicar of Winkfield, Beurré Superfin, Maréchal de Cour, Beurré Hardy, and Doyenné du Comice amongst others (silver Banksian medal). A showy table of fruits, consisting of Plums, Apples, and Pears, was shown by Messrs. C. Spooner & Sons, Hounslow. Stirling Castle, Colonel Vaughan, Royal Russet, Councillor, Lord Suffield, Golden Spire, Bismarck, Grenadier, Hollandbury, Duchess' Favourite, Warner's King, Potts' Seedling, Ecklinville, and Manks Codlin were the best of the Apples. Such Pears as Durondeau, Beurré Clairgeau, Marie Louise d'Uccle, Marie Louise, Beurré Diel, Pitmaston Duchess, Conseiller de la Cour, and Glou Morceau were highly creditable. Rivers' Monarch Plum was finely shown (silver Knightian medal). The collection of fruits staged by Messrs. Jas. Veitch & Sons, Royal Exotic Nursery, Chelsea, was very handsome, and covered two large tables. The Apples occupied one of the tables, and comprised such varieties as Peasgood's Nonesuch, Sandringham, Stirling Castle, Blenheim Orange, King of Pippins, Duchess' Favourite, Colonel Vaughan, Worcester Pearmain, Hollandbury, Dumelow's Seedling, Potts' Seedling, Alexander, Cox's Pomona, Washington, Winter Hawthornden, Lord Derby, Tower of Glamis, Lord Grosvenor, Bramley's Seedling, and Ecklinville. The Pears shown included Brockworth Park, General Todleben, Doyenné Boussoch, Fertility, Magnate, Beurré Clairgeau, Beurré Baltet Père, Triomphe de Vienne, Grosse Calabasse, Louise Bonne of Jersey, Doyenné du Comice, Pitmaston Duchess, Beurré Superfin, Maréchal de Cour, Souvenir du Congrès, Beurré Hardy, and Flemish Beauty. Plums and Damsons were also shown in this exhibit, but not very extensively (silver-gilt Knightian medal).

The Committee of the School of Handicrafts for Boys at Chertsey showed a small collection of Apples and Pears, most of which though small were very creditable.

Mr. Owen Thomas, Royal Gardens, Windsor, exhibited a very striking collection of fruits, composed of Apples, Pears, Pines, Grapes, Melons, Plums, Tomatoes and Peaches. The Pears shown included Beurré d'Amanlis, Pitmaston Duchess, Doyenné Boussoch, Louise Bonne of Jersey, Madame Treyve, Durondeau and others. Amongst the Apples were Bramley's Seedling, Frogmore Prolific, Wellington, Peasgood's Nonesuch, Golden Noble, Flower of Hants and Rihston Pippin. The Frogmore Selected Tomatoes were very beautiful, and the Pines were grand (silver-gilt Knightian medal).

Messrs. Paul & Sons, The Old Nurseries, Cheshunt, contributed a large collection of Apples and Pears. The fruit was of excellent quality; but, as is usually the case, lacking in colour to that grown in the south side of London. Among the Apples in this contribution Warner's King, Peasgood's Nonesuch, Ribston Pippin, Lord Suffield, Gold Medal, Tower of Glamis, Stirling Castle, Cox's Pomona, Lord Derby, Frogmore Prolific, and Duchess of Oldenburg, were the best. Of Pears, Louise Bonne of Jersey, Vicar of Winkfield, and Marie Louise were noticeable (silver Banksian medal). A collection of cider Apples came from Messrs. Gaymer & Son, Banham, Norfolk, who also exhibited various dishes of Pears (bronze Banksian medal).

Messrs. J. Laing & Sons, Forest Hill, sent a splendid collection of Apples, comprising about 250 dishes and baskets. If proof were necessary that good fruit can be grown near the metropolis, it was certainly forthcoming here. The Apples were not only large, but most of them

admirably coloured. As being particularly worthy of notice, we may mention Lord Suffield, Cellini Pippin, Stirling Castle, Peasgood's Nonesuch, Potts' Seedling, Bismarck, Hollandbury (very bright), Scarlet Pearmain, Mère de Ménage, New Hawthornden, Red Beitinghemier. The same firm also sent a very fine collection of Pears, the majority of which were arranged on plates on a second table. The best of these included Louise Bonne of Jersey, Marguerite Marillat, Beurré Clairgeau, Pitmaston Duchess, Marie Louise d'Uccle, Maréchal de Cour, Beurré Bosc, Duchesse d'Angoulême, and Le Lectier (silver-gilt Knightian medal).

Arranged on one table was a very large collection of Apples and Pears grown by Messrs. J. Peed & Son, Mitcham Road, Streatham, S.W. This contribution included a hundred distinct varieties of Apples and fifty varieties of Pears. As a whole the former were fine, but lacking the colour which characterised some of the other exhibits. The best included Peasgood's Nonesuch, Worcester Pearmain, Cox's Pomona, Lady Henniker, Frogmore Prolific, Gold Medal, Golden Spire, Bismarck, Kentish Fillbasket, Newton Wonder, Ringer, and King of the Tomkins County. The Pears were for the most part small, except Marguerite Marillat, Pitmaston Duchess, Flemish Beauty, and King Edward (silver Banksian medal).

Messrs. W. Thomson & Sons, Tweed Vineyards, Clovenfords, sent some fine Grapes, including a bunch of Gros Colman, $4\frac{3}{4}$ lbs. in weight, with berries $4\frac{1}{2}$ inches in circumference. This is a remarkable size, and it may interest readers to know that the bunch was grown by giving

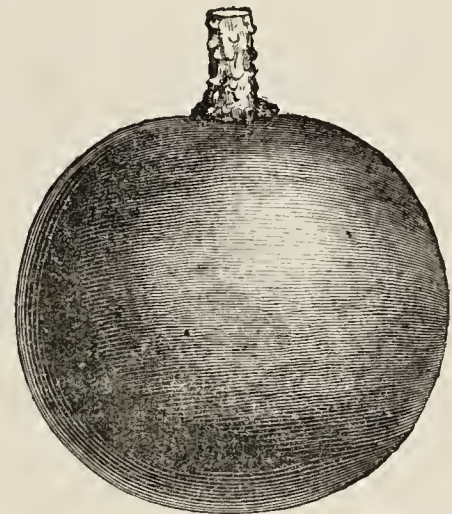


FIG. 47.—A FINE GROS COLMAN GRAPE.

the Vine a heavy dose of Thomson's manure. The illustration (fig. 47) gives an idea as to the size of the berries of these magnificent Grapes.

Mr. E. Cuzner, 111, Fleet Street, exhibited half a dozen boxes of magnificent Pears, some Apples, and Figs which had been imported from France by Messrs. W. N. White & Co., Covent Garden. The Pears were "Magnifique" and "Duchesse," and compared with some of the English grown examples shown were really splendid. A huge Pumpkin was also staged by the same exhibitor. Mr. A. C. Roffey, Croydon, sent a collection of Roffey's Improved Telegraph Cucumber.

Mr. J. Clarke, Farnham, exhibited a number of bunches of Grapes, including Alnwick Seedling, Alicante, Lady Downe's, Gros Colman, and others, all grown, it was said, without heat. Mr. H. Deverill, Banbury, sent a collection of Onions, large in size and very firm. The best of these were Ailsa Craig, Southport Red Globe, and the Lord Keeper.

Competitive Classes.—There were but three classes provided in the schedule for nurserymen's exhibits, and although these were well competed, they formed but a small portion of the exhibition, the non-competitive collections being more numerous. In the class for a collection of trees bearing fruit in pots there were but two firms exhibiting, these being Messrs. T. Rivers & Son, Sawbridgeworth, and Messrs. G. Bunyard & Co., Maidstone. Both collections were very good, but the first prize, the gold medal of the Royal Horticultural Society, was awarded to Messrs. T. Rivers & Son. This firm sent some splendid Apple, Pear, and Fig trees in pots. The Apples were magnificent, the trees being from 3 to 10 feet in height, and laden with handsome fruit. Especially good were Cox's Orange Pippin, Bijou, Cox's Pomona, Melon and Wagener. Of Pears the most noticeable were Marie Louise, Pitmaston Duchess, Doyenné du Comice and Glou Morceau. Messrs. G. Bunyard & Co.'s exhibit also contained excellent trees bearing splendid fruits, the most attractive Apples being Baumann's Red Winter Reinette, Gascoyne's Seedling and Rosemary Russet. Beurré Dumort, Conference, and Beurré Baltet Père were amongst the best of the Pears. Plums, Figs, and Vines in pots were likewise included in this collection.

Messrs. G. Bunyard & Co. were placed first for a collection of hardy fruits, which included some magnificent Apples beautifully coloured. Two large tables were required to stage this contribution, that was worthy of the gold medal awarded. Space cannot be found to enumerate all the varieties of Apples and Pears exhibited by this firm, but special mention may be made of Worcester Pearmain, Gascoyne's Seedling, Scarlet Pearmain, Bismarck, Cox's Pomona, Lady Sudeley, Emperor Alexander, and Mabbot's Pearmain Apple, all of which were remarkable for their colour. The Pears, Plums, and Nuts shown in this collection were also above the average in quality. The second prize went to Messrs. J. Cheal & Sons, Crawley, for a very fine collection of Apples

and Pears, the former being well coloured. Mr. H. Berwick, Sidmouth Nurseries, Devon, secured a third prize in this class.

In the class for a collection of hardy fruit, grown partly or entirely under glass, to illustrate orchard house culture, Messrs. G. Bunyard and Co. were placed first, securing a silver-gilt Knightian medal. The Apples in this contribution were, as may be expected, very highly coloured, and of a large size. The latter remarks, too, apply to Pears, which were well represented. Vines in pots, Fig, and an Apple tree laden with fruit were included in this exhibit. Messrs. T. Rivers & Son were second, showing a splendid collection of fruit.

Dried Fruits, not Preserved in Fluid or Sugar.—For a collection of dried fruits a silver-gilt medal was accorded to Mr. W. A. Trotter, The Gardens, Broomboro' Place, Ledbury, who showed Flower of Herts Apples, whole, cored and in rings; Hawthornden rings; Blenheim Orange, cored and in quarters; all in splendid condition. For 1 lb. of sliced Apples, Mr. W. A. Trotter was first, and Colville Browne, Esq., Horticultural College, Swanley, second. For 1 lb. of whole Apples, Mr. W. A. Trotter was again a capital first with Golden Noble; as also was he for 1 lb. of Plums and 1 lb. of Cherries, each of which were shown whole, the Plum being Washington and the Cherry Morello.

Special Prizes.—In the class for a collection of six varieties of hardy fruits, grown in the open air, two gallons of each, first prize, presented by the Worshipful Company of Gardeners, was won by Mr. A. Wyatt, Hatton, Middlessex. For ten bushels (42 lbs. each) of cooking Apples, of one variety, and ten half-bushels (20 lbs. each) of dessert Apples (of one variety), packed for market, the first prize, presented by Messrs. Monro & Co. and Webber & Co., Covent Garden, went to Mr. G. Tebbutt, Mogden, Isleworth. For the best packed basket (or other package) of Grapes, 12 lbs. weight of fruit, received by rail.—First, Mr. J. Gore, Polegate, Sussex; second, Mr. McIndoe; and third, Mr. C. Cooper, Ascot. For the best packed box (or other package) of Peaches, twenty-four fruits, received by rail.—First, Mr. Geo. Woodward; second, Mr. Wallis; and third, Mr. Pentney. For the best packed box (or other package) of ripe Pears, twenty-four fruits, received by rail.—First, Mr. Geo. Woodward; second, Mr. Garraway; and third, Mr. J. Clarke, Farnham. For the best collection of Fruits, Nuts, Grains, Seeds, and Pulses to illustrate their value as food stuffs.—First, given by the Vegetarian Federal Union, of the Memorial Hall, Farringdon Street, to Mr. Wright, who staged Muscat of Alexandria and Gros Colman Grapes, Oranges, Souvenir du Congrès Pears, Ecklinville Seedling and Worcester Pearmain Apples, Magnum Bonum and Pond's Seedling Plums, Medlars, Beans, Sloes, Cherries, Tomatoes, and numerous other suitable products.

The miscellaneous exhibits of flowers and horticultural sundries were not very numerous, fruit of course being the predominating feature. The Stott Distributor Co., Manchester, sent garden engines and other requisites; Mr. J. George, Victoria Road, Putney, tobacco paper, wood wool, and various manures; Messrs. Sutton & Sons, Reading, Alpine Strawberries and magnificent Scarlet Runner Beans; Messrs. J. Cheal & Sons, Crawley, hardy flowers; Messrs. H. Cannell & Sons, Swanley, Dahlias, Begonias and other flowers; Mr. E. Ladhams, Shirley, Southampton, hardy flowers; Messrs. B. S. Williams & Son, Upper Holloway, hardy flowers and Apples; Mr. W. Wells, Earlswood Nurseries, Chrysanthemums, and Mr. V. Seale, Dahlias.

THE LUNCHEON.

Even the most enthusiastic of horticulturists could not have been other than gratified with the large number of persons which responded to the invitation for holding a gardeners' luncheon in connection with the great fruit show. This was held prior to the Conference on Saturday the 29th ult., in the dining-room attached to the Garden Hall. T. B. Haywood, Esq., presided, and he was supported by many well known fruit growers and patrons of horticulture, as well as gardeners, about 110 sitting down to the tables.

Mr. G. Bunyard, after the customary patriotic toasts had been honoured, proposed the toast of the Crystal Palace Company, coupled with the name of Mr. Biggs. In doing so he said there was no better place in the world for holding a horticultural exhibition. Mr. Biggs briefly responded on behalf of the Company, and reminded those present that the Crystal Palace was a great educational institution, and he ventured to hope that the present great fruit show was the first of many successive ones.

Dr. Masters rendered the toast of the "Royal Horticultural Society," and remarked that he thought everyone present would admit that the authorities were deserving of their best thanks for providing such an exhibition. Twice in that week they had held exhibitions and conferences, that at Chiswick, however, taking place under most depressing circumstances. On this occasion a splendid show was held in a magnificent building, and in wet or fine weather the Royal Horticultural Society seems to do its duty. If the Society did not always do what the public or its Fellows thought should be done, it was not always the fault of the authorities. He thought they ought not to part before sending a telegram to the Rev. W. Wilks, whose absence through illness they so much deplored, informing him of the success of the show (hear, hear).

Mr. Philip Crowley, in responding, observed that the Royal Horticultural Society was at present in a very satisfactory condition. It certainly had seen some ups and downs, and at one time it appeared to be about to merge into oblivion. Happily, however, matters had

changed for the better, and there were now over 3000 Fellows, 1900 of whom have been elected during the past four or five years. The periodical meetings held at Westminster were very creditable indeed, and the Temple show of this May eclipsed those held in previous years. The present fruit show at the Crystal Palace he regarded as a magnificent one, there being 138 exhibitors from all parts of the kingdom. Compared with the Conference held in 1888 this was very favourable, there being on that occasion only seventy-six exhibitors. At Chiswick the trials of vegetables and other useful work were being carried on, and the Journal of the Society had reached large dimensions.

Mr. G. Bunyard said he had received a letter from Sir Trevor Lawrence, Bart., who was at present travelling abroad, to say that his absence on this occasion, and at the Chiswick Conference, must not be taken as indicating a lack of interest in the Society. If not with them in body he was in heart, and he was sure the President would much liked to have been present.

Mr. J. T. Bennett Poë briefly gave "The Judges," and Mr. Owen Thomas responded, remarking on the general excellence of the fruit shown at the exhibition, mentioning the Grapes in particular. He suggested also that rough glass buildings might be advantageously erected for the culture of choice Pears in this country.

AUTUMN TINTS.

THE season is at hand when Nature crowns the waning year with a colour scheme surpassing in effect all the glories of spring. Comparison between the seasons of youth and age may be invidious, each possessing distinctive features. The influences of spring are exhilarating, spurring on the worker, but there is a hush and calm in a perfect autumn day, in which Nature, after many a rude buffet, yields a soothing influence to the mind harassed by her wayward moods. Autumn, too, is a time when, though work ceases not, a relief comes to anxiety. Expectations may not have been realised, but we at least know the worst, and from that may be able to deduce some means for self-congratulation.

Occasionally only is our ideal type of the Indian summer attained, when under the combined influences of sunny days and chilly lengthening nights the rapidly heightening beauty is disturbed by nought but the faintest æolian whisperings through the dying foliage. Looking back over years that have fled one notes here and there such examples where favourable conditions have co-operated to produce an effect which time cannot obliterate. Such instances recur to my mind as I pen these lines, and knowing the capabilities of the great scene painter one fain looks forward to possibilities of the near future. Yet, all too often, as the magic brush lays on the rich colourings are they as quickly effaced by rude Boreas. It may be that an indifferent season which we have experienced may culminate in the expiring efforts of Nature to give us of her best. Appearances so far tend in that direction. Whatever shortcomings have obtained 'twixt seed time and harvest all foliage is super-luxuriant, and with a continuation of the kindly influences at present prevailing some pleasant recollections of the passing year may yet be ours.

Privileged travellers who have witnessed the autumn tints in other lands, and notably those displayed in the Canadian forests fringing the great lakes, describe the scene as one of surpassing beauty, far exceeding in extent and depth of colour anything we have. Yet few of us can view the transformed landscape of a perfect autumn day without pleasure, tinged perhaps with a shade of sadness which decay in any shape or form entails. From an eminence, whence the eye can roam over a large extent of wooded country, as the setting sun illumines a sea of colour, not any will deny that Nature can, when she is in an amiable mood, treat us in our own country to some very fine effects. Nor is her handiwork less capable of detailed inspection. Some examples of autumn foliage rivalling the most brilliant blossoms in the gorgeousness of colour. Many of the plainest types of leafage amongst our trees and shrubs become for a brief space veritably transfigured. Transient beauty, yet from what time the ripening hand gives the first gentle touches o'er hill and dale until the brave old Oaks yield their russet garb to the inevitable, we are carried on from late summer to winter's reign.

How beautiful are the changing tones of colour in the Sumach, *Rhus typha*, from its normal green to pale yellow, and on through an octave of colour tones till a scarlet is reached all but rivalling the Poinsettia in its intensity? It may be superfluous to speak of the Virginian Creeper or that gem from Japan, *Ampelopsis Veitchii*, in its glowing crimson, unless it be for the purpose of giving that meed of praise so justly due. Well known as they are, one cannot but wish they were more freely used, especially the latter. How many an unsightly wall or building could be made a thing of beauty by planting this charming creeper! No tying, nailing, nor pruning: clasping with its tiny tentacles the commonplace bricks and mortar. Its deciduous character is considered by

some as an objection in prominent situations. Yet there is I think a beauty in the network of tracery revealed in its undress. The old Virginian Creeper in its loose and more flowing habit never appears to greater advantage than when hanging over the face of some natural rockwork, twining and depending gracefully from the naked arms of a decaying tree, or climbing some venerable ruin. Its vagabond instincts do not favour the trim neatness of a modern residence to which its lesser cousin is so admirably adapted.

My observations lead me to the conclusion that the highest colour tones in autumn tints are obtained in the neighbourhood of water. It may be that the atmospheric conditions are conducive to this result. Particularly have I noted this with a group of *Samach* planted near a lake of some extent. Horse Chestnuts, too, in the same locality obtained a degree of colour not so remarkable in other parts of the same demesne. If there are any grounds for this supposition, those vivid tints of Canadian forest scenery during the autumn may in some measure be attributed to the contiguity of water.

Practical workers, with an eye to utility as well as beauty, are not slow to avail themselves of autumn-tinted foliage for decorative purposes. Possibly in the future this seasonable form of decoration may claim more attention than it has hitherto done. Not only do the brightest tints assert their claim for notice, but in the more subdued tones are to be found shades of colour favoured of late years by modern society. With a careful selection and judicious arrangement novel and pleasing effects are obtained, and a change is afforded to the floral display. The claims of various bright berries the season affords are not likely to be overlooked; each are invaluable aids to the decorator when flowers are scarce. The last blooms of summer may yet linger on sufferance and brighten up bed or border, but for all decorative intents and purposes they are but poor bedraggled things at best, collapsing when brought into the heated rooms. With a free use of hardy foliage and berries our houses can be spared from heavy contributions at a time when they can least afford it, and I think most of us are prone to stinginess when filling the flower basket at the approach of winter.

Thought turns to the *Chrysanthemums* (if, indeed, it is ever absent from them), and their many good points for decoration; but by reason of a long labour of love spent on them there is generally a desire to preserve them as long as possible, and my experience of employers is that they are of the same way of thinking, hence the best blooms are spared till decay sets in. Beauty there is in dying foliage, but decaying flowers are a sorry spectacle. I am alluding to large *Chrysanthemum* blooms only, and when occasion requires them to be sacrificed on the altar of necessity, a few good blooms introduced amongst sprays of Oak foliage is an economical and advantageous method of setting them up. Oak foliage can be had when but little else of autumn tints remain, and whether it is the gold and crimson of an Edwin Molyneux, or sea-tinted white of a Florence Davis, the association with it is pleasing and effective.

In arranging dishes of dessert a use of autumn foliage is appropriate, and until the latest Vines shed their last leaves a good article for this work is not wanting. Gros Guillaume, where grown, is exceptionally charming in its decay. In the lavish display of form and colour the season provides, so many things suggest their suitability to make a little diversion in the decorator's art, to which varying circumstances must ever yield a controlling power.

Autumn tints run into autumn thoughts, perchance they are inseparably connected. "Are you busy now?" I inquired of a business friend whose duty lays in supplying some of the many wants of a gardener. "Yes," he replied; "we are stock-taking." Many of us, too, are apt to indulge in a little mental stock-taking at this period. Sufficient data may not yet enable us to form reliable estimates, but those same ever-deepening tints are forcible reminders that we can expect but few additions to the credit side, as far as growth is concerned. The staple crop, Potatoes, is as yet in a perilous position, the dreaded blight being sufficiently in evidence to give cause for anxiety; a spell of dry weather is so far doing much to hold the enemy in check. At the present time graziers, in the abundance of grass at their command, have least cause for apprehension; the verdant pastures do not as yet feel the ripening influence of autumn, though a warm glow from the Thorns in the hedges promise abundant fruit for the feathered tribe.

Happy youngsters from the City daily troop by on Black-berrying expeditions to the slopes of the Dublin mountains, and sundry curls of blue smoke rising ever and anon amidst the Heather proclaim that boys will be boys still. The popular fruit scarce, yet tattered garments and besmeared visages noticeable as they return show at least some results, which may also be called the tints and touches of autumn.—E. K., *Dublin*.

USEFUL PLANTS FOR BEDS AND BORDERS.

PENTSTEMONS.

WHERE the mixed style of bedding is highly appreciated in gardens very few plants are capable of producing a more pleasing effect than *Pentstemons*. When well grown they commence flowering fairly early in the season, and will continue to do so long after many plants have passed their best. Some years ago I selected a number of varieties and increased the stock until there were sufficient to fill two borders, requiring between 600 and 700 plants. It would be very difficult to describe the effect these plants produce when massed together in large numbers. They are very useful for large beds or borders, and are also charming when grouped with other plants of a suitable nature. The change which took place in the gardens at Norris Green compelled me to relinquish the cultivation of these plants; but one variety was so very striking that I retained a few plants of it, and brought some of them to my present charge. The variety alluded to is *Morna*, a strong grower, and when well grown will attain a height of 2 feet 6 inches, with very long profusely flowered spikes of bright crimson flowers with the throat beautifully pencilled with white. The individual flowers are large, and the plants branch freely.

To grow these plants well and give them a chance of developing they must be liberally treated from the first, and grown in beds and borders that possess rich soil, or are rendered so by deep digging and heavy dressings of manure. An evil in the thorough culture of these plants is planting them too closely together. The plants should not be nearer than 1 foot, and do all the better at this time of the year if they are placed about 16 inches from each other. At first the beds seem to be almost empty, but this is easily remedied by planting the groundwork of the bed with suitable *Violas*. A very good one for the purpose, and to form a margin to these plants, is *Countess of Hopetown*—a splendid white kind, a good flower, and a most profuse bloomer throughout the season.

Cuttings of *Pentstemons* will be abundant now, and should be inserted moderately thick in a cold frame, in which there is 3 or 4 inches of old potting soil, leaf mould, and a little sand. If the frame is prepared on purpose I select a firm base, and scatter a thin layer of leaf mould at the bottom before placing in the soil. A little sand may be scattered on the surface. The cuttings should be shaded from bright sunshine, and will pass the winter safely in a cold frame. In February, when the plants show signs of growing, the points should be removed, which will induce them to branch. The earlier they can be transplanted the better. Any rough frame will do, where the young plants can have the protection of a few old lights. This time the soil should be 6 inches deep, and may be composed of fully half leaf mould. If no better soil is at hand, that from the garden will do very well. Years ago I rarely used anything else. Temporary frames were placed on a portion of the garden, the leaf mould and a little river sand incorporated with it. The plants soon make good bushes, with three or four shoots each.

Pentstemons are large-rooting plants, and will lift with good balls; the roots cling freely to the leaf mould, and should be planted out from the middle to the end of April. These plants are fairly hardy, and will bear a little frost without injury provided they have been well hardened. The earlier they are planted out the sooner the plants produce their first flowers, branch, and the beds become a mass of bloom again early in August. One pinching is sufficient, and where time can be spared the plants amply repay for supporting their massive spikes with light stakes. Rough winds are liable to break them about, but where they have had abundance of room to grow sturdily and fill their allotted space the wind has not so much effect upon them. Rain does not appear to affect them in the least.

CALCEOLARIA AMPLEXICAULIS.

This is another of those good old plants not grown to the extent which it deserves. It is the best of all *Calceolarias*, its flowers being of such a pleasing shade of yellow. It is not, when well grown, the shy bloomer that some people might suppose, but is a grand companion plant for *Pentstemons*, and associates with them magnificently, either in a separate bed or mixed with them. A bed planted alternately looks remarkably well. This plant requires very similar treatment to *Pentstemons*, but should not be planted out quite so early. It is fairly hardy, and we have had it exposed to several degrees of frost and no harm result. I do not, however, advise such a course if it can be avoided. The soil in beds and borders for this plant should be made rich, then it grows freely and flowers profusely. In good soil this plant attains a large size, and should not be planted nearer than advised for *Pentstemons*. It is necessary to stake this plant upright to display it to the very

best advantage. At this season of the year this plant flowers very freely, and will continue to do so as long as Pentstemons.

HYDRANGEA PANICULATA GRANDIFLORA.

This plant might be more freely used for the embellishment of our gardens at this season of the year. It makes a very handsome bed if planted 18 inches or 2 feet asunder. If good plants are planted at the first in well prepared soil they will practically form a mass after the first season. This makes a good permanent bed. It is also useful for dotting in mixed borders, and is very effective amongst shrubs. Even if used to form an edging to a border of choice shrubs it is very telling. This planted as a groundwork with low standard Japanese Maples would be very effective. The variety known as *lacinata*, although a pale pleasing green in spring, colours brilliantly in autumn; in fact, is just now assuming its rich purple colours. One of the bright crimson forms might be employed, and would prove effective in the spring, all through the summer, as well as in the autumn. One advantage of this *Hydrangea* is that it requires neither frames or house room for protection during the winter. All the attention needed after being well planted is pruning back towards spring, any time before signs of growth is visible, and a thorough good manuring occasionally. Some old mushroom bed refuse worked into the surface is excellent stuff for it. This *Hydrangea* is not to be despised in suitable positions in the rock garden, but it is useless to plant it unless it can be surrounded with a fair amount of good soil.

FUCHSIAS.

Such kinds as *gracilis* and *Riccartoni* make splendid beds at this season of the year, and if a little care is exercised in arrangement they contrast admirably with such plants that have been named. For mixing with these *Fuchsias* nothing is much better than *Acer Negundo variegata*, low standards, which can be pruned occasionally and kept within bounds to suit the position and purpose they are intended to occupy. These or any other *Fuchsias* can be used; most of the kinds are useful for garden decoration, and low standards of such sorts as Lord Beaconsfield are charming rising above small-flowering varieties. Where these are employed they require lifting and protecting during the winter, starting them into growth prior to planting out. They are most effective, and abundantly repay for the trouble devoted to them.

The hardy kinds only need pruning back in the spring and manuring occasionally. Stock is readily raised by cuttings of soft shoots inserted either now or after the plants have started to grow. If rooted now under glass, and the young plants kept on a shelf during the winter and repotted in the spring, beds may be fairly furnished in one season by planting moderately close together. —WM. BARDNEY.

FLORAL FACTS AND FANCIES.—5.

THERE is not a flower which can be said to possess a history so full of legendary lore and notable incident as does the Rose. We are not surprised at this, since she has long been styled the Queen, or even the Empress, of flowers, and her admirers are found both in the east and west; poets have sung her praises, sages have made her a medium of instruction, and she has adorned the brows of some of the greatest kings or heroes. From time immemorial the Rose has grown profusely in those lands which are presumed to have been the early abode of our race, and several species flourish now even in neglected Palestine. It was probably rich with Roses during its palmy days, though there is good reason for thinking that in the two places where our English version of the Bible mentions the Rose, a species of Lily or Narcissus is the plant indicated by the Hebrew. One of the strange Eastern legends states that in a valley near Jerusalem, upon a spot yet bearing the name of "Solomon's Rose Garden," there was a compact entered into between some genii and that famous monarch, its particulars being written neither with ink nor blood, but with a saffron liquid upon the petals of white Roses. Possibly Solomon was a cultivator of this flower, for we may assume he understood gardening pursuits; but the first record of its growth in gardens has to do with a Queen, Amytes of Babylon, who is said to have nurtured Roses in the celebrated hanging gardens there.

Myths or fancies about the Rose can carry us back to the Garden of Eden, however. One myth tells us that while the earth was sinless, all Roses were white and free from thorns; and another attributes to Eve the production of the first red Rose. Charmed with the buds of the flower, she bent to kiss one, and in so doing changed its hue from white to red; but other legends rather imply that the original Rose was of that colour. One story is, that by a transformation, which is a common incident in these old tales, a beautiful damsel was turned into a Rose tree. Her

name was *Rhodanthe*, and her loveliness had so fascinated the people that they forgot to worship Diana. The aggrieved goddess appealed to her brother Apollo, and his remedy was an effectual one. It is also said that the Rose came from the blood of Adonis; afterwards the flower was given by Cupid to Harpocrates, pledging him to secrecy about the doings of Venus, hence it became a symbol of silence or artifice; but really this meaning attached to the Rose had its origin in Egypt, and passed from that country to Greece. Though the cause remains unknown the fact is certain that for many centuries the Rose has been used with this significance, especially by secret societies. It was one if not the only reason why the flower was often made the sign of a tavern or hostelry, reminding those who went there, first, to keep silence about some things they might know; and, secondly, to beware of repeating what was said in festive moments. To the mysterious Rosicrucians it gave a name and a motto (*sub rosa crux*); another Society had the Rose figured on its headman's axe. At Hamburg there existed during the seventeenth century a curious Society or Sisterhood of learned ladies, which was called the "Society of the Rose." There were four divisions, but the first only had the Rose as its emblem, the second wore a Lily, the third a Violet, and the fourth, or lowest, a Pink. Also the old Romans put on their shields sometimes the device of a Rose, intimating that very often success in war depended upon silence. But it does not seem that the custom of the Pope's sending a Golden Rose on Mid-Lent Sunday to some monarch or noble of high rank has anything to do with the symbolic meaning, though it was frequently presented as a bribe. It is rather remarkable that Martin Luther, that great foe of the Papacy, liked to wear a Rose in his girdle. Luther's country—Germany, is presumed to have the oldest Rose tree in existence, against the Cathedral at Hildersheim, since tradition says Ludwig, a son of Charlemagne, planted it, which would give it about the age of a thousand years.

Both ancient and modern nations have associated the Rose with times of rejoicing, but it has been also used from an unknown period to symbolise grief or separation. Chaplets of Roses, during Rome's periods of luxury, were worn by the guests at dinners and suppers, the floor of the apartments being covered with its petals to the depth of several inches, when the giver of the banquet could afford the expense. Nero liked to rain a shower of Roses upon his visitors, and is said to have spent £2000 upon this flower for one evening. Greeks, as well as Romans, had high ideas of the medical value of the Rose, and it also found a place in cookery. They squeezed the flowers and sprinkled the juice thus obtained upon choice dishes; sometimes the petals were dressed, with additions, to form a salad. Truly, as old Culpeper remarked, the list of the social and domestic uses of the Rose was long enough to make a volume; seemingly this annoyed him, for he adds, "What a poth and a racket authors have made about Roses!" Would he have been better pleased with our modern Rose literature? The employment of the Rose in festive scenes we can quite understand, and perhaps the fugacity of its petals, significant of brief life, led to its being chosen for a memorial on graves. Even the phlegmatic Chinese have, from a date unrecorded, followed this custom of western lands, and during the Middle Ages a Rose bud, having its stem broken, was often sculptured upon the tombs of the young.

The Wars of the Roses have given this flower a notable place in English history, after it was adopted as a badge by two great factions or parties, and upon their becoming united the Rose was henceforth our national emblem. It is likely that the particular white Rose chosen by the Yorkists was the trailing Dog Rose of the north (*Rosa arvensis*), and the original Lancastrian Rose appears to have been the French species, *R. Gallica*. To the Yorkist his Rose was significant of the purity and justice of his cause, but the Lancastrian retorted that its paleness indicated the cowardice of his enemy, while his own red Rose showed that he was prepared to give his blood for the side he supported. Not only is the Rose England's emblem, it is exhibited also in the collar of St. Patrick's Order, which is composed of harps and Roses linked by knots. This flower figures, too, upon the crests of many families, and in the eighteenth century a white Rose was again taken as a party badge, being displayed by the Jacobites upon the birthday of their James III. One of the fancies of the olden times was that if a Rose fell to pieces suddenly in the hand of a person holding it, this indicated the approach of some misfortune.

We sometimes read of houses or lands held by the nominal rent of a peppercorn, and another object that formerly served the same purpose was a red Rose, this floral tribute generally had to be paid on St. John's or Midsummer Day. Probably a failure to present it rendered the estate liable to a fine. Some forms of matrimonial divination were connected with the Rose. In one the experimenter had to walk backwards into a garden at midnight on

Midsummer eve to gather a flower. This was carefully kept till Christmas, when the future spouse was expected to appear and claim it. Various, and occasionally odd, have been the meanings assigned to different Roses, some of them trivial or foolish, but, speaking generally, they associate the flower with love or beauty. Tea Roses are significant of "floral loveliness," the Burgundy Rose is of "unconscious beauty," the China Rose of "grace," the Sweetbriar of "sympathy," the Maiden's Blush "love will be found out," the Cabbage is an "ambassador of love." A Rose of deep red tells of shame or bashfulness, one that is yellow of jealousy, the white of maiden purity. There is a legend which makes the Moss Rose superior to all the others, for it states that when Venus asked her son how her favourite flower could be improved, he threw over it some moss.—J. R. S. C.



EVENTS OF THE WEEK.—As mentioned in another paragraph, the Committees of the Royal Horticultural Society will meet at the Drill Hall, James Street, Westminster, on Tuesday, the 9th inst. On the evening of the same day the annual dinner of the United Horticultural Benefit and Provident Society will be held at the Cannon Street Hotel, London, Arnold Moss, Esq., in the chair. An exhibition of Chrysanthemums will open under the auspices of the National Chrysanthemum Society at the Royal Aquarium, Westminster, on the 10th inst., continuing the two following days.

— **THE WEATHER IN LONDON.**—Since publishing our last issue fine dry weather has prevailed in the metropolis, the wind being rather cold on some days. Slight frosts, too, have been experienced, but they do not appear to have affected vegetation. Hardy flowers are abundant in many gardens, and make a charming display where extensively grown.

— **ROYAL HORTICULTURAL SOCIETY.**—The next meeting of the Royal Horticultural Society will be held in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday, October 9th, when a large display of fruits and flowers is anticipated. At three o'clock Mr. E. H. Woodall, F.R.H.S., of Scarborough, will deliver a lecture on "How to Popularise Orchid Growing."

— **THE NEW LORD MAYOR.**—An amusing message relating to the election of Lord Mayor in the London Guildhall, on Tuesday last, may be worth recording. It was received by me from a person interested, in these terms—"Be sure to vote for Sir Joshua Reynolds." As the famous Sir Joshua has been dead about a hundred years, I voted for Sir Joseph Renals, who is very much alive and headed the poll. He belongs to the Fruiterer's Company.—A LIVERYMAN.

— **NATIONAL AMATEUR GARDENERS' ASSOCIATION.**—At a meeting of this Association, held on Tuesday last at the Memorial Hall, Farringdon Street, E.C., Mr. H. Shoesmith read an excellent paper on "Hyacinths, Tulips, and other Spring Flowers." Mr. T. W. Sanders presided, and there was a large attendance of members, many of whom brought cut flowers, plants, fruit, or vegetables for exhibiting. The produce, on the whole, was of excellent quality, and made a fine display, the collections of hardy flowers and vegetables being particularly good. Mr. D. B. Crane, 4, Woodview Terrace, Archway Road, Highgate, is the Honorary Secretary.

— **FROGMORE SELECTED TOMATO.**—If Mr. Owen Thomas furnished a surprise early in the summer when he sent up from Frogmore such a selection of this Tomato, showing that it was a very early variety, certainly the collection of fruits sent to the last meeting of the Royal Horticultural Society was not less so. I do not think anyone else could have shown such a fine selection of well-ripened fruits from an open wall—not single fruits, but great clusters. I asked Mr. Thomas when these plants—for there were plants as well as fruits shown—were put out, and he said, "Fortunately just after the May frosts. My foreman purposed doing so earlier, but I advised delay, and thus saved the plants from probable destruction." When put out they were about 14 inches in height. Well, it is of very little use to put small plants outdoors. As to plants trained to stakes, I fear this season they will be a general failure.—A. D.

— **IN THE DAMSON COUNTRY.**—A correction is needed in my notes on page 288 last week. Instead of 60 tons of Damsons being sent from Cheddington in a season, that weight of fruit is not infrequently sent in a week.—W. I.

— **MAKING A SCREEN OF FERNS.**—I have for several years been collecting and preserving fronds of choice exotic Ferns. I have a wish to make a screen of them, and am at a loss to know what material to use for placing the fronds. Will some reader of the Journal kindly inform me, and also state if common gum should be used, or paste? Some gardeners have attractive screens in their homes.—H. T. M.

— **HYDRANGEA HORTENSIS IN THE SHRUBBERY.**—At the present time this Hydrangea is a conspicuous object in the front of the shrubbery, where it is in full blossom, its rosy pink flower trusses rendering that part of the garden especially attractive. When the plants become too large to be grown in pots we transfer them to the shrubbery, where they are allowed to grow away at will, and if a sunny spot is chosen a full crop of flower heads are produced annually. It matters not what kind of soil is employed, but that which is strong and retentive of moisture seems to suit this Hydrangea best.—E. M.

— **DISTRIBUTION OF PLANTS.**—The Commissioners of Her Majesty's Works and Public Buildings intend to distribute among the working classes and the poor inhabitants of London the surplus bedding out plants in Hyde and the Regent's Park and in the pleasure gardens, Hampton Court. If the clergy, school committees, and others interested will make application to the Superintendent of the Park nearest to their respective parishes, or to the Superintendent of Hampton Court Gardens, they will receive early intimation of the number of plants that can be allotted to each applicant, and of the time and manner of their distribution. Any costs of carriage must be borne by the recipients.

— **POTATO DISEASES.**—Whilst we may well charge on a cold, wet summer the infliction of various diseases upon the Potato, a native of a warm, indeed almost hot, climate, we may not forget that it is likely more of liability to disease attacks has resulted from the effects of the May frosts, so disastrous to breadths everywhere, than even to the cold summer weather. No doubt generally Potato growth was not only exceedingly weakened, but was fully a month late, because of the severe cutting down experienced in May last. I should not be at all surprised to learn that of the few sorts of seedling Potatoes which recently gave such wonderful crops at Chiswick were such late growers that they escaped the frosts. Certainly the robust nature of their tops justified that conclusion. Another season it will be universally well to plant some two or three weeks later than was the case this year.—A. D.

— **WASHINGTONIA FILIFERA.**—Readers of the "Garden and Forest" are informed that this plant appears to be well established on the Riviera, where it is as abundantly represented as any other Palm. In one garden—namely, that of Monsieur de Falbe—in Cannes there are no less than seventy-six large specimens of it, some of them having trunks 18 feet high and over 3 feet in diameter. In another garden in Cannes a specimen of this Palm flowered last year. Seeing that it was not introduced into Europe until 1875, its abundance and the large size of many of the specimens on the Riviera are remarkable. In countries where the Washingtonia requires the protection of a glass house it is almost equally happy. At any rate, in a greenhouse at Herrenhausen, near Hanover, Herr Wendland has several grand examples, and there are also some healthy fast-growing specimens of it planted out in the temperate house at Kew.

— **PLANTS FOR GROWING UNDER TREES.**—We stand greatly in need of variety in plants and shrubs capable of being grown under the shade and drip of some of our larger trees. Trailing Ivies, Periwinkles, Aucubas, Privet, and a few other plants are amongst the best known for such purposes, but one of the very best is the green tree Ivy, which when once established seems to bear ill usage with impunity. Having to plant a border in the midst of which stood a large Horse Chestnut tree, the branches of which cast their shadows over it, I was somewhat puzzled as to the most suitable shrubs to put in. The tree Ivy was recommended for trial. The plants were lifted in May of last year, planted in the border, where for the greater part of the season they were kept alive by the aid of the hose pipe. They stood the winter well, a slight pinching into shape the last week in April of this year being all their requirements. Now they look healthy and vigorous, forming as they do handsome bushes some 2 feet high. For planting in smoky or shady positions I should think—from inquiries made from several friends—that it would almost stand unrivalled.—R. P. R.

— DR. A. ZIMMERMANN, we learn from "Nature," has been appointed Extraordinary Professor of Botany at the University of Tübingen; and Dr. Solereder Curator of the Botanical Institute at Munich.

— GARDENING IN INDIA.—Floriculture, says an Indian contemporary, is a pursuit for which a class of educated Bengalis appear to have taken a special liking. The nurseries in and about Calcutta are growing in number, and some of them show every sign of prosperity. The proprietors of some of these establishments are men of enterprise, and evince energy and pluck not common in the average Bengali.

— SPIRÆA ASTILBOIDES.—"E. M." says, "Not only is this Spiræa one of the best for pot culture, but it is an excellent plant for the herbaceous borders, being quite hardy. Its long, pure white, freely branched spikes of bloom are freely produced, and have a much less stiff appearance than the well-known *S. japonica*. The foliage, too, is attractive, having in its young state quite a coppery hue."

— ARGEMONE GRANDIFLORA.—This is a noble annual not much known, and is growing in Messrs. Barr & Son's hardy plant grounds at Long Ditton. The plant resembles a strong Thistle, having at the point of the branches large white Poppy-like flowers, single, with bright yellow clusters of anthers surrounding the black style. This should make a capital plant for mixed borders. It has a height of about 30 inches. The perennial Thistles are here in great numbers. *Eryngium planum* is wonderfully fine, giving cutting material for a long season. *E. alpinum* has the most beautifully fashioned bracts and calyx, and *E. Oliverianum* the bluest stems.—A. D.

— RHODODENDRON FORDI.—According to a correspondent in the "Garden and Forest" this is a new species from Lantau Island, Kwangtung, China, having been discovered and introduced by Mr. Ford, the Superintendent of the Botanic Garden, Hong Kong, after whom it was named, and described in the "Kew Bulletin" by Mr. Hemsley in January last. It is related to *R. Fortunei*, and has dark green leathery obovate leaves, 3 inches long, clothing woody branches, which are terminated by loose clusters of five-lobed ten-stamened flowers 2 inches across. It is likely to prove hardy, and promises to be a useful addition to the Chinese representatives of this genus in cultivation.

— WATER LILY POOLS.—Since writing the notes on Water Lilies which appeared on page 264, Mr. Robinson Douglas has very kindly written me and given some further information regarding the construction of his Water Lily pools. On referring to some notes, Mr. Douglas finds that the concrete was about 5 inches thick, except where it was against rock. The proportion was about five parts gravel and sand to one of cement, and the wash which was put upon this when dry was composed of about equal parts of Portland cement and fine sand. The ledge or shelf on which to rest the rocks to conceal the cement was about 9 inches below the surface, but 12 inches would be better in order to make the pools more natural looking.—S. ARNOTT.

— THE LILY DISEASE.—As a fellow sufferer I can sympathise with Mr. H. R. Richards (page 295) in his disappointments with Lilies this year. For the first time in the last ten years *L. chalcedonicum* and *L. testaceum* have been attacked by this disease. *L. Szovitzianum* was the first to show it this season, and although it flowered, as did all the others affected, the blooms were soon attacked and lasted only a short time. Those of the umbellatum section suffered very little, while *L. speciosum* Krætzneri was worse attacked than the other varieties of *speciosum*. Of course *candidum*, never satisfactory with me, fared worse than the others. I do not pretend to be able to account for this attack, which is all the more incomprehensible as in many other gardens *L. candidum* seems the only sufferer.—S. ARNOTT, *Dumfries, N.B.*

— LIME AS A TOP-DRESSING FOR FERNS.—Writing in a transatlantic paper a correspondent says:—"I had a peculiar experience this spring in the use of lime. Two benches of Ferns planted out for cutting became infested with a black fungous growth which threatened the destruction of every plant; we scratched it off, but it grew again, and the plants became smaller, when it occurred to us to use air-slacked lime as a top-dressing. I was sure it would kill the fungus, and did not know but it would kill the Ferns too; but we tried it, a good covering, over crowns and all, and strange to say that while it did not kill the parasite, only checking it, it started the Ferns into active growth, and since then we have picked in large quantities, the longest and finest *Adiantums* I have ever seen grown on a bench. It is hardly necessary to say I shall not be afraid to use lime on Ferns in the future."

— THE ARNOLD ARBORETUM.—We learn from an American contemporary that the Arnold Arboretum has acquired an additional tract of land 75 acres in extent, formerly known as Whitney Hill.

— EUCHARIS AMAZONICA.—I was pleased to see the article on the above by "G. H." (page 268) in a recent issue. I am of the same opinion in respect of non-resting the above plant. In fact I believe that nothing causes the bulbs to be attacked by the mite so quickly as the drying process they are subjected to by some growers. I do not think bottom heat is essential to them, for I once had charge of a collection in an ordinary stove that did not receive any, though they were given similar treatment in other respects as "G. H." describes. The robustness of their growth, and also the profusion of flower spikes thrown up, proves that the treatment they received suited them.—G. HAGON.

— THE WEATHER IN WALES.—Mr. W. Mabbott, The Gardens, Gwernllwyn House, Dowlais, Glam., S. Wales, writes:—"The following is a summary of the weather here for the past month:—Number of days on which rain fell, ten; total depth, 2.15 inches; maximum, 0.54, on the 7th; minimum 0.01, on the 16th; sunless days, 6; number of hours sunshine, 123. The wind was in the east for twenty-three days. A much better month than the two preceding months, and with more sunshine. There has been sharp frosts on the mornings of the past week."

— THE TOTAL RAINFALL AT ABBOTS LEIGH, HAYWARDS HEATH, SUSSEX, for September was 3.08 inches, being 0.05 inch below the average. The heaviest fall was 0.88 inch, on 22nd. Rain fell on fifteen days. Total rainfall for the nine months 23.75 inches, which is 3.48 inches above the average. The maximum temperature was 71°, on the 1st; the minimum 34°, on the 28th. Mean maximum, 62°; mean minimum, 46.23°; mean temperature, 54.11—1.04° below the average. A more favourable month, cool northern winds prevailing and showery days less frequent. At the close of the month the barometer is high and steady. Slight frosts on grass on the mornings of 28th and 29th, but nothing injured.—R. I.

— THE WEATHER IN SEPTEMBER AT CORONA, BROUGHTY FERRY.—The past month may be considered a record month for dryness, only 0.15 inch being recorded, whereas the average rainfall for September for the last twenty years is 2.48 inches; in fact, it has been the driest of any month during the last twenty years with the exception of February, 1891, when only 0.07 fell. Another remarkable feature is the mean temperature has been the lowest for the past twenty years, being 50.6°, whereas the mean of the last twenty years is 54.1°, showing 3½° under the average. Yet the thermometer on the grass on two nights only went down to and under freezing point. In September last year it went down to and under freezing point on seven nights. The direction of the wind for the month, with the exception of short intervals, has been from north or from points from north-east to north-west. Never since I can remember have I seen outside flowers in such great profusion than they have been throughout the past month. Sweet Peas, for instance, are 9 feet in height in full bloom from top to bottom at this late date; and the fine shades of colour of some of the newer kinds show up splendidly in the dull autumn light.—JOHN MACHAR.

— DULWICH PARK.—This park, which is always very beautiful and interesting with its splendidly kept lawns, borders, flower beds, walks, and carriage drives, is especially attractive just now. There will be found in the upper portion of the park near the American garden, upwards of 3000 Dahlias in full flower. These include the best of the Pompon and Cactus varieties, and form indeed a grand sight. There is also a fine collection of Michaelmas Daisies, and these are now coming in bloom. The rock and other alpine plants, which are a special feature during the spring and early summer, are still worth seeing. The different tints of green and purple among the masses of *Saxifraga*, *Thymus*, and *Sempervivums* are charming. Among the rockwork may be seen doing well *Primula obconica*, and *P. cortusoides* is grown here very successfully. The *Rhododendrons* and all other hardy trees and shrubs, both deciduous and evergreen, have made extraordinary growth this season. This may be accounted for by the perfect ripening of the wood during the hot sunshine of last year. There is no *Chrysanthemum* house as yet, but about 1000 plants have been grown which will be shown in a temporary structure. It is hoped that before another autumn a suitable conservatory may be built, which will be in keeping with this excellent park, which is a credit to the able Superintendent, Mr. W. Bailey.—HORTUS.

— THE CLIMBING CANADIAN WONDER BEANS.—Seeing that the Fruit Committee of the Royal Horticultural Society has voted a first-class certificate to Veitch's Climbing French Bean, and the hatchet of discord over its quality or otherwise with another Bean has been buried, Mr. Dunkin's contribution (page 294) to the controversy is out of date. When I wrote that I had seen both these Canadian Wonders growing side by side, and could see in them no difference, I spoke the truth, and have yet to be shown that in this instance I was wrong. I am no partisan and do not care to grant certificates for other than most satisfactory reasons. I prefer to be honest and impartial in my judgment, and wish to proceed slowly and with assurance, rather than to make mistakes. We are promised a trial of both sorts at Chiswick next year, and till then no more need be said.—A. D.

— THE GERMINATION OF SEEDS.—A controversy has been going on in the daily Press anent the germination of supposed "Mummy" Wheat and other seeds, and in reference thereto Mr. Percy E. Newberry writes:—"A correspondent in 'The Standard' refers to a series of experiments made in 1888 with the 'Mummy' Wheat discovered by Professor Flinders Petrie in the cemetery of Hawara, in Middle Egypt. It may interest your readers to know that besides this 'Mummy' Wheat, I set seeds and fruit of no less than thirty other species of plants (including the *Nelumbium speciosum*, the Peach, Almond, Cherry, Castor-oil, Peas, Beans, Lentils, Pomegranates, Acacia, Melon, Olive, Date-palm, and Poppy) found by Professor Petrie at Hawara. In every instance they were set in as favourable situations as possible, but not a single seed germinated. In the winter of 1890-1 I myself discovered three Peach stones (probably of Roman date) in a tomb at Beni Hasan, in Upper Egypt. Two of these I planted in the corner of an Arab's garden at Abû Gergâs, but when I last visited the spot in 1893, the two stones had quite rotted away."

— AMERICAN ALOES FLOWERING.—Referring to two plants flowering in the Botanical Gardens, Regent's Park, Mr. John Mowlem Burt, Purbeck House, Swanage, Dorset, writes to the "Times" as follows:—"Some of your readers may, perhaps, be interested to know that there are at present two plants in flower here. The flower spike began to shoot in the middle of April, and they attained their present heights respectively of 16 feet and 17 feet at the beginning of August. The blossoms did not burst out until the beginning of September, and now show signs of dying away. There are twenty-one bunches of blossom on each plant. The Secretary of the Botanic Society says that specimens grown in tubs in greenhouses in cool climates have been known to live over 100 years without flowering, others grown in warm countries often flower at the early age of fifteen; therefore the plant, to a certain extent, may be considered as a good indicator of climate. The plants in Regent's Park are not over fifty years old, and, I believe, are kept in greenhouses excepting for about two months in the year. Ours are thirty-five years old, and were brought by myself from Guernsey with four others when they were quite little plants a few inches high. They have always been in large iron tubs in the garden, and only temporarily cased round with glass for four months in the worst part of the year. We therefore think this says something for the climate of Swanage."

— TIPULA OLERACEA.—Mr. J. B. Riding, *Chingford*, writes:—"In this particular district we are literally swarmed with the well-known daddy longlegs, a fact that causes me no small amount of alarm. I should like to hear, through the pages of the *Journal of Horticulture*, whether any of your entomological readers have noticed its undue prevalence this autumn. We are told in moist damp seasons we may expect a stronger attack, whilst, when the other extreme condition of affairs exists, we should be practically free from its ravages. Yet we must all admit last season was exceptionally dry, and consequently we were led to suppose we should experience very little trouble the following year with the leather jacket grub. This has not turned out to be the case, for I never remember seeing the grub in such large numbers, neither has it proved so troublesome before. Some crops were nearly destroyed by its ravages. If we have such a bad attack after a dry season what are we to expect after an ideal autumn for its propagation? It seems to me one of the worst insect pests we have to deal with. No doubt in many soils the evil can be obviated to a certain extent by deep digging, but in my particular case I cannot indulge in very deep cultivation, for the second spit is composed of solid clay. I intend dressing the ground with gas lime as soon as the crops are off, but I am afraid I shall not eradicate the insects thoroughly by this method, for no doubt the surrounding land will be full of them. Perhaps some reader may be able to record his experience in successfully dealing with this pest."

— ARE TOMATOES FRUITS?—This question has often been put, and from a purely garden aspect been answered in the negative, they having so far always been classed as vegetables. The Royal Horticultural Society, however, has now taken a new departure, and distinctly recognised Tomatoes as fruits. In the schedule of the Great National fruit show at the Crystal Palace were three classes specially for Tomatoes. That is full recognition of the status of Tomatoes as fruits, for nothing else absolutely outside of recognised fruits has any such recognition. The matter opens up a serious question. If the R.H.S. thus classify Tomatoes as fruits can they refuse to admit them into collections of fruits, or would judges be instructed to disqualify? The question requires an authoritative reply.—A. D.

— SHIRLEY AND DISTRICT GARDENERS' AND AMATEURS' IMPROVEMENT ASSOCIATION.—An extra special meeting of the above Society was held at the Philharmonic Hall, Southampton, on the 1st inst. with the view of extending the Society's operations by holding fortnightly meetings during the winter months. Mr. E. Molyneux of Swanmore Park Gardens, gave a lecture to a large audience on "Fruit Trees for Walls and Espaliers," giving valuable hints on the proper method of pruning and training, insects, canker, root-pruning, and the best varieties to plant in various aspects. There was a fine show of hardy fruit exhibited by Mrs. Day (gardener, Mr. J. Jones, 261 dishes); Mr. W. Perkins, J.P., Portswood (gardener, Mr. J. Miles, forty-three dishes); Colonel W. S. Sinkins, Aldernoor (gardener, Mr. J. E. Wilcox, eighteen dishes); Mr. A. Barlow, Shirley (gardener, Mr. J. Soffee, two dishes Pears); Mr. Austin Smith, Shirley (gardener, Mr. H. Wright, three dishes Pears); and a fine collection of hardy flowers from the nurseries of Mr. B. Ladhams, F.R.H.S. Certificates of merit were awarded to Mr. J. Jones, Mr. J. Miles, and Mr. J. Soffee; and Mr. J. E. Wilcox's exhibit was highly commended. Votes of thanks to the lecturer and the exhibitors closed the meeting.

— TRANSPLANTING EVERGREENS.—Writing to the "Country Gentleman" recently, Mr. Meehan said that he prefers to transplant most coniferous evergreens in August and September. Of course, evaporation from the leaves will be quite as rapid then as at any other season, but new root-fibres will form in the warm soil much more rapidly than at any other time. The soil in the summer resembles that in a propagating bed, and trees and shrubs should be treated just as cuttings are. They should be shaded, if possible, and the roots must be kept moist. The holes for the trees are dug to the proper depth, and good earth is put in places where the soil is poor. Fine earth is filled in about the roots and pounded to make it solid, but the roots are never bruised. When the holes are half filled several buckets of water are poured in, until the soil becomes mushy. After the water has soaked away more soil is filled in, but the hole is not completely filled. The next day the roots are thoroughly soaked again; on the third day the filling of the holes is completed, and no more water will be required. The roots will be moist for a week, and by that time new fibres will have put forth. When a good ball of earth is retained about the roots Mr. Meehan has never found it necessary to shade the trees or to sprinkle them, but there is no doubt that shading could be practised with advantage where it is practicable, and syringing the foliage a few times a day would certainly be a benefit.

— DEVON AND EXETER GARDENERS' ASSOCIATION.—The annual meeting of the Devon and Exeter Gardeners' Mutual Improvement Society was held at the Exeter Guildhall on the 26th ult. The Mayor (Alderman E. J. Domville) presided over a good attendance. The report of the Hon. Secretaries (Messrs. A. Hope and T. E. Bartlett) showed a favourable record of work, and of the present position of the Association as regards funds and membership. There was a balance in hand of £28 17s. 9d., and 104 members on the roll. During last season the papers read and discussions thereon had been marked by practical acquaintance and plain dealing with the subjects, which from the first had been one of the characteristics of, and, indeed, the backbone of their Association. The attendance of members throughout the session had been most satisfactory. The Spring Flower show in March—the "new departure," resolved upon in no spirit of rivalry to the exhibitions of the Devon and Exeter Horticultural Society—taken as a whole, and considered as a first effort, might fairly be claimed to have been a great success, and the Committee recommend the holding of a similar display next spring. In reference to the summer outing in July, the heartiest thanks of the Association were due to the Dowager Countess of Morley, Colonel the Hon. C. Seale-Hayne, M.P., and Mr. T. B. Bolitho, M.P., for their kindness and hospitality on the occasion of the Association's visit to their estates. The Committee desired to record the deep and sincere regret felt by all the members at the loss by death of the late

Mr. Horace C Lloyd, one of the Vice-Presidents, who had from the beginning been a warm supporter of the Society.

— THE OLIVE OIL INDUSTRY.—A correspondent writes:—Apropos of the remarks on the above subject (page 248) the following extract may interest your readers:—"The making of oil is by no means such an important industry on the Riviera as it is in Italy, which is by far the greatest Olive-producing country in the world. The Olive harvest in the Southern States of Italy commences in October; but in Tuscany and the north the fruit is still being pressed in April, and even later. For the very best qualities of oil the fruit must all be carefully gathered by hand, but for the rest it is allowed to fall from the trees from over-ripeness, or else is beaten to the ground with long slender sticks. On the hills near Nice and Monte Carlo the peasants first shake the Olives on to the grassy terraces, and then go down on their knees, and with the help of their wives and children pick up the purple berries one by one as fast as their fingers can work. It takes a whole afternoon to clear the ground under a well-laden tree. Now it is obvious that if they were to spread a few sheets on the ground before they began to beat the branches the work of gathering the fruit together would only occupy as much time as it takes to pick up the four corners of a sheet. To obtain the finest oil the fruit must be quite ripe, sound, and freshly gathered. If the Olives cannot be pressed immediately they are laid out on an upper floor, but on no account must they remain for more than twenty hours or so. The fruit, pulp, and stones together is then crushed in a mill, and afterwards the creamy substance is put into a bag of rushes and placed under the oil press. Clear cold water is poured in a steady stream into the presses to hasten the flow of oil, and the golden-green fluid, with a faint, disagreeable odour, is drawn off from time to time and bottled."



NATIONAL ROSE SOCIETY.

I WISH Mr. Grahame would make it more clear whether he is agitating for a reduction of the trophy number to thirty-six or to twenty-four. I entirely agree with "E. M.'s" letter (p. 269), which it may be remembered, was only directed against levelling down below thirty-six.

That subscriptions are unpaid, as described by "D., Deal" (page 250) is no doubt a very undesirable state of things. The best remedy, to my mind, is to use every possible persuasion to induce members to give orders to their bankers to make the payments at the right date every year. I do not consider myself particularly good at paying up, but having once given such an order I cannot help it, and am virtuous in spite of myself.—W. R. RAILLEM.

FASHION IN ROSES.

It can hardly be said in the present day that the motto of horticulturists is "*Vetera extollimus, recentium incuriosi*," as many seem desirous to decry old flowers and to praise new productions. Certainly this fashion seems growing among some Rose growers. Without unduly extolling garden Roses at the expense of those flowers which are absolutely essential for exhibition, one can fully appreciate many introductions of recent years, and none deserve greater praise than Mr. Turner's Crimson Rambler and M. Guillot's Laurette Messimy. When, however, a great authority on Roses goes out of his way by a public letter to depreciate such flowers as A. K. Williams, Horace Vernet, S. M. Rodocanachi, Nadaillac, Cleopatra, and Souvenir d'Elise in order to appreciate (I think unduly) others of far less value, even as garden Roses, such as Charles Lawson, Ella Gordon, and Ulrich Brunner, I think that we, who are even but minor authorities on the question, should support W. R. Raillem (the most practical and experienced amateur I know) in his protests against this new doctrine in Rose culture.

Not being in the trade I cannot, nor can W. R. Raillem or any amateur, tell what the relative demands of the general public may be for the various kinds of Roses, but I can tell my own experience. Being a member of the largest corporation in the world, I am in touch there with hundreds of amateurs who are interested in flowers. Without exaggeration, I may say I am asked fully a hundred times in the course of the summer and autumn to make out lists of varied numbers of the best Roses, but I am never asked for a list of garden Roses. I am always asked for "the best Roses." These amateurs do not care for single Roses. They can appreciate as fully as any of us who are

exhibitors what a good Rose is, and their ideas of such a flower are far removed from single Roses, or from those Roses which are inferentially relegated to a lower position by the N.R.S. in being classed merely as garden Roses.

There is no Rose which has given greater pleasure and satisfaction than the charming Viscountess Folkestone, which I am surprised to see Mr. Wm. Paul has passed over. It is equal to almost every Rose he mentions and superior to most of them; in fact the only Rose as a general (garden and exhibition) favourite and useful variety which I would place as superior to it is La France, and that incomparable flower Mr. Williamson (page 299) with strange taste, calls inferior to Caroline Testout. I can and do admire Caroline Testout for colour, but as to any of its other qualities being equal or approaching La France I consider simply not worth argument.

W. R. Raillem (page 299) has exposed the absurdity of calling Charles Lawson and Madame Plantier perpetuals, as they bloom once only, but he might have added that the Roses Mr. Wm. Paul somewhat decries, such as A. K. Williams, Horace Vernet, Xavier Olibo, S. M. Rodocanachi, and the Teas Nadaillac and Cleopatra, are amongst the most useful varieties both for exhibition and as Roses for cut flowers. S. M. Rodocanachi has been even unusually fine this autumn both in colour and abundance of bloom, and A. K. Williams is always one of the very best autumnals in floriferousness. I hope the day may long be distant when the best Roses, those truly which we alone use for exhibition, will be discarded even in part for so-called garden Roses, and as far as my knowledge goes that day is still remote.—CHARLES J. GRAHAME.

THE PROPOSED NATIONAL VEGETABLE EXHIBITION.

A WELL-ATTENDED meeting of persons interested in vegetable culture was held, by kind permission of the directors, in the Board Room of the Crystal Palace on Saturday afternoon last for the purpose of considering the advisability of organising a great national vegetable exhibition. Mr. Henry Balderson, F.R.H.S., was voted to the chair, and, after a few preliminary remarks, he called upon Mr. A. Dean, the convener, to state his reasons for calling the meeting.

Mr. Dean said that in the country great regret had been expressed that the old Potato shows formerly held at the Crystal Palace with so much *éclat* had collapsed, and it was much desired that an effort should be made to revive them. Being now quite neutral in regard to Potato interest, he had promised to promote that effort, and to organise Potato shows only was the original idea. However, as the proposition became known, a strong feeling was expressed in favour of the embodiment with Potatoes of other garden vegetables, and hence it had been thought desirable to make the original proposal more comprehensive. They found that the Royal Horticultural Society did at the Temple show and at its ordinary meetings offer flowers every possible encouragement, and they had that day seen fruit also widely and generously supported. No such fortune had ever come to vegetables, indeed at every show almost in the kingdom they had to take a back seat, coming in at the tail end of a schedule. In many places indeed not a prize would be offered for vegetables but for the liberality of the seed trade. That was not right, for whilst every gardener knew that to be without vegetables for a week would entail his dismissal, these products were the most reliable and profitable elements of the market trade, being always with us and always in season. They were always reliable, and in great demand as most important and healthful food products. In allotments, too, vegetables were invariably the most important produce, whilst they constituted literally the backbone of the garden seed trade. As exhibition elements they were nearly always singularly attractive, very varied, and replete with exceeding interest. Apart from the attendance there that day not only had many letters from all directions been received, but large numbers of persons interested in the object of the meeting had expressed the warmest sympathy, and would have attended but for having to leave early. To hold a really grand show of vegetables would give to their wider culture great impetus and encouragement.

Considerable discussion followed, and eventually a resolution expressive of a desire to hold a grand exhibition of Potatoes and other vegetables at the Crystal Palace next autumn was unanimously adopted. So also was a farther one in favour of the formation of a general Committee of a widely representative nature, and also an executive Committee. Still farther, yet another descriptive of the nature of the governing body, which should include representatives of the seed trade, market trade, gardeners, amateurs, allotment holders, and the horticultural press; also the members of the executive Committee.

Mr. Dean then read a list of seventy names of persons all over the kingdom proposed as members of the general Committee, and it was adopted, with instructions to the secretary to send each of these gentlemen a circular inviting them to consent to serve, and give the proposed exhibition every possible support. A small provisional Committee was appointed, comprising Messrs. R. Dean, G. Gordon, J. Hudson, J. Wright, B. Wynne, and G. Wythes, with Mr. Balderson as Treasurer, and Mr. A. Dean as Secretary *pro tem.*, to carry out preliminary arrangements, and meet on October 23rd next.



SOPHRO-CATTLEYA EXIMIA.

THE accompanying illustration (fig. 48) represents a plant of *Sophro-Cattleya eximia*, one of the most beautiful dwarf-habited Orchids in cultivation. It is the result of a cross between *Sophranites grandiflora* and *Cattleya Bowringiana*, the latter said to be the seed bearing parent. This acquisition was raised by Messrs. J. Veitch & Sons, Royal Exotic Nurseries, Chelsea, and exhibited at Chiswick Gardens on the 25th ult., when a first-class certificate was awarded for it by the Orchid Committee of the Royal Horticultural Society. The sepals and petals are bright purplish rose, the lip being darker, and pale yellow in the throat.

CULTURAL NOTES ON ORCHIDS.

EVERY opportunity should be taken of exposing the growths of *Dendrobiums*, *Cattleyas*, and others to the now declining rays of the sun. When these species are grouped in a house together this is easily managed by drawing up the blinds earlier in the afternoon, but with a house full of miscellaneous plants it is not always possible to do this. Much may be done, however, by a careful arrangement of the plants and a similar judicious manipulation of the shading.

The larger growing *Aërides*, *Saccolabiums*, *Angræcums*, and similar Orchids require a high temperature now, with abundance of atmospheric moisture. The roots must not be stinted either, as they are at this season very active. It is important that these are carefully watched during the next month or so, and water applied judiciously. As the plants go to rest the green tips gradually cloud over until they are white to the point, when watering will seldom be found necessary, the little atmospheric moisture being nearly sufficient for the wants of the plants. *Catasetums* will require less water as the leaves lose their colour, and may with advantage be placed in a cooler temperature, the front stage of a vinery being a suitable position for the plants.

In watering *Cattleyas* at this season care is necessary, and the wants of each plant must be separately considered in this respect. *C. Dowiana*, *C. Gaskelliana*, and *C. gigas* as they go out of bloom require much less than *C. labiata vera*, *C. bicolor*, *C. Bowringiana*, and others advancing for flower. The grower must be guided by the appearance of the roots and the state of growth, taking every precaution that the former named species are not unduly excited so as to cause them to break into growth. If *C. superba* is placed in a drier atmosphere while in bloom, it will not often start out of season, but less water will of course be needed when the plants are returned to the warm house.

Dendrobiums vary greatly in their time of going to rest. *D. Dalhousianum*, *D. moschatum*, *D. nobile*, *D. Wardianum*, and others are still growing freely, while *D. Bensoniæ*, *D. heterocarpum*, and many of the evergreen kinds have completed their growth. The former species require to be kept in a brisk heat, closing early, with abundance of moisture in order to encourage them to finish up their growth with as little delay as possible. The latter are best in a cooler, more airy structure, or even outside in a sheltered sunny position, which is imperative if flowers are to be obtained from *D. speciosum* and its var. *Hillsi*. Several *Bletias*, *Anguloas*, *Stanhopeas*, and others are also benefited by a few weeks exposure to the air after their growth is completed.

Lælia superbiens is now producing its spikes, and must be encouraged. A little cotton wool twisted around the base of the

spikes will protect them from slugs, these insects being very partial to them, and frequently doing much mischief. This fine *Lælia* is rather straggling in habit, and well furnished specimens are not usually seen, all the strength of the plants being appropriated by the leading growths. When the spikes can be seen in the apex of the young growth, the rhizome may be notched nearly half way through between the second and third pseudo-bulbs. This will cause the latent eyes to plump up, and ultimately to break; thereby greatly improving the appearance of the plants. This operation is frequently performed in the spring, but better results are attained by doing it now, as more seasonable growths will be produced.—H. R. R.

RIPENED WOOD.

"SCEPTIC's" (page 291) reply to my request for sound reasons in support of his position is an extraordinary jumble of inconsistencies. In the first place he is the aggressive party, attempting to demolish an established principle, yet with that contumely born of his own superior discernment he shifts the onus of proof from himself to those who, according to his estimate of their intelligence, are the slaves of a superstition. It is evident that whatever these "faddists" may advance in argument against "Sceptic's"



FIG. 48.—SOPHRO-CATTLEYA EXIMIA.

views would be treated by him as "meaningless nonsense," and nothing short of practical proof by ocular demonstration will satisfy him. But let us examine a few of his own attempts at showing practical proofs by logical argument.

In the first place he repudiates all knowledge of the cultivation of exotics carried on in out of the way places of these islands. He then proceeds to base an argument on—what? Something which, on his own confession, he is apparently ignorant of, and instead of the practical proof which he is so anxious to claim from others, he makes a leap in the dark by guessing that the failure of the 1880 vintage was probably not due to unripened wood, but to other causes, which when summed up means neither more nor less that we need not trouble about the ripening weather during the summer if the Tay Bridge does not blow away in the winter.

Again, after accepting Mr. Pettigrew's return of the rainfall of the year 1879 at 44 inches, he quotes the Greenwich return for the same year at 31.36, for no other apparent reason than to show that a trifling difference (?) of 12.64 inches more rain at Cardiff than was recorded at Greenwich was of no importance, influencing the crop of Grapes the following season 1880. If Vines had been grown under similar treatment at both places he might have derived some significance one way or the other from quoting the returns from both places.

"Sceptic" then goes on to make an incomplete comparison between the rainfall of 1893 and that of the present year, giving the

aggregate rainfall as a sum total for each year, followed by a detailed tabulated statement to prove that, notwithstanding 286 hours less sunshine this year than last, there is such a thing as "ripe wood," despite all his strong statements to the contrary both previously and after.

"Sceptic's" amusement at the term "solar influences" is as consistent as all the rest of his logic. He prefers the vague term "sunshine," which to himself can mean nothing, since he labours so diligently to prove that wood ripens as early without sunshine as with it. Although he may call it "meaningless vapourisation," allow me to state that to the faddist sunshine is the one special factor in natural forces essential to vegetable vitality, and its action is seen through the whole realm of plant life by those who can grasp the true significance of the term "ripened wood" in its relation to the processes of flowering as leading up to the fruit-bearing period. At the proper time, when "Sceptic" gives us sound reasons for his scepticism, he can be abundantly furnished with reasons bearing on the above point, but at present when he writes about the wood being "hard" and "firm" it is evident that ripened wood is to him a concrete term only, and any attempt to convince to the contrary at this stage of his education would be time wasted. As he has such an antipathy to "wordy generalities," will he kindly explain what he means by wood being both "hard" and "firm?"

"Sceptic's" axiom on keeping my pruning knife sharp is the best part of his homily to myself, but the wonder of all the other wonders is that it must be a scientific knife and be used intelligently, but since "Sceptic" has disposed of the necessity of sunshine, he will also inform us where the scientific pruning comes in?—AZOTO.

[We have received another article on this subject from "Sceptic," but which arrived too late for insertion in the present issue.]

HARDY BAMBOOS.

THESE unique and beautiful plants are at present being largely employed in the embellishment of flower gardens and pleasure grounds, and now that their claim to be considered hardy has been thoroughly established they will doubtless in the future play a still more important part in the ornamentation of gardens generally. This they deserve to do, for when well established they create a distinct feature, and impart quite a tropical appearance to many an otherwise unattractive spot. Although the varieties which I shall presently enumerate may with safety be regarded as hardy in England, they should, if possible, be planted in sheltered positions, where they grow much more freely, and are less liable to disfigurement by the cold east winds of springtime. Several varieties seem to be able to bear from 20° to 30° of frost with impunity, but the edges of the leaves become browned when exposed to cutting winds.

Bamboos are especially adapted for planting among rockwork, as they are in character with the many species and varieties of plants now employed for the same purpose. They should not be used too freely, or the effect is spoilt after they have made good growth for a few seasons, as although they grow very slowly for the first year or two, when once well established they annually send up many strong suckers, which would quickly overgrow the other occupants of the rockwork. If, however, plants of the taller growing varieties are dotted about in prominent positions here and there, so as to have room to develop into fine specimens, and have room to display their beauty, a striking effect is produced. *Bambusa aurea* is a useful variety for this purpose. It reaches a height of from 6 to 10 feet, is of elegant habit, its long slender stems being freely branched from base to summit. The stems are of a yellow hue, and the leaves light green. *B. nigra* somewhat resembles it in habit of growth, except that it is not so freely branched; the stems are black and the leaves deep green. Both varieties are well adapted for the purpose above named. *B. Simoni* is another excellent kind, which should be in every collection, as it grows quickly, attains a height of 10 feet, and the leaves are occasionally streaked with white.

Among the dwarfer-growing kinds *B. gracilis* is, I think, the most handsome and useful, as the stems from base to summit are freely branched with arching shoots covered with narrow light green leaves. It reaches a height of 4 or 5 feet, and makes even shapely specimens. *B. Metake* grows to about the same height, has long deep green leaves, and is of compact habit of growth. *B. Fortunei* and its variegated form are both of dwarf habit, and leaves of a bolder type than the majority of *Bambusas*. There are several other varieties which I think will prove hardy enough to withstand the frosts of English winters if planted in sheltered positions. Two of the best of these are *B. Arundinacea* and *B. nana*. The latter will be especially welcomed for planting on rockwork if it should prove hardy, as its long stems with arching tufts of leaves at the extremities require to be planted in elevated positions to display their beauty to the best advantage.

Masses or single specimens of Bamboos when planted on the banks of streams or lakes are effective and in character with the surroundings. They thrive well in such positions, too, as they are moisture-loving plants. When once established they need but little attention, and yearly improve in attractiveness. They are also well adapted for pot culture, and when thus grown they may be frequently turned to good account for house decoration of various descriptions. When not wanted for that purpose they are always useful for arranging in greenhouses or conservatories.

Propagation is easily effected by division of plants in spring just as growth commences, all the varieties being amenable to this treatment, but some may also be rapidly increased in the following way:—The plants send out long "fleshy" roots in all directions. At a foot or more from the parent plant these roots send up suckers, sometimes two or three in a clump. These generally make good growth during the summer. By the time this growth is completed the fleshy root runners, which connect them with the parent plant, should be cut asunder. The plants may then be either lifted and placed in pots a few weeks later, or left till the spring to be then transplanted to nursery beds, or where required.—H. DUNKIN.

LANGLEY REVISITED.

A GREAT deal happens in ten or twelve years in the horticultural world, and much has certainly happened in connection with the branch nursery of Messrs. James Veitch & Sons, near Slough, since the writer saw what there was of it some time early in the "eighties." Then it was like a young plant just established—small, yet thrifty. Now it is as if the plant had grown into a vigorous tree, with its branches spreading far and wide. Then a small holding, so to say, but the land of the best, with a commodious and prettily situated tenement. Now a large "farm" of thereabouts 100 acres, the tenement a mansionette, with a charming pleasure ground frontage, and several villa-like houses erected here and there on the property. The former, and older, building is the residence of the Manager of the nursery, Mr. Scott; the newer buildings the well-appointed abodes of departmental assistants of the firm.

These and a good part of the nursery may be seen on the right side of the Great Western line shortly before Slough is reached, and doubtless millions of passengers have admired the display of spring, summer, and autumn flowers afforded by acres of beds arranged at a right angle with the railway; the long lines and breadths of varied colours have there produced a beautiful effect for some years, heightened by the attendant cleanliness, neatness, and orderly arrangement which always appear to prevail. The flowers are flanked by young fruit trees in serried lines, also visible from the railway, but to see what is to be seen we must detrain at Slough and go behind the flowers. Those who do this and who are interested in observing what is "going on" beyond the brilliant fringe will not be disappointed. They will meet with much in routine work that is excellent, much that is interesting, as well as courteous attention without obtrusive fuss or complacent self-commendation, a marked characteristic of really great and strong firms.

A "harkback" is now necessary in the interest of accuracy, and a fair start for Langley—no, not Langley, for this is where the need of connection arises. What is conversationally called the Langley Nursery is more modestly termed by its proprietors "Middle Green Farm, Slough." It is situated about midway between the Langley and Slough stations, but the best trains run direct to the latter in half an hour from Paddington. The "Farm" is about a mile and a half from Slough, and conveyances can be had there by visitors who do not prefer walking, as is the case with some, including a certain man just now behind a pen. There is no imposing entrance to this farm nursery. It is a busy field of work, and the good this change from agriculture to the present industry has done is apparent on the face of it.

This farm of flowers, fruit trees, Roses, and trials of most things grown in gardens, has been acquired by the purchase from time to time during the last twenty years of a number of small freeholds—it is hoped to the advantage of both purchasers and vendors; it has certainly been of benefit to many others, for it will be safe to assert that where once £10 were spent in wages over the area, at least £100 are spent now, and no doubt a great deal more. It is said that the exigencies of the times will steadily but inevitably lead to the subdivision of large farms into small holdings, and that at no remote period many more of our peasantry than is the case now will become yeomen as of old, with land to till for themselves and not for others. Some optimists see in such change the vision of an arcadia—everybody happy in his abundance of the necessities of life. Doubtless there will be industrious, thrifty men of the future with greater facilities for improving their condition than everywhere exist now; but the millennium of patchwork holdings of which enthusiasts dream, making all men happy, is not yet. Possibly some of the holders might make themselves the *most* happy by selling their plots, as in this Langley case, and thousands of others in the past. Subject to the removal of artificial impediments it is a question of each individual working out his own happiness by his own endeavour, dreamers notwithstanding. That this "Middle Green Farm" of small aggregations has been helpful in the most practical way to numbers of workers is beyond

doubt, and therefore let us see what there is in it in a broad general way, for details would only bewilder.

Entering from the Slough side (or end) we are at once among the fruit trees. There are, to speak in parody, trees to the right of us, trees to the left of us, and trees straight ahead of us, more than six hundred. "Six hundred!" does someone mutter in surprise, "those few are not many." No, a few never were many, nor are six thousand, or sixty thousand in these days of fruit tree production, but six hundred varieties of what may be termed our "tree" fruits, grown to display their character of growth and produce cannot be termed a bad collection. We find them in three avenues, planted across the side borders which form them, three trees each of 335 varieties of Apples, 200 of Pears, 100 of Plums, and 50 of Cherries. The aggregate is surely "more than six hundred," for it is 685 varieties of these four kinds. They are bush and naturally formed pyramids, the peculiar habit of each being maintained, varying from about 5 to 10 feet high. They are managed in a common sense fashion, the main branches thinly disposed, so that fruiting spurs form all over them and all through the trees, not only on the outside only and the inside a thicket of useless growths—a mass of apologies for leaves. Thus, these trial or stock trees teach useful lessons in more ways than one—namely, accuracy in nomenclature, habit of trees, and simple useful methods of pruning. These avenues form a T with a long leg, only as we enter it is wrong end upwards, thus L. Right and left are the Cherries and Plums, straight ahead are the Apples and Pears. The Cherry crops were over, also most of the Plums, all but the late varieties; and these are not the least useful, such as the valuable Grand Duke; splendid Monarch; excellent Early Rivers and Imperial de Milan with the free Standard of England, also such of the old favourites as we shall long have with us because so serviceable, as Belle de Septembre, Blue Impératrice, Coe's Golden Drop, Pond's Seedling, and Winesour. The strong soil evidently suits stone fruits, as they were perfectly healthy and free from gum.

Of Apples and Pears it may be said in a sentence that they are represented in all moveable sizes, and all requisite forms and shapes, as moulded and trained by skilful men—from maiden cordons with a single fruit from the bud, as in Bismarck, to large specimens for filling blanks in old gardens, and furnishing new with bearing trees at once. All have to be kept in stock to meet individual needs with a large number of varieties as well for meeting personal tastes; but though collections of fruits in numerous varieties are both interesting and instructive in private gardens, to grow such collections for the sale of fruit for profit would be little short of madness. For this purpose rigid selections of varieties best adapted to the purpose and positions can alone be satisfactory. When disappointed persons rush into print with denunciations of fruit-growing as a profitable occupation, they should be asked to state the number of varieties they grow, and how much fruit of each (if any) they have; also in what condition they send it to market. In most cases the secrets of failure would then be revealed.

Messrs. Veitch & Sons have, as is generally known, two nurseries in which fruit trees are extensively raised—the one under notice near Slough, the other known as Southfields, Fulham. This latter is the home of trained Peach, Nectarine, and other trees, for which the manager (Mr. Morle) has long been famed, and it may be remarked he superintends the work at Slough also. It would seem to be an advantage to have two sources of supply, for this year the weather has played pranks affecting fruit in many districts. In most cases it was kinder to Pears than Apples, as at Slough; but an exception was made at Fulham, for there the Pear crops most suffered, and the case was left thus:—Few Apples at Slough, but plenty of Pears; few Pears at Fulham, but plenty of Apples. In neither place, however, do they appear to be specially prepared for exhibition purposes—at least, there were no signs of this at Slough. Mulching was not evident, except in the case of late spring planted trees, and this was primarily to aid growth. The fruits develop in the ordinary course of routine. Even on many trees the crops did not appear to have been thinned to any noticeable extent, and the crop on one small Pear (the delicious Seckle) was no doubt as heavy as the tree itself—root and branch. All trees, of course, were not so laden, though the crops of many were prodigious, and the fruit under the circumstances surprisingly good. Vertical cordons of Doyenné du Comice, growing about a foot apart, were like a wall of fruit in the open. Triomphe de Vienne, Magnate, Princess, Belle d'Écully, Marie Benoist, and Beurré Baltet Père were laden with handsome fruit, as were the still newer sorts—Beurré Fouqueray, Beurré de Mortillet, La France, Marguerite Marillat, and Zoë, all distinct and worthy of trial with old favourites, practically all of which were bearing abundantly in the plantations.

Apples, as above indicated, were much less bountifully produced, yet there were excellent crops of some varieties with fewer and consequently finer fruits on others. The newer varieties, Albury Park None-such, Beauty of Stoke, Chelmsford Wonder, Fraissé de Hoffinger, Rouleau Rouge, and Calville Boisbunel were highly thought of. Barnack Beauty was aglow with its brightly coloured fruit; Baumann's Red Reinette, still darker, deep crimson; Tyler's Kernel combined size with richness in hue, as did the bountiful Bismarck. Sandringham stood out prominently by its handsome pyramid habit and noble fruits. A row of this by a walk side would be ornamental in any garden and decidedly useful. Seaton House was giving an enormous number of fruits in a small space, bearing as freely as Stirling Castle, and like that variety, Lane's Prince Albert and Manks Codlin, is suitable where there is the least room for Apples, as in many small gardens, though obviously a number of trees would yield a great bulk of fruit in large areas.

Gascoigne's Seedling, Grenadier, Cellini, Winter Hawthornden, Lord Grosvenor, Potts' Seedling, Warner's King, Bramley's Seedling, and other varieties of proved usefulness, told by the number of trees how great is the demand for them; and that prince of dessert Apples Cox's Orange Pippin similarly told of its fame. Still, one is tempted to go on among the Apples; but the time has come to stop, and so, as Brother Jonathan would say, we stop "right here."

Among the "drifts" of bush fruits Gooseberries were in preparation for cordons, which will in due time rope themselves with fruit, such as a month or two ago startled Mr. Jesse Collings so much that he had to write forthwith for trees. There is nothing like "ordering early," and Mr. Collings evidently did not mean to be too late. If he had seen Superlative Raspberry in its best form he would perhaps have ordered some too; it is regarded as the best in the Slough collection.

Just a word about the "glass" and what there is under it at Middle Green Farm. The houses have all been erected since the initial visit of the writer—some half dozen specially for raising and proving new Orchids. What a museum we have here! not of antiquities, but modern liliputians, so small that even the sharp-eyed Mr. Seden has to put on his glasses to see them, as if hatching in their nests, with others in all stages up to flowering, and all looking like himself—healthy, happy, and contented, just as plants, as well as men who do their duty well, should be. He is doing something more than "make" new Orchids, but for particulars the world must wait. How long deponent knoweth not, but he knows the inhabitants thereof will not have to wait many months for seed of the Frogmore Selected Tomato, and if they could see the crop of fruits now ripening—smooth, bright, firm, and just of the right medium size for use and sale—a veritable mass, they would surely be like Mr. Jesse Collings and the Gooseberries—not be too late in ordering.

A glance over the seed trial grounds and the choice assortments of hardy plants of various kinds snugly plunged in pots, with a pause at the gigantic *Physalis Alkekengi* Franchetti, also a great stock of Mr. G. F. Wilson's blue Primroses, a rush had to be made to catch the train for town. Having in mind the grass fields a little more than a decade ago, and noting the "Farm" now, only one word can express the change, and this must be in form the most emphatic, namely—PROGRESS.

AMONGST THE WEM PEAS.

ECKFORD'S Sweet Peas are now household words, for they are in great request abroad as well as at home, especially in America, where large numbers of seeds of the new sorts are sent from Wem. It was about the year 1879 that Mr. Eckford, then gardener to the late Dr. Sankey at Sandywell, near Cheltenham, began hybridising the Sweet Pea. His first start was with six varieties of Sweet Peas, but he worked for some years before any marked improvement was made.

Dr. Sankey removed to Boreatton at the end of 1884, and Mr. Eckford and his Peas went there also, and about that time he took to a meeting of the Royal Horticultural Society blooms of Sweet Pea "Bronze Prince," the first seedling of his which obtained a certificate. Then came Imperial Blue and Indigo King, also improvements in the whites. The year following he exhibited Orange Prince, to which a F.C.C. was unanimously awarded, and the same year Splendour and Apple Blossom bloomed for the first time. The year after produced a trio of superb varieties, Countess of Radnor, mauve; Mrs. Sankey, white; and Perfection, scarlet; so named by Mr. Richard Dean, who was much struck with it. Those two fine varieties, Cardinal and Splendour, resulted from pollen of "The Doctor," a very fine scarlet, which was ultimately lost.

In the year 1888 Mr. Eckford removed to Wem in Shropshire for the purpose of devoting his whole time to the hybridisation and culture of Sweet and culinary Peas, and establishing a business as a seedsman and seed grower, and it is now well known that his object has been fully realised, and it is a good day's work to examine his 5 acres or so of Peas at Wem in the height of the season. In 1889 he introduced some grand Sweet Peas, as Purple Prince, Captain of the Blues, Mrs. Gladstone, Monarch, and Cardinal, and since then we have had an annual issue of new varieties. Amongst them Emily Eckford is a perfect blue-mauve self, with a fine, well formed broad standard, and is altogether of fine form; Lady Beaconsfield, salmon and rose, with a yellow tint in it; Peach Blossom, pink, tinted salmon; Duke of Clarence, claret, with purple tinted wings; Stanley, rich deep mauve purple, and extra fine; Meteor, with a warm orange tint in the standard, of fine form and brighter than Orange Prince, a charming flower; Duke of York, warm orange scarlet tinted standard, with wings creamy white, tinted and shaded with rose; Duchess of York, with fine bold standard, blush white, veined and marked with bright rose, a very fine variety; Waverley, a fine blue tinted purple; Princess Victoria, distinct and bright; Lemon Queen, a charming flower; Gaiety, a distinct, striking flower; Meteor, an improved Orange Prince, bright and fine; Dorothy Tennant, extra fine, a charming companion Pea for Emily Eckford; Firefly, brilliant orange crimson standard, large, and of very fine form and very bright. These are all fine sorts.

The new varieties to be sent out from Wem for the first time this season will probably be Blanche Burpee, certainly the finest of all the Whites, which produces white seed. The standard is of the finest form and good substance, and producing three flowers on a stem. Alice Eckford, a refined beautiful flower, rich cream tinted cerise standard, and white wings; Little Dorrit, the standard carmine, tinted pink, of

fine form and white wings, the colour bright and well contrasted, and a very fine variety; Countess of Aberdeen, white, margined with pale pink, a distinct, charming flower, of fine form; Captivation, a new shade of rosy purple, distinct and very fine; Lady Harlech, bright lilac, tinted pink standard and white wings, a charming distinct flower; Mrs. Dugdale, a creamy white, striped and coloured with rosy purple, a flower of the finest form.

CULINARY PEAS.

These also have Mr. Eckford's special attention, and a visit in the Pea season clearly proves that he has raised some first-class varieties, his aim being to use all along as a type the Ne Plus Ultra to secure flavour and a blunt-ended pod, with a dwarf habit and earlier, and a number of really fine seedlings are annually rejected after two or three years' trial, though superior to many leading varieties now in cultivation.

It was in the year 1879 that he commenced crossing Ne Plus Ultra with Pride of the Market, Dr. Maclean, Champion of England, Veitch's Perfection, and others, producing the wrinkled type with a view to supersede the race of early round Peas so generally grown for the first crop. Several seedlings resulted of a promising character, one of them being named Magnificent by Mr. Richard Dean, and this again was crossed with William I., and at least one variety emanating from this crop will be sent out in a year or two, and will be welcomed. A variety, Censor, introduced last winter, is a very fine Pea about 3 feet in height, and a great cropper. Fame is also a first-class Pea, an Improved Ne Plus Ultra, earlier, not so tall, with large, well filled pods. Consummate is another very fine Pea, dwarf, and of excellent quality. Colossus, The Echo, Ambassador, and The Don are also fine varieties. Excellent flavour is a characteristic of the Wcm culinary Peas, with a profuse bearing habit. Thin sowing is the rule, really planting, and with great results. With one of the seedlings 580 seeds were saved from one plant, and these were sufficient to plant five rows, each from 50 to 60 feet long, the plants 2 feet high.

There is a coming variety named "Dwarf Monarch," only 18 inches high, and on one plant I counted twenty pairs of large pods, each with an average of seven peas in a pod. Another plant had fifty-four pods with the same average of peas. A very handsome new Pea "Memorial," growing 5 feet high, has a slightly curved pod, averaging ten peas a pod, of first-class quality and large size. This will be an exhibition Pea as well as for general crop, and will, I think, be sent out this season.—W. D.

LILIUM HARRISI.

It is not an unusual thing for this bulb to throw up a second flowering stem the same season. Its whole history is, indeed, a remarkable one. Although called the Bermuda Lily, it is, no doubt, the *Lilium longiflorum* of Japan. Many years ago, about twenty or more, it was exported to Bermuda, and there its whole character seems to have been changed. Instead of producing a stem about 18 inches, with a single flower at the extremity, the Bermuda roots throw up one 4 feet high, producing six, seven, or eight flowers; but it will not do for Mr. R. Morse (page 294) to rely on the bulbs he has grown this year, for they will revert to the original type, so that it is one of those cases in which we must rely on imported bulbs, a great number of which are annually sent over to this country. I generally plant them out after the first year, and they succeed well in the open border. I believe the above is the general experience in the growing of this Lily, and your correspondent will, I think, save himself much disappointment by not relying on the bulbs he has grown this year.—D., Deal.

I QUITE agree with all that Mr. Morse has written (page 294) in favour of this really grand *Lilium* for decorative purposes. Either in pots as specimen plants for groups, or in a cut state, and placed in tall vases for the drawing-room, it is invaluable, coming into flower as it does at an opportune time when there are but few other varieties to be seen. I have grown this Lily very successfully for the past five or six years, of which a reference to a note that appeared in these columns in June, 1893, will prove.

My experience is that it is not an uncommon thing for it to flower a second time the same season, but that it is detrimental to the well doing of the bulb the following year there is no doubt whatever, as the spikes are of a very meagre description compared with the first, and I have given up keeping the bulbs in consequence, obtaining a fresh supply in from the nurseryman annually to save disappointment.—WM. ROBINSON, Westbury.

WASPS IN 1894.

THESE have been scarcely so numerous with us as last year, although most fruit growers will have found them sufficiently so to destroy a considerable number of choice fruits on walls in the open, particularly Pears. The frequent rains and dull sunless weather did not appear to have made much difference to them in point of numbers, and certainly they made an earlier appearance than I ever remember them to have done before. I do not know if it is unusual for wasps to be active in the construction of their nests so early as the first week of June, but in the dry terrace bank of the flower garden here we found one at the date named with young in various stages of life, from the smallest "maggot" to the almost fully fledged wasp. Their choice of situation for the construction of their nest was a very favourable one, being near the top of a deep slope, and this overhung with lofty Plane trees.

No doubt the warmth of the spring had much to do with their early movement in nest building, but it was not one in which it might have been expected to be favourable to them to the extent it has actually proved to be. Last year we destroyed over a hundred nests, but this season only half that number has been dealt with, although it must be admitted a smaller circuit was made in search. Cyanide of potassium is the agent employed for dealing with them in the nest, and nothing more simple or effectual could be imagined. It may be applied in a liquid or dry state, but I have used it only in a liquid form, being under the impression that it is more economic and easy of application. What we have is in a hard lump state, requiring warm water to dissolve it quickly. With one half-pint bottle of the cyanide we make 3 quarts of liquid ready for use, and a small tin is kept for the purpose from one year to another for measuring and pouring the needful amount in the entrance to the nest. About a tablespoonful, more or less, according to the strength of the colony and the size of the entrance, is given. What its action on the insects is I cannot explain, but whatever it may be, they have no apparent suspicion that anything unusual awaits them. They fly in direct as is their custom, but do not return to commit further mischief.

There is no comparison in the use of cyanide and the ordinary gunpowder squib; the latter is of no use until nightfall, when all are in, while the other is best applied in the day when they are active. In the one case a single journey suffices, the other demands two visits. In the early part of the season it is necessary to dig out and destroy the "brood" the same as is done by those who adopt the squib, because unless this is done they soon become re-established in the natural course of hatching, the cyanide not affecting them unless it can be poured directly on the comb, and this is not often possible. These young ones have been actually observed this year carrying away their dead which was obstructing the passage to the nest.

The influence of one summer-like day on the energies and destructive powers of the wasp is remarkable. The general experience of fruit growers hereabouts was that on Sunday, August 19th, they suddenly set about their destructive business among Plums and other soft fruit in such a manner as to create considerable alarm, the trees being almost a living mass of insect life. Plums, Gages, Cherries, and Peaches disappeared as if by magic, and if immediate steps had not been taken to check them, but little presentable fruit would have been left for the grower to dispose of.

Scotts' destroyer was a valuable help this season applied to the damaged fruit and on some of the leaves here and there. The wasps devour the liquid poison bait greedily, and in a very short time after they disappear for the remainder of the day and sometimes the following one. Last year for some unexplained reason neither Scotts' or Davis's gave uniform results. I procured some of the latter, being advised to do so by a friend who had found Scotts' to be ineffectual, but my success was no better than that of my adviser. This season, however, Scotts' acted in a magical manner both in the vineries, where they had commenced their attack in earnest, and on wall trees outdoors. By following up its use, together with the cyanide, their numbers are very much reduced, and now but little damage is done by them at all, and none among Grapes still hanging on the Vines.

Hornets have given but very little trouble so far, and only one nest has been found, while last year several were destroyed, not however before a number of Pears and Apples had been completely spoilt by them.—W. STRUGNELL.

A CIRCULAR TOUR.

SHREWSBURY.

ON leaving Osmaston on an afternoon in August it was with the object of arriving at Shrewsbury on the eve of the great show. Hotel accommodation had been secured a fortnight in advance, as is necessary on the occasions of the annual horticultural gatherings in the interesting town of black-and-white striped houses and quaintly carved architectural ornamentation. Some of the old houses in Shrewsbury, as well as others more modern but in the same style, are decidedly picturesque; and it is to be hoped that however advantageous in some respects our *fin de siècle* buildings may be, the ancient style will never be wholly banished from Shrewsbury, for this would simply spoil it. It is a clean, thrifty looking town, but "full" in the fullest sense of the word at show time; and it may be expected the hotel proprietors, among others, subscribe liberally to the Society which brings so much grist to the mill yearly. Our hostel was the "Raven"—a county house of high repute, every room taken—some by great magnates, others by great gardeners, and still others by the representatives of great nurserymen. It is to be remembered the show is a great one, and so let those who are associated with it be "great" for the time. But perhaps another excellent hotel, the "George," is the "gardeners' house." It was simply packed with the professional descendants of Adam—a veritable brotherhood from various parts of the kingdom. It will probably be correct to say that at no other time and in no other place can so many skilled gardeners be found assembled as in Shrewsbury during the show week—as fine a body of men, too, physically and intellectually, as could be found in any industrial craft in any country in the world.

VENTILATION WANTED.

The Shrewsbury Show has been reported, and is not going to be done over again now. Those whose duty it was to note the wealth of splendid produce in the closed tents on that tropical Wednesday will not soon

forget the experience. It nearly killed one man, and a good one, while another did not recover from the roasting effects for more than a week; but that was of no consequence to anyone but himself, and does not trouble him now. All the same, it is to be hoped that, large as is the

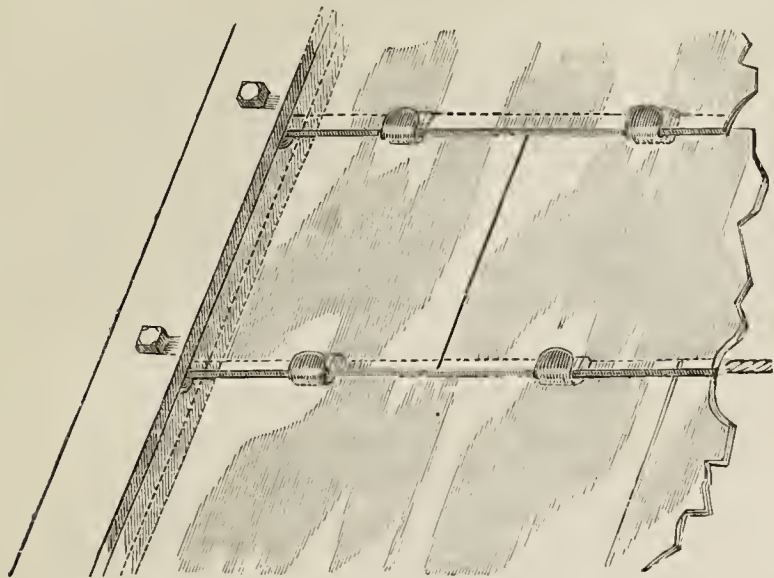


FIG. 49.—PART OF PLAN.

staff of officials at Shrewsbury, yet another will be appointed, in case his services may be needed on some similar occasion in future—a tent ventilator, or more good men and true may be placed *hors de combat*.

FIREWORKS.

A flower show crowd at Shrewsbury on a fine summer's night waiting for the fireworks is a sight to be remembered. The position is unique. The site may be imagined as horse-shoe-shaped, the rim as avenues of Limes of quite unusual altitude, the ground sloping to the toe or bend of the shoe—a length approaching a quarter of a mile. The space is filled with people, yet everyone can see Mr. Pain's brilliant pyrotechnic devices against the deep, dense, background of foliage. But "this is not horticulture," some stiffly starched clerico-semi-scientific votary of the cult may say. No, it is not, but simply an adjunct absolutely harmless as a means of half an hour's enjoyment, and which thousands enjoy. "A rowdy crowd," does someone mutter. Nothing of the kind. It was the calm, clear evening of the first day when this crowd was noted—not a seething, wedged mass, but with room to move comfortably. Professional men and their families, clerics and theirs, with here and there a bishop, archdeacon, or some other Church dignitary not ashamed of his "cloth," which was visible enough, as he had certainly no reason to be. It was an assembly to which none but the most straight-laced Pharisee could discover material for objection, and as orderly as Queen's levee.

BRISTOL.

Two men intended starting for Bristol the next day, but one of them had to go home and rest in bed for a week, and the other could only just "crawl" to the station. Luckily for them, but unfortunately for thousands, the day was cool—in fact, a "drencher," yet £1200 were taken at the show; the greatest triumph that Shrewsbury ever had at any of the exhibitions. When the "wounded" man arrived at

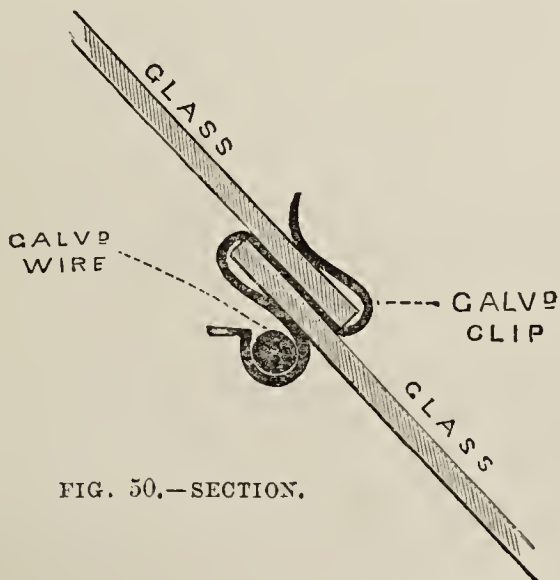


FIG. 50.—SECTION.

Bristol, who should he see on the platform (the very first man) but Mr. W. Iggulden. Of all the ubiquitous gardeners, surely he must bear the palm. His activity is boundless, and he has a "nose" for discovery. He appears to find out everything. During a "judging visit" he had found something at Bristol, and beamed with delight when he found a willing ear to his narrative. "What a lucky thing you have come! You are not looking well. Has Shrewsbury upset you? But you must come with me; you needn't walk you know, we will have a cab; but you *must* go and see them. We shall beat the French at growing Pears

yet. We can grow everything; shift them about as we like, twist them up in no time—Apples, Pears, Peaches, Tomatoes, Strawberries, flowers—bring them all on fine; money in it in my belief;" and so on, just as an earnest man with a tongue *can* "go on" when he gets hold of a new idea bearing on the work he loves—growing fruit and making money. When a pause came, and the meaning of the references to the "them" and the "it" was comprehended, the earnest man's objective was found to resolve itself, as he condensed the matter, into "wire houses for marketers," which being interpreted means cheap light houses for growing produce for market; and so we went to see, with some misgivings, what were found, to give them their proper appellation,

WIRE TENSION HOUSES.

"Well, yes; novel certainly, light, durable, and they look cheap—too promising to be buried, and the world should know about them." When my friend heard that, though he has not a penny in them, he seemed delighted as he remarked, "Ah! I thought you would like them, and what more do you want than light, durable, and cheap?" I thought I should like to see them tried, at Chiswick for instance; but first to tell of what was seen, and leave the inventor and a discriminating public to make the best of what is really a simple adaptation of galvanised wire to horticultural structures.

The inventor and patentee of the wire tension houses is Mr. Board, of Skinner, Board & Co., Bristol, the inventor of Venetian ventilators for glass structures, not a man with more "push" than ability, but exactly the reverse. He took the idea of these houses from a twisted galvanised wire fence slanted over the top of a wall, and thought if the wires were

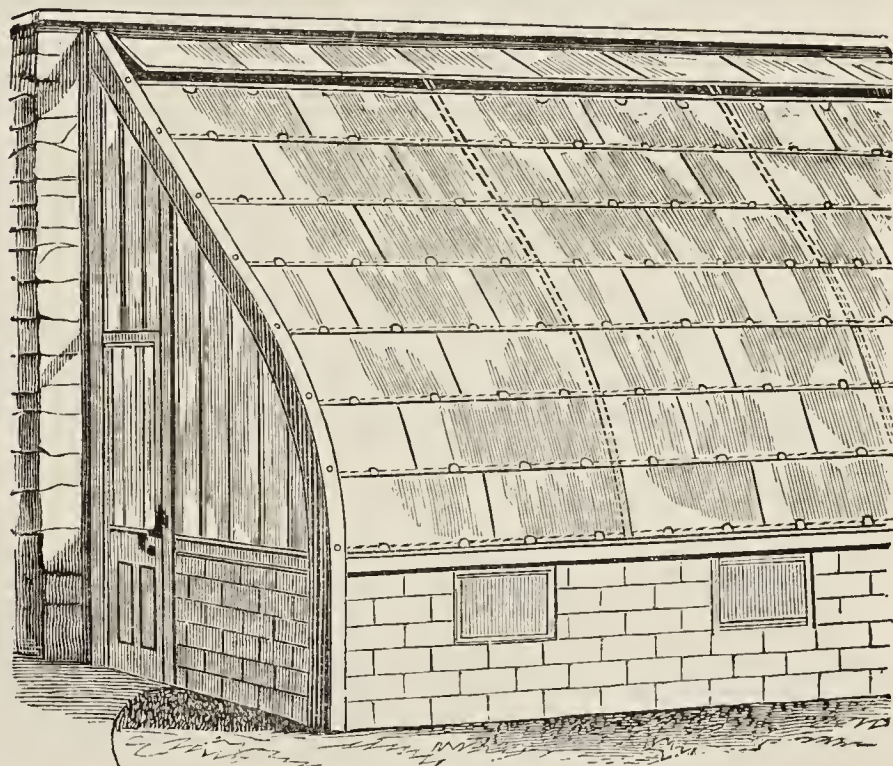


FIG. 51.—LEAN-TO WIRE TENSION HOUSE.

covered with glass a strong and cheap protective coping would be found for fruit trees. Then he devised clips for the wires and holding the glass. Next he carried the idea farther, and devised moveable T iron curvilinear rafters for houses, lean-to's and span-roofed, running the wires through them from end to end of the roof, and screwing them tight, clipping the glass over them and covering all the framework completely. Such is the genesis and progress of an idea.

Two or three small sketches will make clearer the nature of these wire tension houses than can many words without them. Fig. 49 shows part of the plan of a roof with the glass fixed in position. Fig. 50 a section showing the clip over the wire for securing the glass. Fig. 51 portion of a lean-to house erected. Two of these houses placed back to back, minus the wall, would obviously form a span-roofed structure, and a span-roof, as a "test house," was more particularly inspected.

This house was about 40 feet long, 14 feet wide, and 8 feet 6 inches high. About half the length was glazed, perhaps about two-thirds on one side, and both ends were open. One portion was glazed to the ground, the rafters resting in sockets in the soil; the other portion rested on a sill, much in the way as shown in the illustration. Both ends were open and had been for weeks, and all the stormy winds, for which the season has been famed, rushed through in the elevated position, yet not a square of glass was misplaced. The slight yield of the roof might possibly have been an element of safety, as the swaying is said to be to tall chimneys and trees. Be that as it may, the test was a severe one.

The light iron rafters were 5 feet apart, the tightened cross wires for glazing 15 inches asunder. The wires were 3-16th's of an inch in diameter, tested breaking strain 10 cwt. The squares of glass (of the width indicated) are lapped over the wires, the ends butting against each other. The house was dry as dust inside, though there had been much rain, and it was said to be free from drip. In some places small upright iron rods were fixed from the ground to the rafters at the curve,

and the roof thus made for all practical purposes rigid, and there was no "rattle" of the glass from rough wind. In case of accident squares of glass can be removed from the inside from any part of the roof and others affixed, as was done on the occasion.

Such is a plain unvarnished record of Board's wire tension houses, "discovered" by Mr. Iggulden and examined by his invitation. As is apparent, neither paint nor putty is needed; as also is apparent they ought to be durable and the reverse of costly, while they are as "light as day." Some have gone to America, others are going to the Channel Islands, and they must now fight their way and find their level in the world of commercial horticulture. They ought to be tried at Chiswick and in the Duke of Bedford's fruit experimental establishment at Woburn too. They were well worth going to see by, in very fact—A JADED LONDONER.



NATIONAL CHRYSANTHEMUM SOCIETY.

ON Wednesday, the 26th ult., the Floral Committee of this Society held a meeting at the Royal Aquarium, Mr. Geo. Gordon occupying the chair. The attendance of members was somewhat below the average, and but a few novelties were submitted, Mr. W. Wells being the only exhibitor. The following awards were made:—

Miss Dorothy Frankland.—A fair-sized Japanese variety of a deep yellow colour, with long, stiff florets, curled up at the tips, and toothed (first-class certificate).

Ruth Wells.—A reflexed Pompon, deep rosy pink, passing to white; short, flat florets. A free blooming decorative variety (commended).

For a collection of cut blooms Mr. Wells was awarded the bronze medal of the Society.

CHRYSANTHEMUMS IN SOUTHWARK PARK.

WILL you announce to the public that we are going to open the large Chrysanthemum house on the 6th inst. from ten till four o'clock every day? The Chrysanthemums are much earlier this year and give promise of making a splendid display. Many are in full bloom already. Over 4000 plants, including all the newest and latest varieties that can be obtained, are included in the collection.—R. CURLE, *Superintendent*.

CHRYSANTHEMUM GOLDEN WEDDING.

MY stock of this variety consists of one plant, which grew and did well until the wet weather set in in July. It then commenced to turn yellow and sickly in the foliage, and continued so for some weeks. It was also attacked with mildew, which I destroyed by applying sulphur to the foliage. The plant seemed to get worse, and eventually the leaves on one of the three shoots commenced to curl up and die, then the shoot itself, beginning at the top. I cut it off, and watered the plant twice after with clear lime water, rather strong. From that time the plant began to improve, and is at the present time in perfect health, and swelling a promising looking bud on each of the two shoots I left. I am inclined to think that the lime was the medicine which restored the plant to good health.—R. MORSE.

I HAD three equally strong plants of this variety, and two of them were stopped, one breaking naturally. The latter is in perfect health, although the buds are later than those on the other two plants. The first shoot to show signs of disease was one that had made an extra swelling at the break from the main stem. On cutting this I found it discoloured. The second plant showed the disease at the same period on two shoots, but the third shoot remained good for some time. The other plant is in the most luxuriant health, and the buds were taken two weeks since. These plants were all in the same row, fully exposed to the sun, running due east and west. This, I think, shows the disease to be, like the plant, of American origin, seeing that no other sort has taken it.—C. H.

I HAVE read the different complaints relating to the failure of Golden Wedding Chrysanthemum. It is very curious for this one kind to act in the way it has done in so many places. We have some plants here that were grown in an exposed position with the rest and received the very same treatment, and yet they are in perfect health, and to all appearance will yield good flowers. A gardener close by here has lost three plants out of four. It quite convinces me that position and potting material is something to do with it; perhaps in several of these cases it was too high a nature for such a robust kind.

A curious coincidence with us is G. W. Newitt. We have three plants, and in each case they have made good growth till the buds showed, about the 25th of September, then four leaves up, within four joints of the bud, have entirely withered away, thus leaving the top and bottom in good condition. These plants have received the same treatment as the rest. I think the cause is chiefly this, that the sap failed to be proportionate at its bud-making, being taken up by the bud, so causing the top to remain healthy, and of course the start would keep

the bottom foliage also, the withered leaves being passed. Should this be the reason good high culture is needed.—ROBERT BASSIL, *King's Ride, Aseot*.

MANY persons think this variety has some disease brought with it from America, but if this was the case I think it would have been seen last year. I think the sudden changes of the atmosphere had the most to do with the young tender points going off, or perhaps a strong dose of chemical manure. In many cases I know the plants were healthy until feeding had commenced. My own plants are healthy as any other varieties, both those in pots and those which are planted out for stock. This is not the only variety which has given disappointment this season, for many persons must have had Princess Victoria, Baron Hirsch, C. B. Whitwell, Mrs. Wheeler, and others go wrong in the foliage. This was not seen last season, so that Golden Wedding may be something the same character, but shown in a different way.—W. WELLS, *Earlswood*.

MODERN GARDENING.

[A Paper read at Birmingham by Mr. H. DUNKIN.]

(Concluded from page 277.)

I NOW come to that important branch of the gardeners' art—fruit culture. During the last ten years rapid strides have been made in the production of superior samples of hardy fruits. British growers have at last been led to see the necessity of doing something more than merely planting fruit trees and leaving them to take care of themselves. In many of the most favoured districts of England we now see fruit plantations springing up, which are managed on lines that cannot fail to make them cultural successes. I spent the early part of my life in one of the most flourishing fruit growing centres of Kent, and I think few young gardening aspirants took a more thorough interest in fruit growing than I did then. This fact was being continually impressed upon my mind. While those who were wanting in energy and enterprise were bewailing the unprofitableness of fruit growing the shrewd ones were planting as fast as their means would allow such varieties as from their quality, appearance, or productiveness were likely to be the most profitable. That they were right in their judgment may now be seen by the way they are enjoying the fruits of their early labours. I paid a visit to several of these successful ones a short time ago, when they readily told me that when well carried out fruit culture gave a good return for the outlay made.

Before concluding this portion of my subject I should like to briefly contrast our present method of Peach pruning with that of past times, when the trees were shortened back so severely year after year. This practice not only deferred the production of a full crop of fruit for several years, but also in many cases caused gross unfruitful growth to be produced, which gave considerable trouble for years. Now, by laying such strong shoots in their whole length, training thinly, and resorting to judicious summer pinching, we secure a full crop of fruit at least two seasons earlier than by the older methods. In some cases perhaps trees so treated do not quite satisfy those who are so careful to have every branch trained with mathematical precision, but in these utilitarian days the production of fine crops of fruit is a far greater consideration than mere accurate training.

Turning to Grape culture, I think few will be inclined to dispute that a distinct advance has been made during the last ten or twenty years. Not only have a few very superior samples been produced, but a vast number of cultivators grow them wonderfully well. Those gardeners who have been frequent exhibitors at the leading fruit shows of recent years have been forcibly impressed with this fact. Not many years ago it was the exception to find Grapes perfectly coloured in the case of more than one or two exhibits. Things are quite different now. In favourable seasons the proportion of badly coloured Grapes is very small. Judges have now much greater difficulty in making their awards, and the time seems to have arrived when the value of the prizes awarded should be divided according to the relative merits of the winning samples.

The subject of my paper has so wide a range and supplies such a vast amount of material that I am afraid I have only been able to do it scant justice by touching on some of its most salient features, and from fear of inflicting too great a trial on your patience I shall only be able to touch in the briefest possible manner upon the subject of vegetable culture. When we look upon the splendid collections of vegetables so frequently staged by well known growers I think there is no just ground for believing that this department of gardening has deteriorated, and the splendid produce staged at many of the cottagers' shows throughout the length and breadth of England shows in the clearest possible way how much the national desire to excel is encouraged by these useful societies. The young aspirant in the art of vegetable growing has also plenty of useful information up to date on the subject written, and by well known cultivators.

Having now shown the great expansion that has taken place in the horticultural world, and pointed out the direction in which I consider the greatest improvements have been made, I will endeavour to trace the causes which have combined to bring about these satisfactory results.

I believe the majority of those present to-night will agree with me that the expansion has been even greater than the improvement. Where one cultivator formerly grew either flowers, fruit, or vegetables up to that standard we call perfection, there are dozens who do so now. This, I think, must be attributed in a great degree to the wide-spreading influence of the horticultural press. We have the finest gardening press in the world, and the great impetus given to gardening, and the enthusiasm aroused by it, would be difficult to overrate. The age of secrets concerning the methods of culture adopted is now a thing of the past, and gardeners as a body may, I think, fairly claim to belong to one of the most free and progressing of callings, discussing as they do their methods of culture at meetings like the present one, and breaking a lance with each other over practices upon which they do not agree. Nurserymen and seedsmen must also claim a large share of honour in the achievements of the horticultural world, for the wonderfully improved types of flowers, fruits, and vegetables they place within the reach of gardeners, to produce which they incur great expense, and show a vast amount of enterprise. Far away in distant lands, facing dangers innumerable, and sometimes meeting death, their intrepid collectors have penetrated the thickest forest jungles, and climbed lofty mountains in order to send back to their native land the fairest and the rarest gems of other climes. These men earned our gratitude by a life of wandering, but the skilful hybridisers who have worked on steadily at home have achieved triumphs quite as great in the wonderfully improved types of many plants and flowers we now possess.

Thus far I have endeavoured to give to others the praise which is their just due, but the gardeners of the past and present must claim the lion's share in the onward march of gardening; for that progress has been accomplished in a great measure by their incessant work, close observation, and keen desire to excel. That they intend to advance still further is clearly shown by the great interest now taken in technical education, and I think there can be but little doubt that the successful gardeners of the future will be those who combine a scientific knowledge of their calling with energy and practical ability. These two qualifications must go together to produce the best results. I have long ago formed the opinion that it is not those who have the greatest amount of knowledge who are the most successful in any walk of life. Knowledge is in itself a tremendous power, but something more is needed—viz., the ability and force of character to turn to practical account every atom of knowledge acquired.

Those who enter the vocation with the belief that a knowledge of the scientific part of gardening will serve as a substitute for instead of an adjunct to hard work will sooner or later find out their mistake. The successful men of the future will in my opinion be of a type similar to those who flourish now, shrewd, prompt, and energetic managers of men as well as good cultivators, and owing to the facilities there are in present times for acquiring scientific knowledge, these are not the kind of men who will neglect their chances. Neither will they be led to think that such training will cover other deficiencies. Every gardener must be a better man for having a sufficient knowledge of geometry to draw plans accurately and set them to a scale, for knowing something of the chemical constituents of plants, soils, and manures, and for knowing the principle upon which the circulation of sap is effected, as well as many other useful portions of the theory of gardening, and those who are alive to their own interests will not neglect opportunities. Every member of the craft, from the highest to the lowest, may still do something to uphold the honour and advance the credit of their calling if each in their own sphere endeavour to do with all their might whatever they take in hand, and I venture to assert that as long as this spirit of emulation pervades the ranks of gardeners throughout the kingdom they will assuredly maintain, if not enhance, the world-wide reputation so long enjoyed by British gardeners.

THE KING'S SCHOOL GARDENS, WARWICK.

THE gardens at the King's School, Warwick, are at all times worthy of a visit, because the Rev. J. P. Way is a great lover of gardening, and likes to keep abreast of the times by procuring the best varieties of the various plants grown there. Throughout the summer months a grand display of tuberous Begonias have produced a charming effect in the conservatory. The plants are arranged around the side stages, some of the largest of them being elevated well above the others to show up their drooping flowers to advantage.

A wonderfully wide range of colour is found among the seedlings. Deep crimson, bright scarlet, soft rose, orange, pale yellow, and white are all represented by flowers of great size and substance. Among the double varieties I noticed Lord Rothschild and Rose Laing, two of last year's new ones, which ought soon to find their way into every collection. The plants throughout are strong and sturdy, bearing the stamp of high culture, and reflecting great credit on Mr. G. Burrows, the Rev. Way's head gardener. In the Orchid houses good plants of *Dendrobium Wardianum*, *Oncidium Papilio*, and *Odontoglossums* were a picture of health and cleanliness. Tomatoes in pots were carrying wonderful crops of fruit; the variety grown is that old favourite Conqueror, which it is well nigh impossible to beat as far as cropping qualities go, but the slight corrugation of the fruits somewhat mars its appearance when compared with the smooth modern kinds.

Some 500 Chrysanthemums are grown. These are in extremely fine

condition, notwithstanding the long spell of wet sunless days recently experienced the wood is apparently ripening perfectly. This is doubtless, to a great extent brought about by the thoroughly exposed position in which the plants are grown. Judging from their present appearance, something good may be looked for later on.

Mignonette in pots, though not largely grown, is well done. Several strong sturdy specimens in 10-inch pots were growing close to the glass in a span-roofed greenhouse. These are now sending up numbers of shoots which will flower during the winter months. The seeds were sown the last week in June, and the plants have been stopped several times. Health, vigour and cleanliness are apparent throughout the plant houses, which prove Mr. G. Burrows to be both a good gardener and a plant lover.—D. W.

MICHAELMAS DAISIES.

COULD the gardeners of half a century since but see a modern collection of perennial Asters they would indeed be amazed. Still these hardy plants are only as most others are, they have almost leaped into knowledge, and it is difficult to keep pace with them. A visit to Messrs. Barr & Son's hardy plant grounds at Long Ditton reveals these Asters in wondrous profusion, for such a famous firm cannot allow varieties to exist without securing them. Still it is patent enough to the ordinary observer that if but one-third be retained and all the older and now superseded sorts were destroyed nothing would be lost to gardening.

At the present what can excel in any family of plants in beauty as well as in effect the major form of *Aster amellus*? This is a lovely variety, and can hardly be excelled for colour or for beauty. A most charming variety, too, is *A. novi-belgiæ* *lævigatus*, 18 inches in height, producing delightful clusters of rosy mauve flowers, a beautiful thing for pots or the front row of a border. *Aster acris* is very well known for its compact habit and free blooming qualities. It is also early. Late, but a most charming form to give vase flowers is *Aster ericoides*, but taller and earlier is a *Vimineus* *Cassiope*, nearly 3 feet in height, producing big clumps of flowers, which are white, though the unexpanded ones are red. These are borne on long stems in spike form, and are charming for domestic decoration.

An excellent form too is *A. Arcturus*, 4 feet in height, flowers blue; and not less good is *A. Shorti*, 3 feet, quite early. These are just a few selected from the mass. Anyone wanting to secure a collection of say a dozen specially good should visit Long Ditton and make their own selection. It is so advantageous to have full knowledge of time of flowering, colour, and general height.—A. D.



FRUIT FORCING.

Pines.—*Nursing Plants.*—When the suckers that were started in September are rooted place them in well-drained pots. Employ the fibrous parts of turfy loam, using it in lumps proportionate to the size of the plants or pots. The stronger plants may be transferred to the largest pots at once, the size being adjusted to the habit of the varieties. Black Jamaica, Enville, and Prince Albert do well in 9 or 10-inch pots, some growers preferring this size for Queens, others give these 10 or 11-inch pots; Smooth-leaved Cayennes and similar varieties 11 to 12-inch pots; and Providence 12 to 13-inch pots, which will afford fruit of the larger size. Where smaller plants and fruit are required pots an inch or two less in diameter will answer, and, with judicious feeding, the plants often produce finer fruits than those grown in the larger sizes. The plants that are now fit for transferring to the largest can be shifted into 8-inch pots, in which they may be kept gently growing in a light position during the winter, and in the spring be shifted to the larger size.

Routine.—Free ventilation is necessary to maintain the sturdy, healthful appearance of young Pine plants, keeping the heat about the roots at 80°, watering them whenever a supply of water or liquid manure is required, but only then, and after carefully ascertaining the need of soil moisture or otherwise. The syringe will be little needed, sprinkling the paths and walls in the morning and evening of bright days, and occasionally at other times, will suffice. Fire heat will be necessary to maintain a night temperature of 60° to 65°. Freshly potted plants should have a bottom heat of 90° to 95°. Recently started suckers, as soon as the roots are abundant, must be raised near the glass, while those intended to be wintered in small pots need to be brought on gradually. Afford fruiting plants a night temperature of 70°, 80° to 90° during the day, closing the house at 85°.

Cherry House.—Where light, airy, and well-heated lean-to or three-quarter span-roof houses are available, and these face the south, Cherries can be had with certainty early in April, and are then welcome additions to the dessert. The trees may either be in pots or planted out. By the first of these methods the trees can be removed as soon as

the fruit is gathered and the wood sufficiently matured, to a sheltered, sunny situation outdoors, and the house is then at liberty for growing Cucumbers, Melons, or Tomatoes, which from an investment point of view are quite as remunerative as the Cherries. On the planting-out system finer fruit is had, the growths being trained 9 to 12 inches from the glass, but it is necessary to have the roof-lights moveable, and the house can only be used for the Cherries.

If it is intended to plant any trees it should be seen to as soon as the leaves commence falling. Cherries thrive best in calcareous soils, preferably rather strong for trees under glass, especially when the loam contains a free admixture of calcareous and flinty particles. Turfy loam, with a sixth of old mortar rubbish, and a similar proportion of road scrapings, will grow Cherries well. If the soil be light add a fourth of clay marl, dried and pounded fine. Provide a drain of 3 or 4-inch pipes, having due fall and sure outlet. There should also be 9 inches depth of brick-bats or rubble for drainage, the roughest at the bottom, with the material diminishing in size upwards to that of road metal, and on this place 3 inches thickness of old mortar rubbish, being careful to have it free from pieces of wood. A depth of 24 inches of border is ample, and 6 feet width will meet the requirements of trees grown under glass. The compost should be placed together firmly. Early Rivers, Governor Wood, Black Tartarian, and Elton are excellent varieties, both for size and quality. The lights having been removed they need not be replaced for six or eight weeks, the old surface soil being removed without injury to the roots, and fresh compost supplied, that above named answering with the addition of a fourth of well-decayed manure.

Trees in pots required to be shifted into larger sizes should be attended to at once, and those not needing such treatment may be turned out of the pots, removing a few inches of soil from the base, cutting back the roots, supplying fresh loam, adding old mortar rubbish if not calcareous, with a fourth of decayed manure, and providing good drainage. Remove the surface soil in other cases as well as the last named, and supply fresh loam duly enriched, making quite firm. Afford a good watering, and place the trees where they can have abundance of air.

Vines.—*Early Vines in Pots.*—For affording ripe Grapes in late March or early in April, well-ripened canes from cut-backs started early in the year are most suitable. They should now be at rest, have had the laterals cut off close and the cane shortened to the length required, 6 to 8 feet. The Vines do best in a lean-to or three-quarters span-roof house facing the south, and preferably with a pit along the front of 3 or 4 feet depth for holding leaves, there being a pathway at the back, and a trellis for training the growths to at 1 foot distance from the glass. A good start is assured if bottom heat can be provided; a bed of fermenting materials, two parts leaves and one part stable litter, affording a mild lasting heat. Place loose brick pillars, 9 inches square, about 2½ feet apart for the pots to stand on, and so high that the rims of the latter are level with the top of the fermenting bed. The material must be brought up loosely about the pots in the first instance, and not have a temperature of more than 65° to 70° at the commencement. Vines that have been ripened early, pruned and had about six weeks' rest may be started at once for supplying fresh ripe thin-skinned Grapes as early in the year as possible, which cannot well be effected before March, and to effect this the earliest varieties, as White Frontignan, Foster's Seedling, Black Hamburg and Madresfield Court, should be chosen. The temperature at starting must not exceed 55° by artificial means, but when the buds show signs of breaking it may gradually be increased to 65°. The canes should be slung in a horizontal position, or lower at their extremities than the base, to induce them to push their buds evenly throughout the length of the canes, syringing them two or three times a day, also the paths and walls. Sufficient water must be given at the roots to keep the soil moderately moist while the Vines are inactive, and only evenly so after they start; but when in free growth they need liberal supplies of nourishing food in liquid form, preferably alternating with supplies of water.

Early-forced Planted-out Vines.—Those intended to be started early in December for supplying Grapes in late April or early in May should be pruned at once (if not already done) so as to allow them some weeks rest before starting. The Vines must be thoroughly cleansed by washing with a tepid soapy solution, merely removing any loose and projecting bark without interfering with the live wood or bark, as harbour of this kind is favourable to the hibernation of red spider, mealy bug, and thrips, following with an approved insecticide. Where the roots have the run of outside borders it will be advisable to prepare some fermenting material for placing on that part after the Vines are started, the border in the meantime being protected from heavy rains by spare lights. Two-thirds of Oak or Beech leaves to one of fresh stable litter thrown into a heap and turned over once or twice, moistening if necessary, will afford a durable heat and suitable source of nutrition. These materials will require renewal from time to time, and if this cannot be effected it is better to dispense with any at the beginning, only such protection of leaves and litter must be provided as to prevent the soil becoming frozen in the severest weather. Similar material may also be provided for placing inside the house, which will aid the Vines in starting through the uniform state of the moisture and heat, and lessen the necessity for fire heat. Thoroughly cleanse the house, everything being put into proper order, and keep as cool as possible consistent with the safety of the Vines.

Late Houses.—Vines that were started in the early spring months, and forwarded by fire heat at that time and onwards till now, have

crops of ripe well-coloured Grapes, which are larger in the berry, and the quality, especially that of Muscats, singularly excellent—better than was the case last season with its drought and heat. Whether they will keep as well is another question, but the berries seem to have tough elastic skins, which auger well for their sound keeping. Liberal ventilation will be required on all favourable occasions, and as the foliage is matured the temperature may be allowed to fall to a minimum of 50°. New, sweet mats or a light covering of clean, dry straw placed on the inside border will prevent moisture rising or absorb much of it. The Grapes should be looked over twice a week for the removal of decayed berries, but if properly ripened, ventilation duly attended to, and the house drip-proof, they will give very little trouble. The outside border should be protected from heavy, cold rain. A supply of bracken ought to be cut where it grows abundantly for covering late house borders for the winter, a good covering of this material being quite equal if not superior to litter as a protection, and not as likely to encourage vermin—mice and rats. Late Grapes not yet ripe must have fire heat briskly by day, with a free circulation of air, and the temperature not allowed to fall below 65° at night, and to assist the ripening of the wood keep the laterals closely stopped, with moderate moisture in the soil and a dry atmosphere.

Materials for Forming Vine Borders.—This is a much better time to cut turf than after it has been soaked by the cold autumnal rains. It is a good plan to pare or plough it off, and leave for a few days, especially in the presence of clear days and frosty nights. This causes larvae to pass from the cut part into the soil beneath. The top 2½ inches or 3 inches of a pasture where the soil is a good friable loam is suitable for Vines, and should form the staple of the compost. Place it in narrow ridges, sprinkling a mixture of kainit and Thomas' phosphate powder in equal parts at the rate of 2 ounces per square yard of reversed turves as they are placed on the heap, and have the top ridged so as to throw off the wet. The lime of the phosphate powder will act favourably on the vegetable matter, and the kainit on destructive larvae, while affording a supply of potash and magnesia, which are essential for Vines and never over-abundant in turf. Stacking in narrow ridges will aid nitrification as the formation of nitrates in the turf. Let the site be open and dry.

Melons.—Cankered and cracked fruits are most frequent during damp weather, especially damp nights after bright days. The best practice is to keep both the soil and atmosphere dry, and for canker, fresh slaked lime well rubbed into the affected parts. Cease syringing the foliage, and supply water at the roots to prevent flagging, but no more. Remove all superfluous growths. The late fruits are swelling and must be supported. Maintain a night temperature of 65°, and 70° to 75° by day artificially, closing the house early in the afternoon, keeping through the day at 80° to 90° from sun heat.

Plants in manure-heated pits and frames will not require any water after this time, a dry condition at the roots being necessary to accelerate the ripening process. Any fruits that have finished swelling, or plants that are dying, should be cut with a good portion of stem and placed in a dry warm house to ripen. If left in the frame they will probably decay, or acquire an unpleasant flavour.

THE KITCHEN GARDEN.

Open-air Mushroom Beds.—Where the heavy rains have found their way into the beds something ought to be done towards making them drier for the future. Carefully remove all the cold wet litter now pressing against the soil, and re-cover with a 12-inch thickness of long litter fresh from the stables. Dispose this as much as possible in the form of a thatch, and if that will not keep out the rain or if winds blow it about cover with old carpets, stout canvas, or tarpaulins. These latter ought not to be needed, however, for some time longer. When newly spawned beds are heavily covered with strawy litter there is always a chance of their suddenly becoming dangerously hot, and the trial sticks kept plunged in them ought to be drawn out and tested frequently accordingly. Should they be found too hot lighten the covering at once, and also open a few holes down through the centre of the bed by means of a pointed iron rod. This will let out the vapour, which if confined might lead to the ruin of the bed. Ridge-shaped beds only fail to produce Mushrooms during the coldest weather, and there is no reason why more of them should not yet be formed. If they fail to produce crops before midwinter they may yet do well afterwards, always providing they are not unduly saturated by cold rain. Frosts will not injure them, as beds hard frozen through have been known to produce grand crops in the spring. At least one-third of the heap of the material used should consist of short stained straw.

Mushrooms under Cover.—Where Mushroom houses proper are limited in extent the autumn and early winter crops ought to be largely obtained from beds formed in pits, frames, sheds, unoccupied stables, and other snug outhouses. Those sheltered, dark, thatched sheds, often used for storing Potatoes in, are excellent places for Mushroom culture, and if manure, properly prepared by fermenting and frequent turnings, is available they might yet be utilised. Having a comparatively clear course in the Mushroom house admits of extra large beds, or several small ones in succession, being formed now, and from these a heavy crop of Mushrooms should be obtained, with the aid of a little fire heat during the coldest part of the winter. Much depends on the way in which the manure is prepared. It must be prevented becoming very wet or too dry. In the former case ward heavy rains off the heaps by

means of shutters, strips of corrugated iron, or glazed lights; turn the heap inside out every second or third day, or directly the centre has become quite hot, and follow this up till the whole mass has become sweetened and the violent heat dispersed. Extra care should be taken in the preparation of peat moss manure. That prepared under cover should be also similarly treated, only in this case if the manure becomes too dry to bind together in the hand a watering should be given according as the heap is turned, and when it is finally made into a bed. The poorest crops are had from beds that have become violently hot in the centre just before or after spawning. This leaves the mass too dry, and there is not enough moisture to either promote a steady decay of the manure or to sustain the Mushrooms. More beds fail from this than from any other cause. Should the material be very wet when it has to be made up into a bed, moisture squeezing out of it easily, mix either quite dry loam or some old dry Mushroom bed manure with it, and use larger pieces of spawn than usual.

Beet.—After the second week in October nothing will be gained, but risks run in letting Beet remain any longer on the ground. Frosts may not actually impair their keeping properties, but are yet liable to injuriously affect the quality of the roots. The Turnip-rooted forms keep nearly or quite as well as the long-rooted varieties, but this season they are very coarse, and the quality is poorer accordingly. Some of the small roots or any not larger than a cricket-ball may be stored for immediate use, but the larger ones should go to the pigs. Nor are extra large roots of the ordinary forms appreciated, and with abundance of neat roots available only these should be stored. Raise all carefully with a view to saving the larger roots or thongs intact, or otherwise bleeding and loss of colour will result. For similar reasons be content to screw off the tops not far from the crowns. Pack all, crowns outwards, in sand or fine soil, where they can be protected from severe frosts and rats.

Carrots.—These also ought to be lifted and stored. Wet weather has caused many of the more forward roots to split badly, and lifting is the only preventive. If they do not draw readily fork them out, and sort over before storing. Those of great size, and in particular all that are split open, should go to the stables, and the rest, including quite the smallest, ought to have their tops cut off, though not to the extent of cutting away part of the crown, and all be packed away in sand or fine soil, much as advised in the case of Beet. Preserve the remainder of the crop of Nantes, Model, and other stump-rooted forms, as these keep admirably and are often preferred to coarser roots. Late-sown breadths of Horn varieties will continue to grow when the ground is not frozen. These should be drawn from according as they are required for use, and the rest left to improve. A surfacing of strawy manure applied whenever severe frosts are anticipated would save them somewhat, and admit of tender young roots being drawn when wanted. Give those in frames abundance of air, and sow more seed on a mild hotbed. The Parisian Forcing Short Horn is the favourite with good cooks.

Other Root Crops.—Turnip-rooted Celery is far from being hardy, and the roots should either be heavily moulded over, or else be drawn, roughly trimmed, and stored with the Beet. The best portion of a heavy crop of fully grown Turnips might well be drawn, roughly trimmed, stored in a heap, strawed and soiled over, similar to the way in which Potatoes are clamped, or they might be stored in sand in a cool shed. Some can be left for immediate use. The later-sown breadths will continue growing for some time longer, and the greater portion may be risked in the open, the yellow and black-skinned varieties usually proving the hardiest. If the late-sown Turnips fail to form serviceable roots they may yet be left to give a crop of greens next spring.

Chicory, Salsafy, and Scorzonera may be left in the ground and dug as required for use, or they can be lifted and stored with the Beet and Carrots. The former plan is to be preferred, and in the case of Parsnips should be practised, as these keep better, and are of superior quality when left undug till required for use. Leave Leeks where they are, but any not sunk rather deeply into the ground should be moulded up, in order that the stems be properly blanched.

THE BEE-KEEPER.

APIARIAN NOTES.

RESULTS AT THE MOORS.

My bees are now home from the moors in a satisfactory condition, considering the weather we have had. Never in my experience, however, at the same season have the hills been so dry. Great tracks of Heather are as fine as could be at the end of September; but the honey was so thickened and desiccated that the bees could not utilise it. Supers are more numerous and better filled than I expected.

It has been a peculiar season, but fully illustrating the advantages of large hives. My heaviest prime swarm weighs 160 lbs., and the late one previously mentioned with a young queen 140 lbs.,

increasing in weight 80 lbs., outstripping swarms from undersized hives with old queens by 60 lbs., and in numerous cases more than that.

CHLORIC DROPSICAL FEVER.

This has been very prevalent in many apiaries this year. This disease was first noticed by the late Mr. T. W. Woodbury more than thirty years ago, and pronounced by him as dropsy. Simultaneously with that gentleman I had several cases, which increased with the Italians, and it is the first time since then I have had it amongst my stocks, nearly every bee dying in the hives affected. Hitherto I have advised to avoid breeding queens from affected stocks, but as an experiment I have departed from these instructions, and will let your readers know the results. As it is a sporadic disease, it will no doubt yield to a properly medicated food when the right medicine is known.—A LANARKSHIRE BEE-KEEPER.

THE SEASON'S REVIEW.

A REVIEW of the past season may be of interest to bee-keepers in various parts of the country, and an interchange of notes in the pages of the *Journal of Horticulture* may be the means of encouraging those who have failed to obtain a surplus from their stocks of bees to try again.

This season has been one of the shortest in my experience. On referring to my note-book under date March 26th, I find "bees have wintered remarkably well, all stocks strong, and none requires feeding. Weather fine and bright, very similar to the spring of 1893." Fine weather continued during April. During the first week in May there were several swarms in the neighbourhood from straw skeps, and the season was very promising. The first three weeks of June continued dull and sunless. Beans, of which there were several fields grown in this neighbourhood (a Midland county) that had been in splendid bloom for some weeks, were now nearly over, but the weather had been too dull for the bees to work on them. At that time I found a few stocks short of stores, and fed them with thin syrup. Some seasons a good harvest of honey has been procured from field Beans. June 27th was the first bright day, one of the few real honey days. All my stocks were strong, sections and top storeys having been previously put on.

The bees were enabled to store a surplus at once. Compare this with the let-alone system. Some of the early swarms above mentioned had been hived in straw skeps, and had not been fed although the weather had been dull and cold for weeks previously. Consequently, bees had dwindled away until over about half of the original swarm was left; very little comb-building had taken place, and by the time the hive was full of comb and ready for storing honey dull weather had again set in, and it was then too late to gather sufficient even to winter on. I have lately driven four stocks for a cottager; two of them were first swarms which came off early in May, the other two were casts. Not one of them had sufficient stores to last the winter, and there were not 10 lbs. of honey in the whole four hives. Some swarms that came off in June had a good surplus, and were left to stand the winter.

Contrast this with those kept in frame hives, and which had been managed in a rational manner, so as to make the most of the honey flow. I am probably within the mark when I say that within a radius of a mile of my apiary there were upwards of 1000 acres of White Clover in splendid condition, and only wanting sunshine to enable the bees to store a surplus. The weather then became unsettled. It rained more or less for days, until the Lime trees came into flower. This honey invariably takes well with the public, as it is of a bright yellow colour. On the 28th July I removed all sections and top storeys, and the season of 1894 had for me come to an end.

One is now enabled to compare notes with previous years, and I find with me it has been a good average season. Honey has all been of good colour. Some years at the end of the season I have obtained a very dark honey, which was not saleable, a little of which would spoil a good sample, and in that case it has been fed back to the bees.—AN ENGLISH BEE-KEEPER.

GARDENERS' CHARITABLE AND PROVIDENT INSTITUTIONS.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—*Secretary*, Mr. G. J. Ingram, 50, Parliament Street, London, W.C.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—*Secretary*, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

ROYAL GARDENERS' ORPHAN FUND.—*Secretary*, Mr. A. F. Barron, Royal Horticultural Society's Gardens, Chiswick, London, W.

TRADE CATALOGUES RECEIVED.

W. & J. Birkenhead, Sale.—*Fern List*.
 H. Cannell & Sons, Swanley, Kent.—*Book of Reference in Horticulture*.
 Gilbert Davidson, Ammanford, South Wales.—*Dutch Bulbs*.
 E. P. Dixon & Son, Hull.—*General Nursery Stock*.
 W. H. Gabb, Small Heath, Birmingham.—*Violas and Pansies*.
 W. Paul & Son, Waltham Cross.—*Catalogue of Roses*.
 C. R. Shilling, Winchfield.—*Bulbous Roots, Shrubs, and Trees*.
 W. E. Tidy, Brockhampton Nurseries, Havant.—*Bulb Catalogue*.



*** All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Yellow Ground Carnations (*Single-handed*).—In addition to the varieties named in your list the following among the best grown by Mr. J. Douglas are excellent. Louis Phillipe, Duc d'Orleans, Miss Audrey Campbell, Acteur, Lord Rosebery, and Ladas.

Red Spider in Greenhouse (*J. S. Askington*).—If this pest is infesting the plants badly an insecticide will be necessary. We have found those which are advertised answer their purpose when rightly used according to instructions. Clean all woodwork by scrubbing with hot water, using plenty of soap, and give walls and flues a thorough lime-washing. Avoid crowding plants, and remember that plants in such a house require close attention to keeping the leaves clean by sponging and syringing, and the ventilators should be opened daily when the weather is suitable.

Lifting Vines (*E. B.*).—Whether Vines can be lifted or not to grow without receiving a severe check depends on (1) their age, (2) the condition, and (3) the position of the roots. If your Vines are rooting in an inside and outside border, the latter may be renewed this autumn, the former another year. If the roots are wholly outside and the Vines old they would sustain a check that would prejudice the next season's crop of Grapes. Turfy loam of medium texture, with a tenth part of crushed lime rubbish and wood ashes, adding a sprinkling of an advertised Vine manure, in quantity advised by the vendor, would form a suitable compost.

Forming a Privet Hedge (*H. B. C.*).—It will certainly be advisable to follow the plan you suggest. Dig or trench the ground fully a yard wide, mixing with the soil some well-decayed manure. Plant in November bushy specimens of the evergreen variety with good roots 6 inches apart. Cut it down in the spring to within 6 inches of the ground when the buds begin swelling, trimming in the sides. This will cause the plants to branch freely and become dense at the base. Trim the sides a little in August; in fact, cut them back so as to form a base of not more than 9 to 12 inches width, slightly tapering upwards, and in September cut off the top, the mere tips only, so as to form an even height. This will be determined by the lowest parts, which will probably be 18 to 24 inches high. The following year the hedge will advance rapidly, and may be treated as in the previous year, when a hedge will be had about a yard high, but it is well not to let it grow too tall without heading, otherwise it will be weak. About a foot height is sufficient to gain in each year after the first up to a height of 3 feet, and then 6 inches gain each year until it is of the height required. A hedge may be had quicker by planting 2 to 3 feet bushy plants, merely trimming in their irregular side and top growths.

Treatment of Thunias (*A. R. J.*).—The fragment of Orchid sent is either *Thunia alba* or *T. Bensoniæ*. These Orchids are identical in habit, the first named producing white, and the latter purple flowers. The genus *Thunia* has by some authorities been merged into *Phaius*, but for garden purposes it is more convenient to retain the old name. *Thunias* are deciduous Orchids with erect, leafy, stem-like pseudo-bulbs, and the flowers are produced from the apices of these in loose racemes during the summer months. The pseudo-bulbs of *Phaius* proper are usually roundish or ovate, with large ornamental foliage. The culture of *Thunias* is very simple. The plants should be repotted in spring in a compost consisting of good fibry loam, peat, chopped sphagnum, and finely broken potsherds. Good drainage is essential, and water must be

very sparingly applied at first; when the young growths commence emitting roots more will be required, and after the pots are filled occasional applications of weak liquid manure are of great assistance. If the plants are strong and grown in a good light they should flower about midsummer. When the blossoms fade and the foliage begins to lose colour the plants must be gradually dried until all is fallen, when no more water will be required until growth recommences in spring.

Thinning Larch Plantation (*A. B. C.*).—As you suggest the Larch will now be suitable for stakes and various useful purposes, and the first thinning should be effected as soon as practicable. The trees being planted so thickly, it will be necessary to cut away about one-fourth of the worst shaped and ill placed, or, if the trees are very vigorous and require more room for their healthy development, it may be necessary to thin out more freely, always bearing in mind that excessive thinnings are more injurious than beneficial; at the same time the thinning must be efficient, allowing top space for those that remain, so as to insure a sturdy growth. Where the trees have grown most they should be thinned most, and *vice versa*. At the next thinning, say in three years hence, the trees will be suitable for rails and general fencing purposes. Therefore it is not advisable to thin too severely at first, but whilst considering the ultimate good of the trees, keep in view the utility of the thinnings, as they may be of little use at first, but if left a little longer (without prejudice to those that would remain after thinning), their value would be considerably enhanced. Judgment must be exercised, removing in the first instance the most unsatisfactory in growth.

Piptanthus nepalensis (*Amateur*).—You have been correctly informed; the Evergreen Laburnum is the popular name which has been not inaptly applied to this rare and little-known Indian shrub; but though it bears some resemblance to one of our most common and beautiful flowering trees, yet it can be easily distinguished from it at a glance by the most casual observer, and attractive though it be it cannot rival its more floriferous relative in effectiveness. Still it is one of those numerous old inhabitants of our gardens that deserve to be rescued from the obscurity and neglect into which they have fallen owing to the continued and extended introduction of novelties. It is of branching habit, but not bushy, and seems to need support of some kind, as it has a rather straggling appearance. Trained to a wall it succeeds well, and is very pretty during May and early June, as it flowers abundantly when in good condition. In a few establishments it may be occasionally seen, but it is far from being common. It is quite hardy in most parts of England. It needs the protection of a wall in the northern or colder districts; but in the south it is rarely injured, even if planted in the open. The name given above is the one by which it is best known, but it has several synonyms, *Baptisia nepalensis* being one that is occasionally seen, and more rarely *Thermopsis nepalensis* and *T. laburnifolia*.

Eugenia Ugni (*H. P.*).—This plant is a native of Chili, and has been long known under the name of *Myrtus Ugni*. In Chili the natives call it Ugni, and the Spaniards Murtilla. The juice is expressed from the fruit and mixed with water, furnishing a very refreshing drink, with somewhat the odour of Rosemary. The fruit is the size of a large Black Currant somewhat flattened, and of a brownish red colour. The pulp is light-coloured, soft, and juicy, with singular mixture of a sweet and spicy flavour, which is very agreeable. It is cultivated in gardens and used in the dessert by the inhabitants of Valparaiso. Other species of *Eugenia* which yield fruits of some use are the following: The fruit of *E. pseudopsidium*, which grows on the mountains of Martinico, is held in great esteem in the West Indies, where it is called Gouyavier batard. A decoction of the leaves of *E. cheken* is said to cure diseases of the eye. The bark is so astringent as to render a decoction of it of great use in cases of dysentery. The seeds of *E. tabasco* are used as a condiment. Jamaica Pepper, or Allspice, is the fruit of *E. Pimento*, a native of the Carribbee Islands, and now cultivated also in the East Indies. It is a handsome tree about 30 feet high, with a straight trunk much branched above, with dense evergreen foliage. Soon after the trees have blossomed the berries become fit for gathering, without being suffered to ripen, as when ripe they are moist and glutinous, and therefore difficult to cure, and when dried become black and tasteless. The berries are dried by spreading them on a terrace exposed to the sun for about seven days, during which time they gradually lose their green colour and become of a reddish-brown. They have a fragrant odour, which is supposed to resemble that of a mixture of Cinnamon, Cloves, and Nutmeg, and hence the name of Allspice by which they are known.

White-flowered Orchids (*Amateur*).—You are right in assuming that white varieties of Orchids are most in demand and realise fairly good prices, while sometimes the ordinary type of the species may be only worth a few shillings, as in *Lycaste Skinneri*, the white variety *alba* is sold for as many guineas. Of the cheaper white-flowered Orchids, such as *Odontoglossum Alexandræ*, *Cœlogyne cristata*, and *Phalænopsis grandiflora*, many are now being grown for market, and, together with the coloured *Dendrobium nobile*, make a feature in the florists' windows in Covent Garden Market. The following is a selection of the best white-flowered Orchids:—*Aceranthus Leonis*, *Angræcums*, *Anguloa chburnea*, *Calanthe Turneri nivalis*, *Cattleya Dominiana alba*, *C. Percivaliana alba*, *C. Skinneri alba*, *Cœlogyne cristata alba*, *Cymbidium eburneum*, *Cypripedium niveum*, *C. Sedeni candidulum*, *Dendrobium Deari* (very useful), *D. infundibulum*, *D. formosum*, *D. Jamesianum*, *Lælia albida*, *L. anceps alba*, and other varieties; *L. elegans alba*, *Lycaste Skinneri alba*, *L. Harrisoniæ alba*, *Masdevallia tovarensis*, *Odontoglossum Alexandræ*, *O. Pescatorei*, *O. pulchellum*,

O. Roezli album, and O. vexillarium album. Some of these are not pure white, but there is very little colour in the majority, the Lælias, Odontoglossums, and Cœlogyne being valuable for cutting.

Manuring Flower Borders (L. F.).—There is no doubt flower borders are best manured in autumn, as the manurial matter is assimilated and absorbed by the soil ready for being taken up by the roots when fresh growth takes place, whereby a good growth is assured and the plants flower more profusely. Nightsoil and soot are powerful manures, and should not be used excessively. Soot is more speedy in its action, and should not be supplied until it is required by the plants, applying it to flower borders in spring during moist weather when the plants are commencing growth. It is good against predatory vermin or slugs, and may be given at the rate of a peck per rod (30½ square yards), distributing it evenly on the surface, and unless thrown on the plants in excessive quantity will not injure them. It should, however, be kept from those with hairy leaves. During March or early April is a good time to apply soot, repeating in June, or it may be given during summer in liquid form to any plants requiring stimulation, a tablespoonful to a gallon of water is sufficient. Being rather difficult to mix it should be formed into a paste with sufficient water, and then it mixes readily with water. Nightsoil mixed with dry fine ashes or dry soil may be applied at the rate of a bushel per rod for general dressings, the ashes or soil used not being more than an equal quantity of the nightsoil; but when the soil is poor it may be applied at double the rate named, and should be pointed in. This should be done in autumn or some time in advance of growth in the plants. It will be rendered very powerful by adding urine to form a paste and dry wood ashes to form it into a dry powder. This kept in a dry place is little inferior to guano, and can be applied to any crop with material benefit. A good handful per square yard is a sufficient dressing to apply at once, and before cropping or a little in advance of the plants requiring assistance in accelerating their growth or enlarging their parts.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. *They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (Ilce).*—The Pears are very hard and not in a condition to be named; see conditions above. (A. M. C.).—1, rotten; 2, Marie Louise; 3, unknown, inferior; 4, Marie Louise d'Uccle. (C. H. P.).—We regret our inability to name late Pears when in a hard green state. No one can name them with certainty in the absence of the important tests of texture and flavour. A very few may possibly be recognised, but naming under such conditions amounts, as a rule, to mere guesswork. (H. S.).—The Apple sent is not a typical specimen and cannot be named. (A. S.).—The Pear is Fondante d'Automne, and the Apple Fearn's Pippin.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (F. F. T.).—The flowers are varieties of *Campanula trachelium*. (H. P. T.).—1, *Cattleya granulosa*; 2, *Lælia autumnalis*. (W. C.).—Probably *Eriobotrya japonica* (the Loquat). (M. R.).—*Pyrus salicifolius*. (A. A.).—1, *Blechnum boreale* 2, 3, and 5, specimens insufficient; 4, *Asplenium lonchitis*. (D. B.).—*Cypripedium Lawrencianum*.

COVENT GARDEN MARKET.—OCTOBER 3RD.

MARKET steady. Nuts and Pears heavy. Apples light. Grapes and Cucumbers much in favour of buyers. Tomatoes firm.

VEGETABLES.

s. d.	s. d.	s. d.	s. d.
Beans, Kidney, per half sieve	1 0 to 1 6	Mushrooms, punnet	0 9 to 1 0
Beet, Red, dozen	1 0 0 0	Mustard and Cress, punnet	0 2 0 0
Carrots, bunch	0 3 0 4	Onions, bushel	3 6 4 0
Cauliflowers, dozen	1 6 3 0	Parsley, dozen bunches	2 0 3 0
Celery, bundle	1 0 1 3	Parsnips, dozen	1 0 0 6
Coleworts, dozen bunches	2 0 4 0	Potatoes, per cwt.	2 0 3 6
Cucumbers, dozen	1 0 2 6	Salsify, bundle	1 0 1 5
Endive, dozen	1 3 1 6	Scorzonera, bundle	1 6 0 0
Herbs, bunch	0 3 0 0	Shallots, per lb.	0 3 0 0
Leeks, bunch	0 2 0 0	Spinach, bushel	1 6 3 0
Lettuce, dozen	0 9 1 0	Tomatoes, per lb.	0 2 0 5
		Turnips, bunch	0 3 0 4

FRUIT

s. d.	s. d.	s. d.	s. d.
Apples, per half sieve	1 6 to 3 6	Peaches, per doz.	1 0 to 10 0
Grapes, per lb.	0 6 1 6	Plums, half sieve	1 6 3 0
Cobs per 100 lbs.	22 6 24 0	St. Michael Pines, each	2 0 6 0
Lemons, case	10 0 15 0	Strawberries per lb.	0 0 0 0

AVERAGE WHOLESALE PRICES.—OUT FLOWERS—Orchid Blooms in variety.

s. d.	s. d.	s. d.	s. d.
Arum Lilies, 12 blooms	2 0 to 4 0	Mignonette, 12 bunches	1 0 to 3 0
Asparagus Fern, per bunch	2 0 2 6	Myosotis or Forget-me-nots, dozen bunches	1 6 2 0
Asters (English) doz. bunches	3 0 6 0	Orchids, per dozen blooms	1 6 12 0
Bouvardias, bunch	0 6 1 0	Pansies, dozen bunches	1 0 2 0
Carnations, 12 blooms	1 0 1 6	Pelargoniums, 12 bunches	4 0 6 0
Chrysanthemums, doz. bunches	12 0 18 0	Primula (double), dozen	0 6 0 9
Chrysanthemums, doz. blooms	3 0 9 0	Pyrethrum, dozen bunches	2 0 4 0
Cornflowers, doz. bunches	1 0 2 0	Roses (indoor), dozen	0 6 1 0
Dahlias	2 0 4 0	„ (outdoor), doz. bunches	3 0 8 0
Eucharis, dozen	2 0 4 0	„ Tea, white, dozen	0 6 1 6
Gaillardia, dozen bunches	1 0 1 6	„ Yellow, dozen	2 0 3 0
Gardenias, per dozen	2 0 4 0	„ Safrano (English), doz.	1 0 2 0
Geraanium, scarlet, doz. bunches	6 0 9 0	„ Marechal Niel, doz.	1 6 4 0
Gladiolus, dozen sprays	0 9 1 6	Smilax, per bunch	2 0 3 0
Lavender, dozen bunches	4 0 6 0	Stephanotis, dozen sprays	2 0 3 0
Lilium lancifolium, dozen blooms	1 6 2 0	Stocks, dozen bunches	2 0 4 0
Lilium longiflorum, dozen	6 0 9 0	Sunflowers, various, dozen bunches	1 0 3 0
Maidenhair Fern, dozen bunches	4 0 6 0	Sweet Peas, dozen bunches	1 0 2 0
Marguerites, 12 bunches	1 6 3 0	Tuberose, 12 blooms	0 4 0 6

PLANTS IN POTS.

s. d.	s. d.	s. d.	s. d.
Arbor Vitæ (golden) dozen	6 0 to 12 0	Heliotrope, per dozen	3 0 to 6 0
Aspidistra, per dozen	18 0 36 0	Lilium auratum, doz. pots	12 0 18 0
Aspidistra, specimen plant	5 0 10 6	„ Harrisii, per dozen	12 0 24 0
Asters, dozen pots	3 0 4 0	„ lancifolium, dozen	9 0 15 0
Chrysanthemums, per doz.	3 0 6 0	„ „ „ „ „	9 0 15 0
„ large, per doz.	9 0 18 0	Lycopodiums, per dozen	3 0 4 0
Coleus, per dozen	2 0 4 0	Marguerite Daisy, dozen	6 0 12 0
Dracæna, various, dozen	18 0 42 0	„ yellow, doz. pots	6 0 10 0
Dracæna viridis, dozen	9 0 24 0	Mignonette, per doz.	3 0 6 0
Euonymus, var., dozen	6 0 18 0	Myrtles, dozen	6 0 9 0
Evergreens, in var., dozen	6 0 24 0	Palms, in var. each	1 0 15 0
Ferns, in variety, dozen	4 0 12 0	„ (specimens)	21 0 63 0
„ (small), per hundred	4 0 6 0	Pelargoniums, per dozen	6 0 12 0
Ficus elastica, each	1 0 7 0	„ scarlet, per doz.	2 0 4 0
Foliage plants, var., each	2 0 10 6	Primulas, per dozen	6 0 9 0
Fuchsia, per dozen	3 0 6 0	Solanums, per dozen	12 0 15 0



MILK.

OF the farm produce that is now so profitable as to command the attention of farmers following a modified system of mixed farming, as well as that of dairy farmers, milk is a staple article of prime importance, entering as it does more or less into the dietary of every individual, young or old, but especially of the young, as milk pure and simple. In this form its use will extend—is extending, as indeed it may well do having regard to its nutritive properties, and it may be taken as a foregone conclusion that its increasing use by the masses will go on with increasing knowledge of its true value as food. At present its daily use in London is said to range from three quarters of a pint per head in West End households, downwards to a comparatively infinitesimal quantity in the East End. Even now this quantity points to a total partaking of the marvellous, the cost of the milk consumed in the metropolis every twenty-four hours being, according to the “Daily Telegraph,” twenty thousand pounds, or a total annual cost of eight to nine million pounds sterling. How these figures would bear the test of analysis we cannot say, nor is it of material importance, because the fact remains that the metropolitan milk trade has attained gigantic proportions, and is ever growing. Entirely do we agree with our contemporary that this prodigious market ought to be accessible only to our own farmers, and should be cultivated with energy and skill.

Certainly in this matter there is ample scope for energetic action as well as for manipulative skill. In both we go right down to the breeding of cows, and are bound to call attention

to the fact of the average milk yield per cow for the United Kingdom is only 400 gallons. It is true enough that in herds kept specially for milk the average is considerably higher, being in many a herd half as much more, and this, too, even among Jerseys; but this only shows what is possible in the way of general improvement, and that deep milking is not incompatible with rich milk. The combination is altogether dependent upon selection in both sexes; given this, and there is no good reason why the general average milk yield of dairy cows over four years old should not be raised to 600 gallons. Of course, feeding and general care as well as breeding exercise an influence upon the milk yield which must not be ignored. Sound wholesome food the year round, thorough protection from cold and wet, from warbles and gad flies, and generally judicious kindly management, all exercise an influence for good, tending to promote that healthy condition without which a full milk yield is an impossibility. Home-bred stock, home-raised food are both important factors which tell well generally. There may be—there are exceptions, but the principle for general observance is to avoid expenditure on that or its equivalent which can be produced to advantage on the farm. We want a higher average milk yield; we want more food from the land—richer pasture, greater bulk of hay, more abundant herbage for grazing—a system of pasture cultivation which will enable haymaking generally to be done in time to insure a plentiful aftermath.

Coincident with such improvements there should be, there must be, persistent, well directed efforts to turn the milk to full account for the benefit of the producer. We hear often enough of the reduction in the price of milk being forced upon the farmers by those to whom they consign it, but there is no fluctuation in the charges for it by the consignee to the consumer; 4d. per quart is the retail price, and the margin of profit for the retailer must be a handsome one. Over-competition rather than over-production must be the reason of this, if it be true that of the 15 lbs. of butter which is consumed on an average by every inhabitant of the British Islands annually nearly 9 lbs. are foreign, and that of 12 lbs. of cheese more than half is imported. The remedy may be found in co operative dairy factories and in the diversion to them of some of the milk now sent to the town. Can it possibly be true that so much milk is sent away because that is the easiest thing to do with it? We fear it is so judging from all we see and hear. Confirmatory of this view was the recent report of bankruptcies wherein we were told of the total liabilities of farmers who had failed having doubled during the past two years, the Official Receiver at Swindon saying "that the slackness and nervelessness of a large number of farmers is one of the elements of failure. The farmer of to-day is not the prompt, active, energetic, early-rising man his ancestors were, out and superintending and overseeing, and often, as occasion requires, assisting in the work of the farm. And still in downward tendency, the sons are frequently more inert than their fathers. They do little to improve their condition physically, mentally, or morally, and thus we see growing up around us a lot of useless uneducated young fellows who have no real knowledge of farming or of its scientific requirements, and who are getting into habits of drifting down the stream and losing their self-respect. They will not attend technical classes, and almost their only attempt at literature is the penny weekly newspaper. The sending away of the produce of the farm in the shape of milk induces laziness in the men. No cheese to make takes away the women's occupation, whilst the land itself is getting every year more impoverished by the drain on it through the removal of milk."

These are very grave charges, which, if true only in part, are serious enough. Mere denial or angry retort will do no good. There is far too much bickering in purely Agricultural papers just now, and it would be more to the

purpose to discuss measures for change and improvement to meet the times. That is our aim and object in this article, which is an outcome of our conviction that there is wide scope for improvement in the production, manipulation, and disposal of milk.

WORK ON THE HOME FARM.

Worthy of the home farmer's best efforts is the maintenance of a full supply of first-class butter and new laid eggs from Michaelmas till Lady Day. For the cows there must be the exercise of caution as tree leaves fall, to prevent them from eating Walnut or other leaves at all likely to impart unpleasant flavour to the milk. See that they have access to a full supply of pure water, and do not forget that there is a rapid deterioration of quality in pasture herbage as autumn advances. To correct any bad effect which this may have on quantity or quality of milk, some crushed Oats may be given the cows during the milking, and as they are withdrawn from pastures at night some of the best meadow hay in the yard racks, or on wet evenings in a rack along the inner side of the open hovels, so that they may have shelter and food at the same time. As a general rule we do not allow cows to be out at night on pasture after Michaelmas. The nights then grow cold and wet, already there are frosts in the valleys, and the cows will be the better for the comfort of yards and hovels. Remember, it is not a question of their endurance, but of the maintenance of healthy condition, and a plentiful milk yield of rich quality. Remember also that all in-calf cows require close attention to shelter and food, with quiet gentle treatment. Many a case of abortion has been caused by negligence in these matters. There is still plenty of herbage on pasture generally, but we have seen some stocked so heavily as to be quite useless for cows. Where this has been done some green food such as Clover, Lucerne, Rye Grass, or green Maize is still available, and the cows should have some twice daily. Clear up the Maize now as soon as it can be managed, as the first sharp frost will spoil the upper part of the plant. Hold Carrots, Cabbages, and Kale in reserve till other green food is exhausted. November, December, and January are the most difficult months for cow management; plenty of crisp Cabbages, Carrots, and Mangold then are simply invaluable.

Fowls are now moulting, old hens are falling off in laying eggs, but this is well met by a capital supply of eggs from the earliest pullets, some of which began laying in August. This was too soon, as we usually find such forward birds moult and cease laying for a while; but with plenty of hens from successional brood the egg supply will be kept up. The point of importance is to have enough to give a surplus of eggs, which can always be sold to advantage.

OUR LETTER BOX.

Breaking up Pasture (*J. S. Aslington*).—It is not a wise thing to take away the turf and burn it off the land. Both that and the whins (Gorse or Furze) should be burnt on the land in small heaps, so that the ashes may be scattered over the surface, and so afford a dressing of potash, which is invaluable in the subsequent cropping. Of course you can still so use the ashes, but at an unnecessary cost for labour, which might have been avoided.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

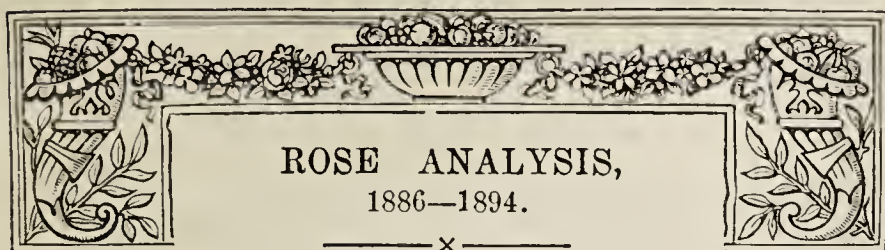
Lat. 51° 32' 49" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1894. September.		Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday	.. 23	29.780	57.8	56.4	S.E.	55.9	64.0	53.3	88.6	52.5	0.034
Monday	.. 24	29.803	60.0	58.2	E.	56.2	61.7	54.4	84.7	50.9	0.181
Tuesday	.. 25	29.683	57.9	57.4	N.E.	56.7	59.7	54.9	61.7	54.8	0.080
Wednesday	26	29.765	53.5	52.6	N.	56.7	56.4	53.0	72.6	53.8	—
Thursday	.. 27	30.167	59.7	47.3	N.	55.2	61.3	41.6	98.3	36.3	—
Friday	.. 28	30.333	50.6	45.3	N.	53.8	58.4	36.7	102.0	31.6	—
Saturday	.. 29	30.323	49.6	45.4	N.	52.3	60.3	39.3	103.2	34.0	—
		29.979	54.3	51.8		55.3	60.7	47.6	87.3	44.8	0.295.

REMARKS.

- 23rd.—Rain from 2.30 A.M. to 3.30 A.M., and dull and damp morning; a little sun hine in afternoon; showers in evening.
 24th.—Generally overcast, with a shower about 1 P.M.
 25th.—Almost continuous rain from 0 A.M. to 7 A.M., and from 3 P.M. to 7 P.M.; dull and drizzly between.
 26th.—Overcast day, with drizzle from 8 A.M. to 10 A.M.; clear cold night.
 27th.—Sunny throughout.
 28th.—First grass frost of the season in early morning; occasionally cloudy at midday, but bright sunshine almost throughout.
 29th.—Bright sunshine in morning; generally cloudy in afternoon.

Temperature rather above the average at the beginning, and below it at the end of the week. No rain during the colder time.—G. J. SYMONS.



ROSE ANALYSIS, 1886-1894.

— x —

THE National Rose Society's exhibition, which was held this year at the Crystal Palace on July 7th, proved, with the exception of that in 1892, the largest the Society has ever held, and but for the May frosts would undoubtedly have surpassed both in numbers and quality any that have preceded it.

The total number of Rose blooms tabulated for the purpose of this analysis amounts altogether to over 16,000. I do not think it will be of any further interest to give as usual the figures for each year, as they do not represent, as in the Dahlia and Chrysanthemum analyses, the aggregate number of blooms staged at the different exhibitions, but only those in nearly all the prize stands. I may, however, state that at the last National show the names of 1222 Hybrid Perpetuals and 661 Teas and Noisettes were taken down—or 1883 in all.

I have previously recorded many disappointing Rose seasons; but never one quite as heartrending as that of the present year. The blooms in some other years may, taking the country generally, have been as unsatisfactory, or even worse; but what made the Rose season of 1894 so exceptionally cruel was the glorious prospect by which it was preceded. It seems to be generally acknowledged that up to nearly the end of the third week in May never before in the recollection of most rosarians had their plants been known to be as forward or as full of promise. Before, however, even the end of that month the whole aspect of our Rose gardens had changed, for on the nights of the 20th and 21st came disastrous frosts, followed by ten days of chilly weather which, even where no greater damage was done, gave a serious check to the growth of the plants, a calamity greatly to be dreaded when once they have formed their flower buds. But in numerous localities most of these flower buds were more or less seriously injured, while in others the whole of the first crop of blooms was entirely destroyed. The flowering season was by means as phenomenally early as it threatened at one time to be, but nevertheless proved, at all events at the end of the first week in July, much in advance of the average, as a glance down the accompanying tables will show. They will also show it to have been a cool summer, greatly favouring the thinner varieties.

Like Mrs. Gladstone among the Show Dahlias, Mrs. John Laing, that most dependable of all exhibition Roses, and with many sterling qualities besides as a Rose for ordinary cultivation, now stands head and shoulders above all other varieties in the list of Hybrid Perpetuals. In 1892 it was shown at the Crystal Palace in fifty prize stands, in 1893 in forty-seven, and this year in fifty-one. When we consider the different characters of these three seasons this must surely be regarded as a truly surprising record—a record unapproached by any other Rose whatever. In looking down the table it will be seen that by a strange coincidence three pink Roses—Mrs. J. Laing, Madame G. Luizet, and La France, are to be found at the top of the list, immediately followed by three red ones—Ulrich Brunner, A. K. Williams, and Marie Baumann. But to return to the season, and the varieties most influenced by it. Never before during the nine years covered by the analysis have Mrs. J. Laing, Marie Baumann, Her Majesty, Merveille de Lyon, Baroness Rothschild, Suzanne M. Rodocanachi, Victor Hugo, or Jeannie Dickson been as frequently staged. Among other sorts also unusually well repre-

sented may be mentioned Ulrich Brunner, Alfred Colomb, Earl of Dufferin, Star of Waltham, Reynolds Hole, Violette Bouyer, Duchesse de Morny, and Monsieur Noman. On the other hand, Madame G. Luizet, La France, Charles Lefebvre, Etienne Levet, Dupuy Jamain, Ferdinand de Lesseps, Comtesse d'Oxford, Pride of Waltham, Duchess of Bedford, and several other choice varieties have seldom been less frequently shown.

In the analysis for 1892 there were only four Hybrid Perpetuals, Hybrid Teas, or Bourbons which were less than six years old; in 1893 there were six; while this year there are eight—Gustave Piganeau, Caroline Testout (H.T.), Jeannie Dickson, Margaret Dickson, Marchioness of Dufferin, Duke of Fife, Mrs. Paul (B.), and Marchioness of Londonderry. It is satisfactory to note the gradual increase in the number of the new varieties, and also the fact that only two of them come to us from the Continent, the remaining six being of British origin. Taking them in the order in which they appear in the table, we come first to Margaret Dickson—to my mind when well shown the best and most pleasing of all the white or nearly white H.P.s. This variety was sent out in 1891. The past cool summer appears to have suited its requirements so well that it was shown this year in no fewer than twenty-five different prizewinning stands, whereas in 1893 it was staged in but five—thus causing it to rise at a bound from the bottom of the table to No. 7. That fine exhibition variety Gustave Piganeau (1889), on the contrary, has fallen from No. 8 to No. 11. Caroline Testout (H.T.), first distributed in 1890, is a welcome addition to that small but rapidly increasing section the Hybrid Teas. It somewhat resembles La France, but has a clearer and more pleasing shade of colour. It may not be as reliable as an exhibition flower, but is almost, if not quite, as free flowering. On its first appearance on the list it takes up a very creditable position at No. 34.

Exception has been taken to the National Rose Society placing these Hybrid Teas in a separate section in their new catalogue of exhibition Roses, and especially to the inclusion of La France, and yet one cannot enter any large Rose nursery or Rose garden, particularly in the early autumn, without being struck with the unique character as regards freedom of flowering of these Hybrid Teas, and more particularly La France and its seedlings Augustine Guinoisseau and Caroline Testout. They stand out in this respect entirely distinct from all the so-called Perpetuals, and are, I consider, well worthy of a new section being allotted to them, if only for the encouragement of these free-flowering qualities.

Jeannie Dickson (1890) did well this year, rising from No. 47 to No. 42. Marchioness of Londonderry, described as ivory white in colour, although only sent out last year, secures a place at No. 52. Marchioness of Dufferin (1891), also appears on the list for the first time at No. 56. Then quite at the bottom of the table we find Duke of Fife (1892), a bright crimson sport from Etienne Levet and that very distinct new Bourbon, Mrs. Paul, which was first distributed by Messrs. Paul & Son in 1891.

Now that eight years have passed since the first Rose analysis was issued, it may be interesting to estimate the progress made during that period as regards the introduction of new varieties of merit, by comparing the table of 1886 with that of the present year. In the former we find no mention of any of the following:—Mrs. John Laing, now the premier H.P.; Her Majesty (No. 7), Margaret Dickson (No. 7), Gustave Piganeau (No. 11), S. M. Rodocanachi (No. 14), Earl of Dufferin (No. 18), Caroline Testout (No. 34), Victor Hugo (No. 39), Jeannie Dickson (No. 42), Marchioness of Londonderry (No. 52), Sir Rowland Hill (No. 54), Marchioness of Dufferin (No. 56), Viscountess Folkestone (No. 56), Duke of Fife (No. 64), and Mrs. Paul (No. 64). Considering to what perfection this section had already been brought in 1886, the high positions occupied by several of the foregoing in the

present analysis, and the inferior character of the varieties they have superseded, the gain during the eight years must, I think, be regarded as considerable.

Catherine Mermet still heads the list of Teas and Noisettes,

followed as in the previous analysis by Comtesse de Nadaillac, The Bride, Innocente Pirola, Souvenir d'un Ami, and Marie Van Houtte. The Hon. Edith Gifford was much more frequently staged this year than at any previous exhibition, and appeared in

HYBRID PERPETUALS.

Position in Present Analysis.	Average Number of Times Shown.	No. of Times Shown in 1894 in True Relative Proportion to the Average.	Name	Date of Introduction.	Raiser's or Introducer's Name.	Colour.
1	45.5	51	Mrs. John Laing	1887	Bennett	Rosy pink
2	38.1	29	Madame Gabriel Luizet	1877	Liabaud	Light silvery pink
3	37.6	33	La France (H.T.)	1867	Guillot	Silvery rose, shaded lilac
4	35.3	46	Ulrich Brunner	1881	Levet	Cherry red
5	34.2	32	A. K. Williams	1877	Schwartz	Bright carmine red
6	31.6	40	Marie Baumann	1863	Baumann	Soft carmine red
7	25.0	37	Her Majesty	1885	Bennett	Pale rose
7	25.0	25	Margaret Dickson	1891	A. Dickson & Sons ..	Ivory white
8	24.6	39	Alfred Colomb	1865	Lacharme	Bright carmine red
9	24.3	16	Charles Lefebvre	1861	Lacharme	Purplish crimson
10	23.6	36	Merveille de Lyon	1882	Pernet	White
11	21.0	18	Gustave Piganeau	1889	Pernet & Ducher	Shaded carmine
12	19.6	8	Etienne Levet	1871	Levet	Carmine rose
13	19.5	28	Baroness Rothschild	1867	Pernet	Light pink
14	19.3	28	Suzanne M. Rodocanachi	1883	Lévêque	Glowing rose
15	18.8	19	François Michelin	1871	Levet	Deep rose, reverse silvery
16	18.6	10	Dupuy Jamain	1868	Jamain	Bright cerise
17	18.4	19	Louis Van Houtte	1869	Lacharme	Deep crimson, shaded maroon
18	18.0	25	Earl of Dufferin	1887	A. Dickson & Sons ..	Dark crimson, shaded maroon
19	17.8	13	Marquise de Castellane	1869	Pernet	Clear cherry rose
20	17.6	18	Prince Arthur	1875	B. R. Cant	Bright crimson
21	17.0	15	Général Jacqueminot	1853	Rousselet	Bright scarlet crimson
22	16.9	10	Ferdinand de Lesseps	1869	E. Verdier	Shaded crimson
23	16.4	16	Horace Vernet	1866	Guillot	Scarlet crimson, dark shaded
24	16.2	15	Duke of Wellington	1864	Granger	Bright shaded crimson
25	16.0	10	Camille Bernardin	1865	Gautreau	Light crimson
25	16.0	7	Comtesse d'Oxford	1869	Guillot	Carmine violet
26	15.9	15	Lady Mary Fitzwilliam (H.T.)	1882	Bennett	Rosy flesh
27	15.1	11	Duke of Edinburgh	1868	Paul & Son	Scarlet crimson
28	14.8	8	E. Y. Teas	1874	E. Verdier	Bright red
29	14.5	13	Marie Verdier	1877	E. Verdier	Pure rose
30	14.4	8	Dr. Andry	1864	E. Verdier	Bright crimson
30	14.4	17	Le Havre	1871	Eude	Vermilion red
31	14.0	10	Marie Finger	1873	Raimbaud	Light salmon rose
32	13.4	14	Heinrich Schultheis	1882	Bennett	Pinkish rose
33	13.3	14	Fisher Holmes	1865	E. Verdier	Shaded crimson scarlet
34	13.0	13	Caroline Testout (H.T.)	1890	Pernet & Dacher	Light salmon pink
35	12.4	13	Duke of Teck	1880	Paul & Son	Light crimson scarlet
36	12.2	11	Captain Christy (H.T.)	1873	Lacharme	Delicate flesh
37	12.1	10	Prince Camille de Rohan	1861	E. Verdier	Crimson maroon
38	12.0	8	Marie Rady	1865	Fontaine	Brilliant red
39	11.8	14	Abel Carrière	1875	E. Verdier	Crimson maroon, shaded purple
39	11.8	17	Victor Hugo	1884	Schwartz	Dazzling crimson, shaded
40	10.7	14	Beauty of Waltham	1862	W. Paul & Son	Rosy crimson
41	10.4	4	Pride of Waltham	1881	W. Paul & Son	Light salmon pink, shaded violet
42	10.3	14	Jeannie Dickson	1890	A. Dickson & Sons ..	Soft silvery rose
43	10.2	8	Xavier Olibo	1864	Lacharme	Dark velvety crimson
44	9.9	14	Star of Waltham	1875	W. Paul & Son	Carmine, shaded violet
45	9.4	2	Madame V. Verdier	1863	E. Verdier	Clear light crimson
45	9.4	12	Reynolds Hole	1873	Paul & Son	Deep scarlet maroon
46	9.2	7	Duchess of Bedford	1879	Postans	Light scarlet crimson
47	9.1	4	Madame Eugène Verdier	1878	E. Verdier	Silvery rose
48	9.0	10	Duchesse de Vallombrosa	1875	Schwartz	Flesh, changing to white
49	8.9	6	Countess of Rosebery	1879	Postans	Cherry carmine rose
50	8.8	14	Violette Bouyer	1881	Lacharme	Tinted white
51	8.7	8	Comte Raimbaud	1867	Rolland	Clear crimson, tinted red
52	8.0	8	Marchioness of Londonderry	1893	A. Dickson & Sons ..	Ivory white
53	7.9	6	Charles Darwin	1879	Laxton	Crimson
54	7.5	3	Sir Rowland Hill	1888	Mack	Deep velvety plum
55	7.3	11	Duchesse de Morny	1863	E. Verdier	Silvery rose
55	7.3	1	Madame Isaac Perière (B.)	1882	Margottin	Light carmine
56	7.0	7	Marchioness of Dufferin	1891	A. Dickson & Sons ..	Pink
56	7.0	0	Sénateur Vaisse	1859	Guillot	Bright crimson
56	7.0	2	Viscountess Folkestone (H.T.)	1886	Bennett	Creamy white, shaded flesh
57	6.7	14	Monsieur Noman	1866	Guillot	Pale rosy pink
58	6.6	1	Auguste Rigotard	1871	Schwartz	Light carmine
59	6.3	5	Marguerite de St. Amand	1864	Sansal	Clear rosy flesh
60	5.8	3	Victor Verdier	1859	Lacharme	Clear cherry rose
61	5.6	5	Magna Charta	1876	W. Paul & Son	Bright pink carmine
62	5.4	7	Alphonse Soupert	1883	Lacharme	Bright rose
63	5.3	5	Dr. Sewell	1879	Turner	Violet crimson
64	5.0	2	Duke of Fife	1892	J. Cocker & Sons	Bright crimson
64	5.0	5	Mrs. Paul	1891	Paul & Son	Blush white, shaded peach

as many prize stands as the leading flower. Souvenir de S. A. Prince, Mme. Cusin, Mme. Bravy, and Anna Ollivier were also unusually well shown. To several fine Teas the season, however, proved very unfavourable, viz., Comtesse de Nadaillac, Innocente Pirola, Niphotos, Caroline Kuster (N.), Francisca Krüger, Princess of Wales, and Mme. Lambard.

Turning now from the established varieties to the newer ones. Of the two 1887 varieties, Madame Hoste just manages to maintain its former position, while Ethel Brownlow has made splendid progress, rising from No. 20 to No. 14, and being as often staged as Madame Cusin, although also in unusually good form. On the other hand, Ernest Metz (No. 14), sent out by Guillot in 1888, was only half as frequently shown this year as in 1893. Souvenir de S. A. Prince, first distributed by Mr. G. Prince in 1889, has risen two places, and was to be found in as many prize stands as the variety from which it sported—Souvenir d'un Ami. I am surprised that Cleopatra, another 1889 variety sent out by Bennett, should still remain so low on the list—at No. 25. No doubt its great drawback has been its generally slender growth. The plants of this fine English Tea have, however, done so remarkably well during the past summer that it is to be hoped that in a few years' time it may occupy the position to which it is entitled.

Comparing the present analysis with that of 1886 it will be found that the following grand Teas have since then been added to the list:—The Bride (No. 3), Souvenir de S. A. Prince (No. 8), Ernest Metz, and Ethel Brownlow (No. 14), Mme. Hoste (No. 16), and Cleopatra (No. 25).

My thanks, and those of your readers, are again due to all those who year after year so kindly assist me, often at personal inconvenience to themselves, in taking down the names of the Roses in the winning stands.

I append as usual a select list of varieties that I can strongly recommend for general cultivation. With the exception of those

under the heading of "Garden Roses" they are also among the choicest of our exhibition Roses. They are arranged according to colour in the order in which they appear in the tables.

HYBRID PERPETUALS.—*Light Coloured Varieties.*—Mrs. John Laing, Madame Gabriel Luizet, Merveille de Lyon, Baroness Rothschild, Marie Finger, Pride of Waltham, and Jeannie Dickson. *Medium Reds.*—Ulrich Brunner, Etienne Levet, François Michelin, Dupuy Jamain, Marquise de Castellane, Camille Bernardin, Comtesse d'Oxford, Heinrich Schultheis, and Alphonse Soupert. *Reds.*—A. K. Williams, Marie Baumann, Alfred Colomb, Général Jacqueminot, Ferdinand de Lesseps, Duke of Edinburgh, E. Y. Teas, Dr. Andry, Fisher Holmes, Victor Hugo, Sénateur Vaisse, Duke of Fife, and Earl of Pembroke. *Dark Varieties.*—Charles Lefebvre, Louis Van Houtte, Earl of Dufferin, Prince Arthur, Duke of Wellington, Prince Camille de Rohan, Sir Rowland Hill, and Duke of Connaught.

HYBRID TEAS.—La France, Caroline Testout, Captain Christy, Viscountess Folkestone, and Grace Darling.

TEAS AND NOISETTES.—Innocente Pirola, Souvenir d'un Ami, Marie Van Houtte, Souvenir de S. A. Prince, Caroline Kuster (N.), Ernest Metz, Ethel Brownlow, Hon. Edith Gifford, Madame Hoste, Francisca Krüger, Anna Ollivier, Rubens, Madame Lambard, and Jules Finger.

BOURBON.—Mrs. Paul and Souvenir de la Malmaison.

GARDEN ROSES.—The following are a few non-exhibition Roses of comparatively recent introduction, which I have grown and can recommend. *Hybrid Perpetuals.*—Gloire de Margottin. *Hybrid Teas.*—Augustine Guinoisseau, Bardou Job, Clara Watson (new), Gloire Lyonnaise, Gustave Regis, and Marquis of Salisbury. *China.*—Laurette Messimy. *Teas and Noisettes.*—Dr. Grill, L'Idéal (N.), Luciole, Princesse de Sagan. *Polyantha.*—Gloire des Polyanthes. *Climbing Polyantha.*—Crimson Rambler (new), an

TEAS OR NOISETTES.

Position in Present Analysis.	Average Number of Times Shown.	No. of Times Shown in 1894 in True Relative Proportion to the Average.	Name.	Date of Introduction.	Raiser's or Introducer's Name.	Colour.
1	41.4	38	Catherine Mermet	1869	Guillot	Light rosy flesh
2	36.9	29	Comtesse de Nadaillac	1871	Guillot	Rosy flesh and apricot
3	36.8	35	The Bride	1885	May	White, tinged lemon
4	35.9	27	Innocente Pirola	1878	Madame Ducher	Creamy white
5	31.4	30	Souvenir d'un Ami	1846	Belot-Defougère	Pale rose
6	30.2	30	Marie Van Houtte	1871	Ducher	Lemon yellow, edged rose
7	30.1	32	Souvenir d'Elise Vardon	1854	Marest	Cream, tinted rose
8	28.5	32	Souvenir de S. A. Prince	1889	Prince	Pure white
9	28.4	15	Niphotos	1844	Bougère	Pure white
10	27.1	23	Maréchal Niel (N.)	1864	Pradel	Deep bright golden yellow
11	25.1	27	Madame de Watteville	1883	Guillot	Cream, bordered rose
12	24.3	28	Madame Cusin	1881	Guillot	Violet rose, yellow base
13	23.1	12	Caroline Kuster (N.)	1872	Pernet	Lemon yellow
14	22.5	15	Ernest Metz	1888	Guillot	Salmon, tinted rose
14	22.5	28	Ethel Brownlow	1887	A. Dickson & Sons ..	Rosy flesh, shaded yellow
15	22.3	38	Honourable Edith Gifford	1882	Guillot	White, centre flesh
16	21.5	22	Madame Hoste	1887	Guillot	Pale lemon yellow
17	21.0	15	Francisca Krüger	1879	Nabonnand	Coppery yellow, shaded peach
18	20.5	20	Jean Ducher	1874	Madame Ducher	Salmon yellow, shaded peach
19	18.4	24	Madame Bravy	1848	Guillot	White, flushed pale pink
20	17.7	22	Anna Ollivier	1872	Ducher	Pale buff, flushed
21	14.1	17	Rubens	1859	Robert	White, shaded creamy rose
22	13.4	9	Princess of Wales	1882	Bennett	Rosy yellow
23	13.0	6	Madame Lambard	1877	Lacharme	Salmon, shaded rose
24	10.7	7	Etoile de Lyon	1881	Guillot	Deep lemon
25	10.3	8	Cleopatra	1889	Bennett	Creamy flesh, shaded rose
26	7.3	2	Souvenir de Paul Neyron	1871	Levet	Creamy white, tinted rose
27	6.6	7	Devoniensis	1838	Foster	Creamy white, blush centre
28	5.7	6	La Boule d'Or	1860	Margottin	Golden yellow, outer petals paler
29	5.6	2	Jules Finger	1879	Veuve Ducher	Bronzy rose
30	5.3	4	Madame H. Jamain	1869	Guillot	White, shaded yellow
31	5.0	5	Comtesse de Panisse	1877	Nabonnand	Flesh, tinted coppery rose

exceptionally grand addition to our climbing Roses, which should be grown in every garden.

PROMISING NEW ROSES.—Exhibition Roses not yet in analysis and "Garden Roses" that I have not yet flowered, are arranged in alphabetical order in the two following paragraphs:—

EXHIBITION ROSES.—*Hybrid Perpetuals.*—Charles Gater (Paul and Son), Clio (W. Paul & Son), Marchioness of Downshire, gold medal, N.R.S. (A. Dickson & Sons), Mrs. Harkness (Harkness and Sons), Mrs. R. G. Sharman Crawford, gold medal, N.R.S. (A. Dickson & Sons). *Hybrid Teas.*—Clara Watson (G. Prince), Kaiserin Augusta Victoria (Lambert & Reiter), La Fraicheur (Pernet-Ducher), Lady Henry Grosvenor (Bennett), Princess May (W. Paul & Son). *Teas and Noisettes.*—Bridesmaid (May), Corinna (W. Paul & Son), Directeur R. Gerard, Maman Cochet, Medea (W. Paul & Son).

GARDEN ROSES.—*Hybrid Tea.*—Mme. Pernet-Ducher (Ducher). *Teas.*—Beauté Inconstante (Pernet-Ducher), Mme. Pierre Cochet. *Climbing Noisette.*—Alister Stella Gray, commendation card, N.R.S. (Paul & Son). *Sweet Briars.*—Amy Robsart, Flora McIvor, Lady Penzance and Lord Penzance (Keynes & Co.), and Janet's Pride (Paul & Son). *Single.*—Paul's Carmine Pillar (Paul & Son).—E. M., *Berkhamsted.*

STORING APPLES AND PEARS.

THE Apple crop in many gardens is this year not sufficiently abundant to entail any great amount of labour in gathering and storing. It is all the more important therefore that great care be exercised in storing, so that the fruits may be kept as long as possible in good condition, and loss from decay reduced to a minimum. To accomplish this it is necessary to know something of the conditions under which these desirable results may be attained. These conditions are an uniformly low temperature combined with darkness. The fruits then ripen slowly, and acquire their full flavour. So long as they are preserved from frost and damp on the one hand, and light, warmth, and a dry atmosphere on the other, fruits never decay till full maturity is reached, unless the skins or tissues are injured.

It may thus be seen from the foregoing that where an elaborately fitted fruit room is not at command it is not usually difficult to find a suitable position for storing fruit, as the majority of gardens possess frost-proof sheds or other outhouses which may be converted into temporary fruit rooms. In Kent portions of the buildings used for the drying and pressing of hops are turned to good account by extensive fruit growers for storing large quantities of Apples. In such structures when proper precautions are taken to exclude frost the fruits keep splendidly, far better than they do in many specially constructed fruit rooms; the fault of some of these being that they are too dry, experience too great fluctuations in temperature, and in consequence cause the fruits so stored in them to shrivel prematurely. This, however, is not the case when fruit rooms are built upon the most approved principles, and the details well thought out before they are erected.

Assuming that a well-appointed fruit room is at command provided with open shelves, sheets of clean, thick, white paper should be placed upon them, and the best samples of Apples placed in one layer upon them, so that they stand just clear of each other, to prevent a decaying fruit from starting an adjoining one. After the finest fruits have been selected and stored in this way, there usually remains a good bulk of small ones, which may be disposed of in a more expeditious way by placing them in layers of about 9 inches in thickness in the lowest compartment, a layer of clean straw having previously been placed upon the floor. Very choice fruit required for exhibition purposes ought to be kept in air-tight drawers. These specimens should be selected after having been upon the open shelves for a few days to become thoroughly dry. A simple and excellent method of packing in the drawers is to place a layer of cotton wool in the bottom, cover this with tissue paper, and stand the fruits upon it just clear of each other, finishing off with layers of tissue paper and cotton wool. It is then an easy matter to detect any decay by simply removing the top covering. All fruits should be covered with paper or straw a few days after storing.

When space in the fruit room is limited, Apples may be stored in flour barrels. Line these with paper, place the fruit in carefully, and cover at the top with paper and straw held in position by strings. Very late varieties should always be placed in the coolest

and darkest positions—indeed, there are few places in which Apples of this type keep so long or so well as in cellars, provided they are not abnormally damp. Packed in boxes or barrels made air-tight by a lining of paper, and a covering of several thicknesses of the same material, such fine late kinds as Sturmer Pippin and Lane's Prince Albert may be kept perfectly fresh and plump till May or June, if stored in cellars of the above description.

A good sized orchard is a necessary adjunct to every garden from which a regular supply of fruit has to be maintained. There is often no really frost-proof building available for storing these, but in most instances sheds may be made so by the following means. Procure the necessary number of ordinary hurdles, lay evenly upon one side a good thickness of stiff straw, arranged after the manner of thatch and held securely by means of long stakes secured to the hurdles with string. Fasten these in an upright position around the inside of the shed, about a foot from the wall. The intervening space should be stuffed with straw, bracken, or material of a similar nature. Next lay 6 inches of straw upon the floor, and all is ready to receive the fruit, which will here be perfectly secure from the severest frosts experienced in this country.

If sufficient space can be found the Apples should not be placed in layers of more than a foot in thickness, but I have known them keep fairly well when stored in layers of double that thickness. When space is so limited as to render it necessary to do this, the best fruits should be selected and placed in barrels. All should be covered with clean straw after an exposure of a week or ten days. When signs of sharp frosts appear the thickness of this covering must be increased to a foot or 15 inches, then no fear of injury by that swift destroyer need be entertained.

The above remarks are equally as applicable to Pears as Apples, but it is necessary to emphasise the fact that the former do not keep so long as the latter, and should therefore be placed in positions where they may be frequently examined. All choice specimens ought to be wrapped in tissue paper and placed in drawers between layers of cotton wool or clean oat chaff. A label bearing the name of the variety and date of gathering should be attached to fruit of all kinds when stored.—H. DUNKIN.

RIPENED WOOD.

"E. K., *Dublin*" (page 291) having been as good as his word, and kindly attempted the—I fear bootless—task of my conversion to a belief in the ripe wood nonsense, I should be very ungracious were I not to accept his proffered assistance in the same spirit. I could not help feeling when reading "E. K.'s" communication that the writer must have been chuckling mightily to himself while poking fun at the Saxon. Indeed, the genial humour displayed in every line is so infectious that I find great difficulty in avoiding joining in a hearty laugh at his pleasantry. The letter is a wonderfully clever effusion, as it commits the author to nothing. No fact within his own knowledge is recorded, and no personal opinion expressed, the contents being merely a re-hash of the last few numbers of this Journal. "E. K." appears throughout to be sitting on a rail ready to descend on whichever side—the ripe or the unripe wood side—may ultimately score.

I suppose, however, if only for politeness sake, I must treat your correspondent's arguments as serious, and endeavour to deal with them seriatim. In pursuance of this laudable endeavour I must first thank him for drawing my attention to Mr. Rivers' rather oracular utterances upon the subject under discussion, which had escaped my attention. Mr. Rivers is undoubtedly a high authority on fruit culture, and any opinion he definitely expressed would be entitled to the greatest respect. But it must be remembered he is first and foremost a great nurseryman, consequently it is quite outside his province to enter into abstruse controversial questions. Moreover, he knows his public well, and probably has experienced the almost Chinese conservatism of English horticulturists, a conservatism so hide-bound in character that it terribly handicaps them in their competition with the more intelligent and, therefore, less prejudiced foreigner. As it is, he seems to have had some searchings of heart to account for the fruit failure this year, and thinks if it was not the frost it was "the winter moth." Strange this is the first complaint I have heard this year of that insect, almost everyone else ascribing their misfortunes to the ravages of the codlin moth, though often quite unjustly.

As I read on I find "E. K." citing bush fruits in support of his theory. Does he really consider these great lovers of sunshine? If so, can he explain why they never flourish in sunny though temperate climates, such as Southern Europe? With regard to all I may repeat the opinion of a well known member of the Fruit Committee who holds that this class of plant requires slight

shading in order to secure the best return therefrom. He told me quite recently that the finest Raspberries he ever saw were "grown in the partial shade of forest trees."

Upon this portion of the subject your correspondent has become a trifle mixed between cause and effect. Old Raspberry canes are not cut away "in order to facilitate the ripening process of this year's wood," but because they have fruited and done their work. We therefore remove them as useless lumber, cumbering the ground and dissipating the energies of the roots by their maintenance. "E. K." might as well say that all autumnal tidying up in gardens has for its object the ripening of wood—removal of Asparagus haulms for instance, pulling of Cabbage stumps, sweeping of dead leaves, and what not.

Perhaps, however, the most curious part of his attempted bolstering up of the ripe wood dogma is his reference to Strawberries! with the accompanying naive admission "no ripened wood in this case I allow!" After such an exhibition of pure Hibernian wit my utmost self-control is required to keep up even a semblance of seriousness, but I will try, and therefore pass to the Roses. Strange to say I have been a grower of these for a quarter of a century, and stranger still never had anything "like a catastrophe," except, perhaps, this year, due to the ripening of the wood last summer. Does "E. K." mean to advocate the substitution of autumn and winter pruning for the time-honoured practice of spring pruning? If he does, he will bring a hornet's nest about his ears, for I fancy the rosarians will have a good deal to say on that subject.

"Mums" are his next thesis, and "mum" might be my word, his assumption that I am not a grower of our autumn queen being as reckless as his reasoning. Moreover, your correspondent hints at, rather than asserts, an amazing proposition, viz., that leaves should be removed from the plants in order "to admit the blessed sun's rays to their stems." I never heard such a doctrine—it is ripened wood with a vengeance! I, on the contrary, always understood that the great desideratum to be attained in Chrysanthemum culture was to keep every leaf on from the tiny bracts at the bud down to the larger ones overhanging the rim of the pot.

"E. K.," after startling us in this fashion, then proceeds to attempt some justification of his precepts, and in doing so calls to his aid a paper read by Mr. Arderie before a local society at Falkirk. I never happen to have heard of either before, but may remark in passing that the district is rather far north. In the south I was under the impression that last year was anything but a favourable one for "Mum" growers. My memory, however, is a very treacherous one. I therefore turn to the files of the *Journal of Horticulture* to refresh it. In the very first number I take up (October 26th), I find a report on the condition of "Chrysanthemums" in the Liverpool district. On page 382 your representative describes a visit to Camp Hill, Wootton, and mentions that Mr. Jellicoe had pieces of clean white tiffany stretched about 1 foot from the roof over his best blooms. He fully believes that damping is prevented by doing this, and I can fully bear him out, for there was not a decayed petal. *Those not covered damp badly.* (The italics are mine). At Calderstones he saw Mr. Tunnington, who "shares exactly the same opinion as Mr. Jellicoe regarding the vexed question of damping, believing that tiffany spread over the opening buds will prevent it."

Thus we have it on independent testimony that notwithstanding the brilliancy and beauty of last season, which rendered the ripening of the wood almost unavoidable, notwithstanding October being both warm and dry, was extremely favourable to the development of the blossoms, and notwithstanding the proved skill and experience of the cultivators, uncovered blooms in both these noted collections, did—in the words of your reporter—"damp badly," while the only remedy which these experts could devise was this rather crude one of a little awning over each flower. In the face of such well attested facts I think comment would be superfluous.

I have in a former letter dealt with Peaches and Nectarines, opposing my practical experience this year to the nostrums of the theorists. Camellias I could never manage until after much cogitation I determined to try placing them during the summer under, and in the dense shade of, large trees, where they greatly prosper. This knocks on the head "E. K.'s" belief that they require their wood ripening.

Dendrobiums, I may tell him, are removed from "the plant stove" only when they have finished their growth. This he omits to mention, and therefore misses the whole point in their removal to cooler quarters, which is to prevent their starting again, thereby ensuring a period of absolute rest for as long as possible.

I notice both "E. K." and "Fruitman" follow "Azoto" (page 321) headlong into the Welsh Grape growing muddle, where I may well leave them in the predicament the latter has landed them. Both

also rejoice greatly at the absence of support I have received in your columns. This does not affect my equanimity in the least, as I know well that errors die hard all the world over, but especially among British gardeners, whose intense conservatism I have already alluded to.

"Fruitman," however, overlooks that he himself, no doubt unconsciously, supports me, for on the very same page (291) he confirms "E. M.'s" observations as to the high colouring of fruit this year, a matter to which I was the first to draw attention in your columns (page 246).

Before closing I would like to make one last appeal to the worshippers of ripened wood to explain what they mean, or in other words to define ripe wood. How do they know when it is ripe? Do they smell it or eat it? These being the only recognised tests of ripeness so far as I am aware.—A SCEPTIC.



DENDROBIUM PHALÆNOPSIS SCHRÖDERIANUM.

THE present is not the time of year to look for gay Orchid houses—indeed, a few years since such would have been ridiculed severely. However, since the advent of the "King of Dendrobiums" it is a comparatively easy task to make our plant houses gay for the whole of the winter months with this plant alone, to say nothing of the numerous other Orchids which flower during the present season.

The cultivation of this beautiful Orchid is of the simplest description. Anyone who has a warm plant house where Crotons succeed, here also will Dendrobium Phalænopsis flourish; in fact, such a house appears just the place for it, for if placed near the roof glass it is almost sure to be satisfactory. It does not appear to be particular as to whether grown in pots, pans, or baskets. I have them growing in all quite satisfactory. Another thing in its favour, and which should make it an amateur's plant, is its free flowering properties. Every piece of new growth will produce a flower spike, and the varieties which are to be found in a collection of moderate dimensions are astonishing. They vary from almost pure white to the deepest purples and crimson. The flowers, too, last a long time in good condition. I had some last winter which kept perfectly fresh for eight weeks. These were in a greenhouse where the temperature did not fall below 50°.—T. A.

ODONTOGLOSSUM CRISPUM.

THIS well known and deservedly popular species has been appropriately styled the queen of Orchids. In large establishments, where many plants of this useful species are grown, the beautiful flowers are produced all through the year. As these are useful for every kind of decoration, either cut or on the plants, and last several weeks in good condition, there is no doubt that the demand for this species, enormous as it is, will still further increase. In colour and in size *O. crispum* varies greatly, hardly two plants having flowers exactly alike. In the best varieties, or those usually known as the pacho type, the sepals and petals are very broad, the edges of the latter fringed and overlapping, the flowers being sometimes over 5 inches across. The poorer varieties are smaller, more starry in appearance, as it is termed by growers, but even these are beautiful, and I have never seen a plant of the species that was not worth growing. In ground colour the flowers vary from pure white to deep rose, and there are also several of varying tints of yellow. The majority of these varieties are more or less spotted with chocolate or reddish brown, such varieties as *guttatum* and *Veitchianum* being nearly covered with large blotches.

The culture of *O. crispum* is now thoroughly understood by growers, and in consequence we frequently see examples quite equal if not superior to the very best imported specimens. Established plants must be kept quite cool during the summer months, and I have seen and had such good results from frame cultivation that I do not hesitate to describe this as the best possible position for the plants during this period. This treatment was described in the *Journal of Horticulture* of May 3rd of this year, so it is needless to refer to this further than to say that the plants will now require to be housed if not already done, as it is important they do not receive any check. Some time during this month the plants should be looked through and thoroughly cleaned, and all that require it top-dressed or repotted.

Although when in good condition *O. crispum* roots freely, it cannot be called a vigorous rooting species, and I have been told that when growing naturally the plants are often blown from their positions on the trees. This being so large pots are clearly not necessary, and if these allow of a narrow margin of compost around the bulbs it will answer all purposes. The drainage must be good, and the plants kept a little above the rims to prevent over-accumulation of moisture. The compost should consist of equal parts of peat, fibre, and sphagnum, with abundance of finely broken potsherds. Sand should never be used, as it only tends to make the compost fine and clog the drainage.—H. R. R.



THE BOOK OF THE ROSE.

A NEW book bearing the above title will shortly be published by Messrs. Macmillan & Co. It is described as "A new and complete work on Rose culture, profusely illustrated from photographs of specimen Roses and other Rose subjects. It will give fuller details than any similar work of the minutiae of amateur Rose culture, and describe every phase of the rosarian's work, with accurate descriptions of the habits, both good and bad, of the best known varieties, and all other information required for Rose culture and exhibition revised to date." The author is Rev. A. Foster-Melliar, M.A., Rector of Sproughton, Suffolk.

NATIONAL ROSE SOCIETY.—THE TROPHY QUESTION.

IN their attitude on this question Mr. Mawley and "W. R. Raillem" remind me forcibly of the story of "Caesar and Pompey being very much alike—especially Pompey." These gentlemen take a very decided undecided attitude, as they "entirely agree" with each other, and neither says what he is for! "W. R. Raillem," however, wishes to know what I want. The alteration is not one in which I am directly interested, as whether the trophy be for twenty-four, thirty-six, or forty-eight varieties, I should not be a competitor, certainly while I have only a small Rose garden and live in the smoky district of Croydon. Those who should decide the question have in several instances given their views unfalteringly, and the only others who may be interested are the coming smaller growers, mostly on the north side of London, who might "try a fall" with the few present competitors, rosarians with one exception, that of Mr. Slaughter, all in the over 2000 class. Whether it be "undesirable" (as Mr. Mawley in his letter, page 269, considers it) for these smaller fry to win is a question which "W. R. Raillem" discreetly gives a wide berth to, and I leave the problem to be solved by the official mind evolving it out of its inner consciousness.

That the view of those considered best qualified to judge, as usual competitors, has been given in favour of a reduction of the number for the trophy class is shown in the letters published in the Journal from Mr. Lindsell, who has never been defeated, and has been placed first on four occasions; from Mr. Pemberton and Mr. Slaughter, who have both won the trophy and been "placed" about a dozen times; and from Mr. Machin, who has also been placed when he competed.

My original object in writing on the question has been gained. It was to ascertain the opinion of the principal competitors, and only one (Dr. Budd) has been silent. That opinion has now been given; it is practically unanimous, and the N.R.S. Committee cannot say that they are ignorant of it; moreover, it has been stated, without official contradiction, in the *Journal of Horticulture* that two of the principal competitors and friendly opponents of recent years have brought this subject up year after year, and that the majority of the Committee, who are not directly interested in the question, have treated their request with worse than indifference, as they have annually overruled them by their votes.—CHARLES J. GRAHAME.

FASHION IN ROSES.

IN my brief remarks on "Fashion in Roses" (page 269) I had no intention of depreciating "florists' or show Roses" or unduly exalting "garden" Roses. I admire and always have admired both, and am equally interested in the cultivation of both, but wish to find both most advantageously employed. If I praise John for his attainments in classics I do not thereby depreciate the qualifications of his brother James, who may stand equally high in physics or mathematics. I have neither time nor inclination to enter on a controversy on matters of

opinion or taste, and am content that each should enjoy his own opinion and each gratify his own taste.

As to matters of fact, if "W. R. Raillem" will look into some of our old works on botany and gardening, I think he will find that the present forms of the Rose—the expanded, the cupped, the compact, and the globular—were co-existent at a very early date, although not always equally fashionable. I can distinctly remember the time when the flat Roses were the most fashionable. Mr. Charles J. Grahame (page 320) among other controversial remarks, says, "'W. R. Raillem' has exposed the absurdity of calling Charles Lawson and Madame Plantier perpetual," implying that I had done this, which is altogether contrary to fact. But I need not follow his letter further. *Ab uno disce omnes.*—WM. PAUL, *Paul's Nurseries, Waltham Cross.*

EXHIBITION AND GARDEN ROSES.

I CANNOT blame Mr. Charles J. Grahame (page 320), whose opinion I respect, for vindicating the value of that very fragrant and floriferous Rose, *La France*, one of the finest varieties ever raised by Guillot of Lyons, who, I understand, classed it as a Hybrid Tea. In a letter recently addressed to Mr. Prince of Oxford the son of the late M. Guillot also described it as such, and added that it was a hybrid between Madame Falcot and another Rose whose name he did not know. From the latter we must presume that its attributes were derived, and especially its fragrance and unique complexion, which can at once be distinguished even from a long distance in any garden or rosarium. I think, however, that as a decorative Rose it is surpassed by its own invaluable seedling, *Caroline Testout*. The latter is a clearer and brighter pink, and here at least the blooms are, as a rule, larger and more imposing than those of *La France*. Its perfume is also more delicate and less strongly pronounced than that of the parent Rose. But, while such is my opinion, I do not depreciate the great merits of *La France*, which will not soon be superseded in the estimation of those to whom, like myself, it has long been familiar, and constitutes an exquisite floral link between the present and the past. When I hear (as I have sometimes heard) the expression, "I do not like *La France*!" I at once attribute its origin to defective taste. But, on the other hand, I have never heard any person, however limited his or her capabilities of appreciation, express any other feeling save that of admiration for *Caroline Testout*. An eminent Scottish rosarian recently assured me it was the most valuable autumnal Rose he possessed.

While I can thus meet Mr. Grahame more than half way regarding the virtues of *La France*, and may also be said to have practically eulogised the parent while I was praising the child, I can sympathise with his admiration for Viscountess Folkestone, of which I have frequently, in this and other journals, recorded my appreciation. That it is equally esteemed by Mr. William Paul I cannot doubt; that he undervalues the great merit of such remarkable Roses as *Comtesse de Nadailac*, *Horace Vernet*, and *A. K. Williams*, which are at the present moment among the fairest and brightest ornaments of my garden. Nor should it be forgotten that Mr. Paul has been the raiser of many superb Roses, such for example as the *Duke of Edinburgh*, *Pride of Waltham*, *Clio*, *Spenser*, *Sappho*, and *Mcdea*, which possess in an eminent degree all the qualities required for exhibition. He is not therefore likely to disparage those Roses which are chiefly distinguished by the quality rather than the number of their blooms. Such an attitude were inconsistent with his own ideal, likewise with his greatest achievements as a rosarian.—DAVID R. WILLIAMSON.

PLANTS FOR BANKS AND SHADY PLACES.

NOW that the planting season has arrived it is necessary for intending planters to select not only such as are beautiful, but also to obtain those adapted for the positions they are to occupy. Loss of time in covering vacant spaces and much disappointment is frequently experienced through not giving due consideration to the latter essential. We have now so many plants and shrubs to select from that there is no position so utterly unsuited to plant growth as to render it a matter of impossibility to establish one or other of them upon it.

In dry stony places, or under the shade of trees, when the soil is closely interlaced with roots, nothing seems to be so satisfactory in all respects as common English Ivy. When established it gives no further trouble, and looks neat at all seasons. To give it a favourable start the holes should be taken out with a spade so as to see that amount of space of tree roots, then by the time others of a like nature have permeated the disturbed soil the Ivy is able to take care of itself by rooting on the surface of the ground. To help the shoots to do this quickly they ought to be pegged to the

ground at planting time. Along the margin of shrubberies, on banks, and in positions where the soil is not too thin, or the shade too dense, Irish Ivy is preferable, as its bolder leaves are more effective, but I find after considerable experience that the common English Ivy will thrive where the larger leaved one will not.

The Periwinkles do not, as a rule, seem to be planted so largely as their merits deserve. The green leaved British kinds major and minor will grow almost anywhere, and are also well adapted for planting under trees, where they quickly make a dense green carpet. Still more suitable positions for them, however, are on banks covered with rough stones, or mounds edged with a wall of stones. If the stronger variety is planted on the top of such mounds, and the small leaved one placed in the interstices between the stones forming the wall, a little soil being pressed firmly round the roots, in a few years the whole forms a dense thicket of green, when the drooping shoots are seen to advantage at all seasons, and the pale blue flowers give additional beauty during the summer months. The variegated forms of major and minor are bright, attractive looking plants, which deserve to be cultivated far more extensively than they are, for they grow well in almost any soil, and are particularly suitable for planting on dry banks and rockeries.

The St. John's Wort (*Hypericum calycinum*) grows well in the poorest of soil, either in sunny positions or under the shade of trees, but the additional labour involved in placing a little garden soil about the roots at planting time is amply repaid in the shape of strong and rapid growth. Shrubberies, bordering walks, and drives are often densely shaded by tall trees of Beech, Chestnut, Lime, and Sycamore, which create delightfully shady retreats in summer time. In such places it is sometimes a difficult matter to settle upon a suitable edging for the shrubberies, which should possess the merit of looking well at all seasons, and of thriving under such unfavourable conditions. Ivy, as I have previously stated, answers the purpose admirably, and the next best plant that I know of is this St. John's Wort. A shady drive edged on either side with it presents a glorious scene when the *Hypericum* is in flower.

The value of *Berberis aquifolium* for planting in shrubberies and on banks is well known, for it can scarcely be planted in the wrong position. *B. Darwini* will also grow freely enough under the dense shade of trees, but to flower it well a sunny position, such as a dry bank, should be given it, and as it is altogether such a beautiful shrub it fully deserves a good position. Box and Laurels both thrive well in shady places on light soils; the former grows better and attains a greater height without becoming bare at the base when planted in such positions, than any other shrub.

The Cornish Broom is excellent for establishing upon sunny banks; broad masses of it disposed between blocks of *Aucuba japonica* and Golden Privet are extremely effective. *Cotoneaster microphylla* is another capital trailing shrub to plant on sunny banks where it is necessary to have dwarf growth. When such banks are bordered by walls, if this *Cotoneaster* is planted in the soil above the wall the shoots will gradually trail down it till the base is reached. It also has the merit of requiring absolutely no pruning or clipping.

Daphne Laureola (the Spurge Laurel) succeeds well when planted under trees, also in various aspects if planted on banks, by which means good drainage is secured, but in low damp positions it does not thrive. As it only attains a height of about 3 feet, it is one of those accommodating plants which give but little trouble when once well planted. *D. pontica* (the Wood Laurel) is much prized on account of the delicious fragrance of its flowers. It grows a foot taller than *D. Laureola*, and well repays for the trouble of giving extra attention to the preparation of the soil before planting. When the land is heavy the holes should be 18 inches in depth, 3 inches of clinkers or rubble being then placed in the bottom, and abundance of leaf mould or peat mixed with the natural soil.

In soils not strongly impregnated with lime *Rhododendron ponticum* thrives well, even under a dense shade, but to enable them to do this it is necessary to take out large holes at planting time, so that the roots of surrounding trees will not encroach upon those of the newly planted *Rhododendrons* till they have had time to establish themselves. Good leaf soil placed in immediate contact with the roots promotes rapid root-action.—H. W. C.

ZEPHYRANTHES CARINATA.

THIS charming plant is so seldom seen at exhibitions that there is no wonder it attracted more than ordinary attention when shown by Mr. J. H. Fitt, Panshanger Gardens, Hertford, at Chiswick on the 25th ult. Although by no means a new plant it is not very extensively grown, but is exceedingly beautiful, and for this reason no doubt the Floral Com-

mittee of the Royal Horticultural Society considered it worthy of a first-class certificate on the above mentioned occasion. The illustration (fig. 52) portrays the character of the flowers, which are rose-pink in colour and very effective. The plant staged by Mr. Fitt, and from which the engraving has been prepared, was growing in a pot, but if kept moderately dry during the winter this *Zephyranthes* is said to thrive and bloom in the open air.

ONIONS AND VEGETABLES AT BANBURY.

BANBURY has long been famous for its cakes, its cross, and accompanying nursery rhyme; besides, the horticultural Press has annually



FIG. 52.—ZEPHYRANTHES CARINATA.

recorded the display of fine Onions and excellent vegetables, but I question if ever before such a display of high sterling quality had been presented. This will be easily understood when it is stated that such doughty champions as Messrs. Kneller, Waite, Wilkins, Lye, Pope, and Doherty entered the arena in the fulness of their strength to fight for supremacy and the extremely handsome prizes offered by the widow of the late highly respected Mr. H. Deverill.

When success is achieved and such excellent results are shown, one expects grumblers and other jealous individuals to adversely criticise these huge Onions, but I maintain these displays prove a veritable object lesson, by showing what perfection can be gained when skill and intelligence combined with the highest system of cultivation are brought into use. I am assured by the growers that these large bulbs are milder in flavour than the small ones, and as such make a wholesome appetising dish when served up braised, equal in flavour to best Spanish grown, a point worthy of consideration in these days of waning home industries and agricultural depression. Probably a combination of both systems of cultivation would be found preferable in ordinary circum-

stances. I am informed, too, these large bulbs keep well if care is taken to thoroughly ripen before storing.

These pedigree Onions have been raised by an elaborate and constant crossing by fertilisation, again and again selected until the various types have become fixed, and it is now recognised there are no finer types existing than the Ailsa Craig, Anglo-Spanish, Lord Keeper, Cocoa Nut, and Improved Wroxton.

Mr. Kneller was first, and won the gold medal or timepiece for six bulbs of any kind with exquisite and perfectly finished specimens of Ailsa Craig, weight 12½ lbs.; Mr. Wilkins second with Lord Keeper. The class for twelve specimens brought out twenty-one competitors, and Mr. Wilkins was placed first with Ailsa Craig, weight 23½ lbs.; Mr. Kneller second, weight 24½ lbs.; and Mr. Waite third. In the class for twelve largest and handsomest specimens of enumerated kinds of pedigree Onions there were twenty-two entries, Mr. Wilkins winning with twelve Rousham Park Hero, weight 16½ lbs.; second, Mr. Haines, with Anglo-Spanish; third, Mr. Lye. Class 4 was for Deverill's Improved Wroxton, a splendid long-keeping kind, and Mr. Peace was first, Mr. Wilkins second, and Mr. Pope third.

Class 5 was for cottagers and mechanics, who showed well, but far behind the professionals. Class 7 was very hotly contested, being for eight distinct kinds of vegetables, one of the best displays ever staged, and all really good, Mr. Waite eventually being placed first with Exhibition Carrot (grand roots), Lyon Leeks (splendidly grown), Middleton Park Beet, Aylesbury Red Celery, a magnificent dish of Duchess of Albany Peas, good Potatoes, Veitch's Autumn Giant Cauliflower (very good, but too large to please the Judges), and Glenhurst Tomatoes (very fine and true). A close second was Mr. Lye; third, and close up, Mr. Wilkins; equal fourth, Mr. Masterton and Mr. Doherty.—W. CRUMP, *Madresfield Court*.



THE WEATHER IN LONDON.—Some fogs have been prevalent in the metropolis this week, Tuesday being unusually dark for the time of year. The atmosphere had been damp, but not much rain had fallen until Wednesday morning, which opened wet, though clearer than the previous day. The temperature has been rather above the average.

— PLANTING FRUIT TREES.—As between the planting of trees early with some foliage still attached or late with leafage all fallen and dead, I hold the former distinctly preferable. When the middle of October is reached summer growths are practically matured, and early transplanting with some foliage still on. The quick formation of roots consequent on the early planting whilst ground is warm not only causes the leafage soon to fall but helps to plump up the leaf buds, and in that way gives to the trees a material start. Pruning, especially the shortening back of summer growths, should always be done in the case of newly planted trees, not only to secure some balance between roots and heads, but also to force strong root action in the following season—an absolute necessity if newly planted trees are to have a good start.—D.

— THE PROPOSED VEGETABLE EXHIBITION.—Of the numerous replies to the circular issued by the Provisional Committee that so far has the arrangement of the preliminaries, I have been exceedingly pleased to find how many comparatively poor men, and not at all likely to seek for any return for their liberality, have promised tangible help. It just shows what I have contended, that there is no garden section, though to many exhibition circles a despised and contemned element, so generally favoured in the community as that of vegetables. That these products command the chief attention of the gardener in every walk of life there can be no doubt. Perhaps there is not so much money in Potatoes and vegetable seeds as there is in fruit; hence the humbler products get no booming like fruit does. I find no fault whatever with the efforts made by the nursery trade to boom fruit. It indicates business energy and tact. Still further when efforts of that sort be made there is nothing like doing it with all possible force and publicity. Those firms interested in vegetables have somewhat frittered away their efforts in all sorts of local directions and have attempted no booming, hence vegetable products have not attracted public attention or interest in the way fruit has. The proposed vegetable exhibition offers a splendid opportunity to boom vegetables, and create for them that great interest they so well merit. It is a chance which all seedsmen should hasten to utilise.—A. DEAN.

— A COLONIAL APPOINTMENT.—It is reported that Mr. William Lunt of the Royal Gardens, Kew, who acted as botanical collector to Mr. Theodore Bent's expedition to the Hadraumat Valley, Southern Arabia, has been appointed, by the Secretary of State for the Colonies, Assistant Superintendent of the Royal Botanic Gardens, Trinidad.

— GARDENING APPOINTMENTS.—Mr. A. Parry, formerly of Killay House, Swansea, has been appointed head gardener to C. J. Jackson, Esq., F.S.A., Birchwood Grange, Pen-y-lan, Cardiff. Mr. John Reynolds, for four years foreman of the plant department, Gunnersbury Park, Acton, W., as gardener to C. D. Cave, Esq., Sidbury Manor, near Sidmouth, East Devon.

— THE CLIMBING CANADIAN WONDER BEANS.—I cordially agree with and reciprocate the spirit in which "A.D.'s" note (page 319) is penned, and I only refer to the matter again to make it clear that my former note reached 171, Fleet Street, the day before Veitch's Climbing French Bean received a first-class certificate from the Royal Horticultural Society, so that instead of being "out of date" it was very much up to date.—H. DUNKIN.

— AUTUMN STRAWBERRIES.—An Irish correspondent writes:—"It may interest some of your readers to know that we had at the end of September a fine crop of Strawberries ripening, and we have hundreds of plants laden with sprays. The variety is Laxton's Noble. This crop gives us a prolonged Strawberry season, as we have now been picking Strawberries since March, and should the weather remain open and fine we hope to be picking fruit far into October."

— NEW IMPERISHABLE GARDEN LABELS.—Mr. E. H. Harry, 3, Wood View Terrace, Archway Road, Highgate, sends us a sample of a new imperishable garden label which he has invented. In some respects it resembles other imperishable labels, but has the decided advantage of being interchangeable. The stem is made of galvanised iron, and the zinc or wood label is fixed in brass clips. Being moveable the tablet can be reversed if necessary, thus enabling the name of a plant being written on each side. For nurserymen, gardeners, and others who make a speciality of hardy plants these labels are particularly suitable, while being made in various sizes, they might also be advantageously used for other purposes.

— EASTERN LILIES.—The Rev. David R. Williamson writes to us as follows:—"I am glad to find that your Dumfries correspondent, Mr. S. Arnott, whose contributions are always most interesting, especially when he discourses on alpine flowers, is also a cultivator of Oriental Lilies. My experience of these during the past season has been, I am glad to say, somewhat different from his. I think I can say with perfect accuracy that the Lily disease elsewhere, and especially in England, so devastating in its effects, has not yet made its appearance in my garden: *Lilium davuricum*, *Thunbergianum*, *chalcedonicum*, *candidum*, *longiflorum*, *excelsum*, *auratum*, and *speciosum* have been little affected, even by the abnormally wet summer season which prevailed. I was sufficiently unfortunate, nevertheless, to lose four of my *auratums* (of which I have a large collection) by giving them too much liquid manure, the ammonia affecting the upper roots, by which the flowers are fed, so very seriously as to destroy the buds. This application, on the other hand, proved beneficial to *longiflorum*, *giganteum*, and *Harrisi*, the latter of which, by reason of its tropical habit, is still in splendid bloom."

— AN IRISH GARDEN.—"E. K., *Dublin*," writes:—"Autumn flowers are very gay at Mount Merrion, and genial sunshine tempts one to keep in it. Cleanliness and high culture are the leading features of the vegetable quarters—in fact, in all departments; but the fine breadths of Broccoli, Brussels Sprouts, and staple winter supplies are very noticeable, and a credit to Mr. Crawford. Sutton's Exhibition Brussels Sprout is dwarf and heavily loaded with fast-developing bullets which promise to load the baskets well. Apples are scarce, Pears rather more in evidence, but two fine old Mulberry trees are shedding some of their heavy crop of luscious fruit on a piece of smoothly shaved turf. Old trees are these, and old favourites of the family, and by far the finest specimens I have seen in Ireland. A large clump of variegated *Phormium* is bearing spikes of bean-like seed pods; I take the variety to be *Colensoi*, but am not sure on the point. There, too, is the largest *Aralia Sieboldi* I have seen, at a rough calculation it is 9 feet high and 12 feet across. Asters make a brave display on a long border. Two large circular beds edged, one might say hedged, with *Sedum spectabile* and filled with *Pentstemons* are bold and effective, and worthy of a mental note for future guidance."

— WEED KILLERS AND PHEASANTS. — A correspondent "R. C. W.") desires to know if the Cuprolene weed killer has ever been known to injure game, as he wishes to use some on a road which is occasionally visited by pheasants.

— TOMATO ACQUISITION.—This new Tomato has done well at The Castlemans, both under glass and on the outside walls this year. The growth is very sturdy, about 3 feet in height, short-jointed, and produces clusters of fruit in abundance; when fully ripe the fruit is of a dull red colour, and the flavour is excellent.—J. C.

— SHIRLEY AND DISTRICT GARDENERS' IMPROVEMENT ASSOCIATION.—Please state that I exhibited twenty-six dishes of hardy fruit at the meeting of the Shirley and District Gardeners' Association. Not 261, as published on page 319 of the *Journal of Horticulture* for 4th inst.—JESSE JONES. [We printed the report as sent by a correspondent, but have pleasure in making the correction.]

— RADISH SEEDS.—A transatlantic exchange says:—"Professor B. T. Galloway read a paper before the American Association for the Advancement of Science, at its late meeting in Brooklyn, on the "Growth of Radishes as Affected by the Size and Weight of the Seeds." After a discussion of the physiological questions involved some experiments were reported, the results of which were, in brief, that when large seed was sown 90 per cent. of the crop reached marketable size at the same time—that is, the plants matured in from thirty-five to forty days, while from seed as it usually comes from the market—that is, large and small mixed together—about 50 per cent. of the crop matured in the same time."

— THE TORQUAY DISTRICT GARDENERS' ASSOCIATION.—Mr. F. C. Smale, Isaline, Avenue Road, Torquay, Honorary Treasurer and Secretary of the above Association, sends us the programme for the session, which opened on the 5th inst. The following papers are announced to be read at the meetings, which will be held in the Abbey Road Lecture Hall at 8 P.M. on each day:—October 19th, Mr. Jas. Mitchell, "Grape Growing; Successes and Failures;" November 2nd, Mr. J. French of Glencarnock, "Root Pruning;" November 16th, Mr. T. Wilkinson of Syracuse, "Chrysanthemums for Exhibition;" November 30th, Mr. A. Pidgeon of Stoodley Knowle, "Flowering and Ornamental Shrubs;" December 14th, Mr. J. Wilson of Belton Lodge, "House and Table Decoration;" January 18th, Mr. F. W. Hodges of Watcombe Lodge, "How to Keep a Conservatory Gay all the Year Round;" February 1st, Mr. E. Wood of Bishopstowe, "Melons and Cucumbers;" February 15th, Mr. W. Satterley of Braddon Villa, "Culture of the Cyclamen;" March 1st, Mr. P. Neate of Rockend, "Successional Vegetables;" March 15th, Mr. G. Lee of Upton Leigh, "Orchid Growing; Some Notes on the Culture of Cattleyas;" March 29th, Mr. W. B. Smale, "A Ghent Quinquennial Horticultural Exhibition."

— LIMESEED OIL.—The "Vossische Zeitung" has an interesting article on limeseed oil, pointing out that it is not sufficiently utilised. "More than a hundred years ago the importance of the fine sweet oil made from the seeds of Lime trees was mentioned, but no attempts were made to procure this oil on a large scale, and later on the matter was forgotten. A few years ago limeseed oil was, as it were, discovered for the second time, and the experience then acquired justified great importance being ascribed to the industry. Lime trees blossom so abundantly every spring, and produce such a multitude of seeds, which fall to the ground in autumn, that it would be easy to collect large quantities under every Lime tree avenue. The seeds possess 58 per cent. of oil, and are in this scarcely surpassed by any other seeds; only slightly by the Para Nut, the Cocoa Nut, and the Hazel Nut. The percentage of other important oil-yielding seeds is far less. The oil of the Lime tree seed, which can be pressed in all sorts of ways, is distinguished by a beautiful clear colour and fine taste, has not a trace of bitterness or aromatic flavour, and may be justly compared to the finest olive oil. It never becomes rancid, and can be left exposed to the air in open vessels without the slightest change in taste or state of preservation. It is an oil that does not dry, and has not the least inclination to combine with oxygen. It is, therefore, not only invaluable as a food oil, but also for industrial appliances. It does not freeze at any degree of cold temperature known to us, and is not changed at even 21° Centigrade. It is remarkable that this valuable oil seed has not been more utilised, for it would not be difficult to find the proper places for finding the seed in quantity, and collecting it cheaply. The Lime tree produces the same enormous quantity of seed almost every year, and, therefore, there would be no stoppage in the regular manufacture of the oil."

— SINGLE CACTUS DAHLIAS.—Messrs. Dobbie & Co., Rothesay, N.B., have sent us some blooms of the single Cactus Dahlias. The flowers were fresh and beautiful, the best including Bruce, Queen Mary, Althea, Ravenswood, and Highland Mary. Whether these Dahlias will become popular seems to be an open question, but there is no doubt of their effectiveness.

— HERTFORD HORTICULTURAL SOCIETY.—We are requested to state that the third exhibition of Chrysanthemums, autumnal flowers, fruit, and vegetables will be held under the auspices of the Hertford Horticultural Mutual Improvement Society in the Corn Exchange, Hertford, on October 25th and 26th. According to the schedule good prizes are offered, which should induce exhibitors to make an effective display. Mr. Jason Fears, Market Place, Hertford, is the Honorary Secretary.

— SOUTHPORT AND BIRKDALE GARDENERS' FRIENDLY SOCIETY.—The second season in connection with the Mutual Improvement branch of this Society opened on Tuesday evening, October 2nd, when a lecture on "The Colour of Flowers" was delivered by Mr. Henry Ball. His address was of the most interesting character, and contained a number of useful and instructive facts. Among other things he mentioned was that insects are able to distinguish colours, and that the one apparently best liked by them was blue. At the close of the lecture a cordial vote of thanks was passed to Mr. Ball for his valuable paper.—WM. SPENCER.

— AMERICAN ALOES FLOWERING.—I notice on page 319 of your last issue the interesting remarks made by Mr. John Mowlem Burt of Swanage re the above subject; and being rather proud of our Devonshire climate may I just mention that during the early part of this summer we had a splendid specimen of the American Aloe (*Agave americana*) blossoming freely in the open grounds of the Torbay Road, Torquay, and this without having any protection whatever during the winter? I well remember seeing it after a snowstorm had actually broken down one or two of its immense leaves, which then were about 4 feet 6 inches long. The blossom stem ran up about 25 feet or more, by 4 or 5 inches thick, and had, I should say, some hundred or more of its bell-like flowers. The worst part of the story, however, remains to be told, for I am sorry to say that having delighted us by the sight of its beautiful bloom the stately plant gave up the ghost, and its place knoweth it no more.—W. A. MASTERMAN, *Torquay*.

— THE WEATHER LAST MONTH.—Mr. W. H. Divers, Belvoir Castle Gardens, Grantham, writes:—"September was a dry month, mostly bright up to the 13th, chiefly dull and foggy afterwards. We had no frost worth mentioning, and tender plants, such as Heliotrope, Dahlias, French Beans, and Iresine were in good condition at the end of the month. The wind was in a northerly direction twenty-seven days. Total rainfall was 0.98 inch, which fell on nineteen days, the greatest daily fall being 0.38 inch on the 25th; barometer, highest 30.266 at 9 P.M. on 30th, lowest 29.510 at 9 P.M. on 25th. Temperature, highest in shade, 67° on 11th, lowest, 31° on 29th; mean daily maximum, 59.70°, mean daily minimum, 45.10°; mean temperature of the month, 52.40°, lowest on grass, 27° on 29th, highest in sun, 118° on 12th; mean temperature of the earth at 3 feet deep, 55.03°. Total sunshine, 105 hours 55 minutes, on twenty-five days, five days being sunless."

— SYRINGA PEKINENSIS.—The American "Garden and Forest" recently published an excellent picture of this little known Syringa, which does not begin to flower freely until it has grown to a good size, but that it can in time produce its large clusters of white flowers in profusion is shown in the illustration mentioned. This is said to have been reproduced from a photograph of a plant which stands in deep rich soil, in a garden near Boston, and has been allowed to spread its long graceful branches in all directions. The habit of *Syringa Pekinensis* is excellent; the foliage is pleasing in colour, and is not injured by insects or disease; and the flower clusters, which appear a week or ten days earlier than those of *Syringa japonica*, and about ten days later than those of *Syringa Amurensis*, are produced more freely on old well-established plants than they are on either of these species. They appear too, on the lower as well as on the upper branches, while on *Syringa japonica* they are usually confined to the upper part of the tree. The disagreeable Privet-like odour, which is common to all the Lilacs of this section (*Ligustrina*), is less pronounced in this species than in the others. Altogether *Syringa Pekinensis* is a very beautiful, desirable, and perfectly hardy small tree. It requires, however, strong moist soil and plenty of room in which to display the graceful sweep of its branches.

— WEATHER IN SCOTLAND. — Mr. G. M'Dougall, Ravenna Cottage, Stirling, writes:—"The total rainfall for the past month is 0.155 inch, which fell on six days. Greatest fall on any day, 0.068 inch on the 25th. Mean maximum of the month, 64.6°; mean minimum, 40.9°. The highest maximum was 72.6°, on the 13th; the highest minimum was 50°, on the 20th. The lowest maximum was 55.9°, on the 7th; the lowest minimum, 30.5°, on the 27th. Nights below 32°, two—the 27th and 28th."

— TASMANIAN APPLES.—Sir Edward Braddon, Premier of Tasmania, in a circular dispatched to the premiers of the other Australian colonies, says:—"So long as Tasmanian Apples are put on the English market through what is practically a close corporation in Covent Garden, so long will the growers be limited in their market, receive less for their produce than they should, and be entirely in the hands of people whose sole object is to get through as much business as they can in one day, regardless of the condition of the market and the growers' net returns." He therefore suggests the formation of a joint depôt in London for Australian produce.

— SUMMARY OF METEOROLOGICAL OBSERVATIONS AT HODSOCK PRIORY, WORKSOP, NOTTS, FOR SEPTEMBER. — Mean temperature of month, 52.7°; maximum on the 11th, 67.1°; minimum on the 27th, 34.1°. Maximum in the sun on the 5th, 126.1°; minimum on the grass on the 28th, 24.1°. Mean temperature of air at 9 A.M., 54.3°; mean temperature of soil 1 foot deep, 55.3°. Nights below 32° in shade 0°, on grass 9°. Sunshine—total duration in month 102.5 hours, or 27 per cent. of possible. We had six sunless days. Rainfall—0.67 inch rain fell on eight days. Average velocity of wind, 5.6 miles per hour; velocity did not exceed 400 miles on any day, and fell short of 100 miles seven days. Approximate averages for September:—Mean temperature, 55.5°; sunshine, 110 hours; rainfall, 2.26 inches. Since observations commenced here we have had no September with so small a rainfall or so high a barometer, and only two with a lower mean temperature. Northerly winds throughout, and a great deal of calm. Roses have given many grand blooms; Teas even better than in summer.—J. MALLENDER.

— MOTHS ON FRUIT TREES. — The Board of Agriculture in a leaflet to hand calls attention to the fact that the season is approaching when the winter moth and other dangerous moths will commence laying their eggs. It has, therefore, been deemed expedient to warn fruit growers on this subject, and to suggest methods of diminishing the danger. In October the winter moth and the mottled umber moth come from the chrysalis state in the ground under and near the fruit trees that were infested in the spring, and the female moths crawl up the trees for the purpose of laying their eggs upon the twigs and branches. It is most important that the passage of these moths up the trees should be prevented. This can be effected by putting sticky compositions round the stems to entrap the moths, or apparatus of wood or tin, or other material, such as stout varnished cardboard, to bar their progress, as they are quite unable to fly, having only rudimentary wings. Fruit growers who put compositions round their trees last autumn early, and renewed the applications from time to time, and carefully attended to these measures of prevention, were rewarded with good crops of fruit. These measures must be adopted early in October, and the compositions must be kept in working order as long as moths are seen about. Tar has been found to injure young trees by causing their bark to contract. It should, therefore, not be used, except, perhaps, for old trees with thick layers of bark, and in this case it should be largely mixed with grease. Some manufactured compositions have also been found injurious to the trees. Great care should be taken in the selection and application of all compositions whose ingredients are unknown. Cart grease made from fats or oils and without tar is recommended by practical fruit growers as the best and safest substance. This may be applied directly to the stems, or put on wide bands of tough grease-proof paper, like that used by grocers, fastened round the trees with string, or bass, or rushes, like those for tying Hop vines. As constant greasing may injure trees, especially young trees, it would be most desirable to adopt the system of spreading the grease upon grease-proof paper bands. When these are employed for old trees their rough bark should be scraped away, in order that the paper may be fastened closely round the stems. The chrysalids, from which the moths will soon come, are now in the ground near the trees, and probably immediately under their boughs. Many chrysalids might be destroyed by digging or hoeing in the case of cultivated land where the trees have been infested, or by digging in or hoeing in lime. Upon grass land the

grass should be cut off and removed, or fed off closely. After this the surface might be raked with large iron garden rakes. This would expose the chrysalids, many of which could be smashed if the ground after the raking were beaten down with shovels.

— A NEW ONION. — Mr. Peters, a well-known gardener at Leatherhead, showed me recently bulbs of a new Onion, which he has raised by intercrossing Bedfordshire Champion with others of the flatter type, his special aim being to obtain a form of bulb that was deep, round, very firm, handsome, and one that will keep well. The bulbs of his selected seedling which I saw were of from 10 to 12 ozs. in weight, quite perfect in form, and as firm as stones. The variety, too, seems to be wonderfully productive. No doubt quite as much can be said of scores of other Onions, for all are more or less good, especially having regard to diverse soils and culture. Such being the case, very much of the value of any new Onion depends on its keeping qualities, and I should like to see this same sample next May. No effort has been made to obtain huge bulbs, but simply a first-class main cropper.—A. D.

— THE TOWERS, RAINHILL.—My thanks are due to "U. T. T." (page 294) for his kind appreciation of my Liverpool notes. Regarding my notice of Mr. Blythian's work at The Towers, Rainhill, I might, to have been strictly correct, have mentioned that he has the assistance of a boy, but so engrossed was I at the time of my visit, and even when writing the notice of the great amount of work which devolved upon and which is done by Mr. Blythian alone, that I thought my remarks would be within bounds by terming him what he almost is—single-handed, that is as regards the majority of work. In addition to the handsome vinery and Peach house already mentioned, I noticed a house filled with Tomatoes, another large house used for plant growing, a large handsome commodious conservatory, besides the usual frames. The plants are trained exhibition specimens, such as Bougainvillea speciosa, about 7 feet high; Plumbagos capensis and alba, 6 feet pyramids, beautifully flowered; Zonal Pelargoniums and Coleuses, all trained; with perhaps some of the finest specimen pyramid Fuchsias to be found in the country, in addition to a large number of Chrysanthemums, which cannot be done without. This I mention now to show that the plants alone must take up considerable time, so well are they done. Although not going all through the grounds, what we saw were extensive and well kept; one long drive canopied with handsome trees, with a wide grass verge on each side, formed a splendid feature. As to extent of outside department I am unable to give more at present, but at some future time I shall be pleased to do so, also to give a fuller account of this charming place. An enthusiast Mr. Blythian certainly is, or he could not accomplish such a task, and I feel that however eulogistic I might have been in the first instance, that it would not have more than compensated him for his thorough work.—R. P. R.

— THE IMPORTANCE OF HORTICULTURE.—For the better advancement of the principles of horticulture, and with a view of disseminating knowledge amongst its members, the Bolton Horticultural and Chrysanthemum Society has arranged a course of lectures to be delivered in the next few months. The opening lecture was given on Thursday evening in last week, the essayist being Mr. Edmund J. Baillie of Chester, and his subject "The Importance of Horticulture." Mr. Baillie, as a preface, invited his audience for a moment to consider what horticulture really meant. It meant the cultivation of plants, or more properly the cultivation of the garden. Coming in contact with soil they spoke of horticulture and agriculture, and though the methods were different the aim was practically the same. Both by horticulture and agriculture it was sought to get the best return from the land, though agriculture was associated in their minds with the plough and other field implements, whilst the return was of a coarser and more rugged nature than that obtained from the garden. Horticulture was a method by which they got the best out of the land, both in quality and quantity, and he ventured to assert that if people would only give fruit its true position amongst the dishes on their tables, horticulture could be so profitably advanced in England as to give healthy employment to every idle man in the country. Horticulture should be pursued for the love of it, for it opened out to the student all manner of delightful possibilities. It was essential to the making of a gardener that the person must have method, tidiness, a love for his calling, and knowledge of a little art. These came from observation and study, the subjects most calculated to impress the same being a fair botanical knowledge, the possession of a few elements of chemistry, a smattering of commercial subjects, a little classical knowledge, how to use the saw and the chisel, and the study of entomology.

ROYAL HORTICULTURAL SOCIETY.

OCTOBER 9TH.

NOTWITHSTANDING the thick fog which prevailed in the metropolis on Tuesday last, the Drill Hall, James Street, S.W., was well filled with fruit, flowers, and vegetables. Some very fine collections of Apples and Pears were exhibited, and flowers were well represented. The light, however, was by no means good, and this made it somewhat difficult to define the correct colour of some novelties that were staged.

FRUIT COMMITTEE.—Present: Philip Crowley, Esq. (in the chair), with Rev. W. Wilks and T. F. Rivers, G. Bunyard, A. Young, J. Cheal,

Champion, a mixture of scarlet and green flesh; also another and rather better fruit, but the season is too late for the development of flavour in Melons, and it was suggested that fruits be sent in the summer.

Mr. F. Fewster, Stockton-on-Tees, showed a new Apple, Richard Cobden, a medium, conical, firm fruit; but as there was nothing to indicate its superiority over existing varieties no award was made.

Mrs. Wingfield, Ampthill House, Beds (Mr. Empson, gardener), sent a bunch of a new black late Grape, Mrs. Wingfield, a large oval, well-flavoured Grape with a thick skin. It was desired to see it after Christmas, as it was thought, if it proved a good keeper, it would be a useful variety.



FIG. 53.—PHYSALIS ALKEKENGII FRANCHETTI. (See page 345.)

T. J. Saltmarsh, A. H. Pearson, H. J. Veitch, A. J. Laing, W. Bates, J. Hudson, F. Q. Lane, G. T. Miles, G. Norman, E. Gilman, A. Dean, G. W. Cummins, G. Wythes, J. Willard, H. Balderson, and J. Wright.

There was a remarkable display of fruit and vegetables in the form of collections both from trade growers and private gardeners, for which medals were worthily accorded, as noted below; specimens of new fruits were also placed on the Committee table. Mr. G. R. Beal, gardener to J. T. Dydale, Esq., Morcton-in-the-Marsh, Gloucestershire, sent a new and very good looking Melon, but decidedly over-ripe, and no award could be made. Mr. G. Wythes sent a heavily netted Melon, Bedford

Messrs. T. Rivers & Son sent magnificent fruits of Doyenné du Comice Pears, for which a cultural commendation was unanimously accorded; also Rivers' Late Golden Transparent Gage, and a vote of thanks was awarded, the variety having been previously certificated. Mr. H. Appleby, Dorking, sent heavily bearing branches of the Diamond Plum—a second crop, and the fruits advanced enough for cooking. Mr. Rivers observed he had gathered many bushels of second crop Victoria, the fruits being of good size and quality. Messrs. Laxton Brothers sent a dish of Plums, October Yellow, similar to, but not considered so good as, Coe's Golden Drop.

Mr. G. Wythes, Syon House, exhibited 120 dishes and baskets of Apples, Pears, Plums and Peaches—a truly gigantic display for a gardener to furnish. There were about 100 varieties of fruit, the merit of which was enhanced from the fact of its being grown in a distinctly suburban district. A silver-gilt medal was unanimously recommended.

Mr. H. Berwick, Sidmouth, Devon, sent 150 dishes of Apples and Pears, such as he grows for sale in his provision merchant's shop. Tibbet's Pearmain Apple was exceptionally fine; so indeed were many others (silver Knightian medal).

Mr. G. W. Cummins, gardener to A. H. Smee, Esq., Wallington, staged 120 dishes of Pears, all distinct varieties, though the names of some appeared to have got on the wrong dishes. It may be worthy of note that the trees are grown in a mass of black vegetable soil in few places more than 18 inches above the level of the Wandle, and in several only a foot above the water level; but the addition of lime and loamy top-dressings have worked wonders (silver Knightian medal).

Messrs. John Peed & Sons sent 100 dishes of Apples and Pears, sound, useful fruit, and a Banksian medal was voted; a similar recognition of merit being also granted to Mr. A. H. Rickwood, gardener to the Dowager Lady Freake, Fulwell Park, Twickenham, for 100 dishes of Apples and Pears in eighty varieties.

Mr. Farr, gardener to A. Pears, Esq., Isleworth, showed well fruited plants of All the Year Round Tomato, a productive variety, having large clusters of small fruits of good quality. For testing its continuous bearing properties the same method was adopted as in the case of Mr. O. Thomas' Frogmore Selected—namely, that bearing plants be sent early in the spring.

Mr. Empson, The Gardens, Ampthill Lodge, Beds, sent magnificent samples of Long Surrey, Intermediate, and Early Horn Carrots. A cultural commendation was at first proposed, but Mr. Dean observing that "not one gardener in a thousand could grow such Carrots, while anybody could grow Pine Apples and win a medal," the first proposition was overruled, and a silver Banksian medal voted almost unanimously, the first probably on record for an exhibit of Carrots. They were certainly as good in their way as were any of the fruits in the hall.

Messrs. H. Cannell & Sons staged an enormous collection of Onions, also fine examples of most other vegetables in season, as grown by them at Eynsford. A remarkable and meritorious display, and all hands went up for a silver Knightian medal. Messrs. Jas. Veitch & Sons sent three dozen Savoys and Coleworts, full sized samples as grown, and very fine. An interesting collection, for which a silver Banksian medal was unanimously recommended.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); the Rev. H. H. D'Ombrian, Messrs. J. Fraser, J. Laing, H. B. May, H. Herbst, R. Dean, Charles T. Drury, G. Stevens, C. E. Pearson, E. Beckett, R. Owen, C. J. Salter, C. F. Bawae, R. B. Lowe, J. Jennings, P. Barr, C. Jeffries, T. Godfrey, J. D. Pawle, H. Turner, H. J. Jones, and E. Mawley.

Mr. W. J. Godfrey, Exmouth, showed a small collection of Carnations, mostly comprised of new varieties, including the beautiful white variety Miss Mary Godfrey. Japanese Chrysanthemums were also shown by the same exhibitor, Exmouth Yellow (very good), Marie Crépey, Marquise de Paris, Miss E. G. Hills, and Madame Charles Molin were amongst the best (silver Flora medal). Show, Fancy, and Cactus Dahlias were exhibited by Mr. S. Mortimer, Swiss Nursery, Farnham, in superb condition, and included all the leading varieties in cultivation (silver Flora medal).

Messrs. J. Veitch & Sons, Royal Exotic Nursery, arranged a handsome and diversified collection of hardy flowers. Perennial Asters were very numerous, amongst the other flowers being Helianthus laetiflorus, H. multiflorus, Sedum spectabile, Anemone japonica, Pentstemons, Rudbeckia nitida, Tritomas, Cimicifuga japonica, and Achillea Ptarmica rubra (silver Banksian medal).

Foliage and flowering plants were sent by Messrs. W. Cutbush and Sons, Highgate. Palms, Dracenas, Asparagus plumosus, Ericas, and Pleionea were very conspicuous (silver Banksian medal). Messrs. B. S. Williams & Sons, Upper Holloway, showed splendidly grown Crotons, amongst which Warreni, Queen Victoria, Reidi, Mr. A. F. Barron, Princess of Wales, Williamsi, and Bachi were noticeable. Cannas in variety were also shown by this firm, as were Nepenthes and Begonia Gloire de Lorraine (silver-gilt Banksian).

A charming collection of Gladioli was shown by Messrs. J. Burrell and Co., Howe House Nurseries, Cambridge. Upwards of seventy varieties were staged, amongst which three were accorded awards of merit, and will be found described below (silver-gilt Flora medal). Hardy flowers, including perennial Asters in great variety with single and Cactus Dahlias, were exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham (silver Flora medal).

Messrs. W. Paul & Son, Waltham Cross, staged an interesting collection of Roses, including Ella Gordon, Corinna, Pride of Waltham, Caroline Testout, Duchess of Bedford, Niphetos, Marquis of Salisbury, L'Idéal Safrano, and profusely flowering plants of Duke of York (silver Banksian medal). Mr. T. Anstiss, Brill, Bucks, showed a very handsome specimen of Vallota purpurea carrying forty-eight spikes of bloom (silver Banksian medal). The same exhibitor also showed Dahlias in variety and in good condition. Mr. J. Crook, Forde Abbey, Chard, staged a small collection of Sweet Peas and other flowers.

Mr. W. Wells, Earlswood Nurseries, Red Hill, showed a group of Chrysanthemums, including Souvenir de Petite Amie (award of merit),

Frank Wells (award of merit), and many others, all in fine condition (silver Banksian medal).

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); Dr. Masters, Messrs. J. O'Brien, De B. Crawshay, H. M. Pollet, T. W. Bond, H. Williams, H. Chapman, E. Hill, J. Douglas, S. Courtauld, W. Cobb, H. Ballantine, and T. B. Haywood.

Messrs. W. L. Lewis & Co., Southgate, sent a small collection of Orchids, amongst which Oncidium Forbesi, O. macranthum, Cattleya labiata, Lælia Pendelli, and some Cypripediums were noticeable (silver Banksian medal). Messrs. Hugh Low & Co., Clapton, exhibited plants of Cattleya labiata autumnalis, Cattleya maxima, and Cypripedium Charlesworthi. A small group of Cypripedium Charlesworthi in variety came from Messrs. Charlesworth & Co., Heaton, Bradford, and these plants attracted notice, but owing to the deficient light it was impossible to distinguish the merits of the various forms (silver Banksian medal). Mr. P. McArthur, The London Nursery, Maida Vale, W., had a group of Orchids arranged with other plants, this contribution including Cypripedium Chamberlainianum macranthum, Cattleya labiata, and C. aurea amongst others (silver Banksian medal).

Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, sent a few novelties, which included Cattleya Wendlandi (award of merit), C. Chloris, Lælio-Cattleya Nysa, and Sophro-Cattleya lacta, the last named being the result of a cross between Sophronitis grandiflora and Lælia pumila Dayana. Mr. T. Statter, Stand Hall, Manchester, showed blooms of Cattleya Countess of Derby, also a plant of Cypripedium Memoria Moensi, for which an award of merit was adjudged. Mr. G. D. Owen, Selwood, Rotherham, secured first-class certificates for Cattleya labiata Countess Fitzwilliam and C. labiata Foleyana. Mr. G. E. Day, gardener to Admiral Ralph P. Cator, Hazelwood, King's Langley, exhibited Stauropsis philipinense (botanical certificate) and Dendrobium phalaenopsis Schröderæ alba (award of merit). Miltonia spectabilis Moreliana atro-purpurea was shown by Mr. Cobb, Tunbridge Wells, and an award of merit was adjudged. Mr. C. J. Lucas, Warnham Court, sent a number of choice species and varieties, and was awarded a botanical certificate for Sarcanthus pungioniforme. Messrs. F. Sander and Co., St. Albans, contributed a small group, including Cattleya labiata, with C. hybrida Browni, an award of merit being accorded for the last-named plant.

CERTIFICATES AND AWARDS OF MERIT.

Cattleya hybrida Browni (F. Sander & Co.).—This is the result of a cross between C. Harrisoniæ and C. Bowringiana, and the plant exhibited was raised from seed sown in 1890. The sepals and petals are rosy pink, the lips being brighter in colour (award of merit).

Cattleya labiata Foleyana (G. D. Owen).—This is a splendid form, the flower being of a large size. The sepals and petals are white, tinged blush, as is the lip, which has also a light purplish blotch on the inside, with a lemon-coloured throat (first-class certificate).

Cattleya labiata Countess Fitzwilliam (G. D. Owen).—With the exception of a blush tint in the lip this flower appeared in a bad light to be white (first-class certificate).

Cattleya Wendlandi (J. Veitch & Sons).—This distinct Orchid is the result of a cross between C. Warscewiczii and C. Bowringiana, the former being the pollen parent. The sepals and petals are purplish rose, the lip being a rich crimson with yellowish throat (award of merit).

Chrysanthemum Madame Charles Molin (W. J. Godfrey).—This is a very fine variety, after the style of Vivian Morel, with narrow creamy white florets (award of merit).

Chrysanthemum Mrs. E. G. Hill (W. J. Godfrey).—This is an incurved Japanese variety with large well shaped flowers. The florets are narrow, pointed at the tip, and silvery flesh pink in colour (award of merit).

Chrysanthemum Madame Edouard Rey (W. J. Godfrey).—This is a large flowered incurved Japanese, deep pink in colour, with a silvery white reflex (award of merit).

Chrysanthemum Souvenir de Petite Amie (W. Wells).—This is a fine Japanese variety with long pure white florets. The habit of the plant is dwarf (award of merit).

Chrysanthemum Frank Wells (W. Wells).—This is an incurved Japanese variety, with long broad florets. The flowers are of good size and clear silvery pink in colour (award of merit).

Cypripedium Bookeri (W. L. Lewis & Co.).—This Cypripedium is said to be the result of a cross between C. ciliolare and C. Spicerianum. The dorsal sepal is large and richly coloured, blotched white. The sepals are narrow, green at the base, and spotted chocolate, the lip also being very dark (award of merit).

Cypripedium Memoria Moensi (T. Statter).—This appears to be a distinct Cypripedium. The dorsal sepal is large, reddish brown and white, the sepals and petals being a rich bronzy green (award of merit).

Dendrobium palpebre (W. L. Lewis & Co.).—The flowers of this species are small, but effective, being produced in large numbers. They are white with orange in the throat (award of merit).

Dendrobium phalaenopsis Schröderæ alba (G. E. Day).—This is a charming form of a well-known Orchid. The sepals and petals are white, as is the lip, which is also striped magenta on the inside (award of merit).

Gladiolus Leonora (J. Burrell & Co.).—This is a large-flowered variety, the colour of which is a soft rosy pink, the lower petals almost pure white, with charming red feathering in the throat (award of merit).

Gladiolus grandis (J. Burrell & Co.).—The colour of this new variety is rich salmon rose, with shades of orange on the outer portion of the petals, the throat is deep purplish red (award of merit).

Gladiolus Casilda (J. Burrell & Co.).—This is a handsome variety, having large, well-formed flowers and spikes. The colour is a clear yellow, feathered in the throat with purplish red (award of merit).

Miltoia spectabilis Moreliana atropurpurea (W. Cobb).—A richly coloured form, the sepals and petals being a very dark purple. The lip is purplish rose with darker veins (award of merit).

Physalis Alkekengi Franchetti (J. Veitch & Sons).—This is a splendid form of a well-known plant, the vesicular calyx being larger than hen's eggs and of a rich orange shade. The plants shown were raised from seeds purchased by a member of the above-mentioned firm at a fruit shop in Japan, where they were offered for sale as food. The illustration (fig. 53) on page 343 will give an idea of the nature of this plant which is worthy of extensive cultivation (award of merit).



IMPROVED TELESCOPE CUP AND TUBE.

We have received a Chrysanthemum cup and tube from Mr. W. E. Tidy, Brockhampton Nurseries, Havant. This is apparently a most simple holder, as the portion containing one bloom can be raised or lowered by turning a screw. The stem of the flower is thrust through an indiarubber ring, which is said to render the cup watertight when travelling. Various sizes are made to suit Japanese and incurved blooms.

CHRYSANTHEMUMS AT VICTORIA PARK.

THE display of Chrysanthemums in this park was opened to the public yesterday (Wednesday) the 10th inst. The collection is an extensive one, including all the well known exhibition varieties and a large number of the new kinds sent out for the first time this spring. Probably they will be at their best in about three weeks. From 2000 to 3000 plants are grown and exhibited.—J. W. MOORMAN.

CHRYSANTHEMUM GOLDEN WEDDING.

MY stock of this variety consists of two plants from one cutting, the plant being topped on March 14th and inserted in a small thumb pot, and removed to a 6-inch one. The bud showed at the end of August, and was taken, the original plant being grown on with one stem till the natural break, which was somewhat late. The crown bud showed in the middle of September, and the plant made 5 feet of growth from the first break. Both plants are strong and healthy, the buds swelling fast. I procured my stock from Mr. Wells, who states on page 326 that all his plants are strong and healthy. I am quite satisfied that stimulants are not the cause of the disease.—F. W. BUCKINGHAM, Tonbridge.

NATIONAL CHRYSANTHEMUM SOCIETY.

A MEETING of the General Committee of this Society was held at Anderton's Hotel, Fleet Street, on Monday evening last, when Mr. B. Wynne took the chair. The Secretary reported that the prize money awarded at the recent September show had been paid, and that two silver and two bronze medals had also been awarded. A brief financial statement was submitted, showing the receipt of income amounting to £185 16s. 4d. up to date, which sum is largely made up of subscriptions from members and affiliated Societies. He also pointed out that by the rules of the Society there was nothing to guide the members as to the method of election, and having tried the ballot on several occasions he thought it would be well to recommend the annual meeting to adopt it and make all elections uniform. It was also suggested that nominations should be made twenty-one days before the meeting, so that the General Committee might consider the claims of any persons proposed to fill the vacant places. Mr. Geo. Gordon concurred in the wisdom of the proposition, and it was arranged to lay the recommendation before the members at the next annual meeting.

Twenty-three new members were elected, and the Launceston (Tasmania), Pershore, Newbury, and Melton Mowbray Agricultural Societies admitted in affiliation. The Secretary also drew attention to the fact that the Society would attain its jubilee in 1896, and suggested that a sub-committee be formed to prepare a programme for celebrating such an important event in a proper manner, and one worthy of the traditions of the Society. As a result the sub-committee was appointed as under:—The officers of the Society, Messrs. Briscoe Ironside, Geo. Gordon, H. J. Jones, T. W. Sanders, J. Wright (Temple Gardens), and T. Bevan.

Mr. Harman Payne announced that the preparation of the new supplement to the catalogue was now finished, and would be in the printers' hands in a day or two, and would no doubt be ready before the commencement of the ensuing show season.

CHRYSANTHEMUMS AT CASTLE HILL, MAIDENHEAD.

AT the present time the outdoor early flowering Chrysanthemums are making a charming display at the above nursery. Mr. Owen grows all sections extensively, and has already raised several early varieties

of considerable promise. Growing and blooming most profusely in the nursery quarters I noticed the following when on a visit a few days since, and with open weather will make a display through October. Harvest Home stood out conspicuously; colour reddish bronze, a Japanese flower, rather larger than Madame Desgrange. General Hawkes, of similar habit and size of flower; of a dark plum colour. Golden Shower, a very free yellow. Princess was a larger flower than either of the preceding; colour creamy white. Madame Gustave Grunerwald was flowering freely in pots, but is of a more delicate constitution than either of the above named kinds. Amy Russell, sent out as a supposed sport or seedling from Madame Desgrange, but as growing here it seemed identical with that variety, and the same remark applies to Lady Fitzwigram when growing in the open, no difference could be seen in flowers of that and Madame Desgrange. Other free-flowering kinds outside were Madame Louis Lionett, Madame Zephir Lionett, Piercy's Seedling, Canari, Flora, Frederick Pele, and several Pompons.

The large stock of over 5000 in pots were being placed in their blooming quarters. One house was filled with 1250 seedlings of this year. Altogether there are over 2000 seedlings of this year on trial, and as many from various other sources. The plants are rather taller than last year, and generally rather later, a few only of the earliest just beginning to show colour.—H.

CHRYSANTHEMUMS ROUND DUBLIN.

THERE is I think an unwritten law among those who meet in friendly rivalry at a flower show, that when the fray is imminent, notes by a (war) correspondent do not find favour with the generals commanding. In this instance, though corpulent buds and capable wood form data from which approximate estimates may be formed, all else is premature, and in all cases comparisons, which I have no intention of drawing, possess a qualified value until the field day arrives. At any time during the growing season lovers of the "Autumn Queen" find pleasure in doing homage to their sovereign.

Having at various times been asked had I seen the "Mums" at Mount Merrion, it was with pleasant anticipations I set forth to find Mr. Crawford at home and happy to allow an inspection of the battalion drawn up near his handsome dwelling. Places are few and far between in which such goodly quarters are provided for the head gardener. Beautifully situated is the Irish demesne of the Earl of Pembroke, commanding an unrivalled view of "Sweet Dublin Bay." The bold headland of Howth on the opposite shore stands out clear and distinct this autumn day, and perched on its nose is the Bailey lighthouse dazzling in its whiteness 110 feet above sea level. A herd of sleek-faced deer look inquiringly at the stranger within the gates taking his bearings for the gardens. Inquiring for Mr. Crawford I hear he is in the Melon ground, not amongst the Melons but amongst the "Mums," and here are the 400, their serried ranks in perfect alignment; admirable they looked, formidable I might say. Prevalence of mildew is complained of, but dustings of black sulphur keep the foe in check. Whatever loss of foliage has resulted it but serves to display the well ripened wood, and probably has been an aid to this desideratum. No need to poke among the labels for Miss Dorothy Shea; here, as in all places I have seen her, she is conspicuous by the yellow tinted foliage. Mdlle. Thérèse Rey in bud does not at this stage assume the capabilities of development we shall expect from it, but notes given last year by the apostle of culture convey assurances of comfort on this point. Golden Wedding behaves with us as with English growers; apparently this marriage is a failure, it is also objectionally tall. Amongst the rank and file many fine buds are prominent, and some few tops where buds are not, for earwigs here as elsewhere have been rampant this season, and daily inspection of the tops has been necessary. All are grown with three stems for large blooms, and the expert hand is very much in evidence. In crossing the garden many things have been hurriedly noticed, which I want to make further acquaintance with, but must not mention in this reserved column, so we reluctantly turn our backs on the favoured of fashion.

Is there time to see St. Helen's? Yes; so we take a bee line across the Park. Horse Mushrooms, giants in their way, are abundant. A stately Beech avenue perspectives to the Booterstown Road in the distance, crossing which St. Helen's, the seat of Lord Gough, is reached. Very pretty is this demesne encircled with a wide belt of goodly timber. Reaching the front of the mansion preparations for spring are in active progress, the flower beds on a wide terrace being all but filled. Mr. Cumming makes this work a special feature. Facing the flower garden is a ponderous bell swung in a frame close to the ground; this is a war trophy of the late Field-Marshal Lord Gough. But there are "Mums" to see, so we make for the garden proper and see them, duly feeling their fat brown stems, noting the buds, whilst talking of "Sheas," "Reys," and Golden Weddings. Many other features are noticeable at this place; but we are now concerned with Chrysanthemums.

My courteous guide intimates that we are expected at Willow Park, and the day is fast waning. Happily the charming seat of Mrs. Pease is situated right "forninst" us, and but little time is taken in beating up Mr. McKenzie, whom we find engaged with the cup that cheers. "Come and do likewise," says he, which I do, whilst my cicerone looks pensively at his watch as the precious minutes fly. At last a move is made from the pretty cottage embosomed in—what? Why, "Mums." No sooner outside than there are "Mums" to the right of us, "Mums" to the left of us, and as we take stock in the gloaming fearful reflections prevail. Whether it is bush plants or those for large blooms are the

strongest feature it is difficult to decide, but finally arrive at the conclusion it is both. Bush plants feathered to the pot in foliage. We look over a "Lincoln," 5 feet 3 inches across, and try to solve the problem of how it is to be taken through a 4-foot door; but there is no end to man's ingenuity, especially in this case. I venture to say it is now safe inside without a feather ruffled. Once inside there is ample accommodation, for the glass is extensive.

It is with regret that limited time foreshortens these notes, for it is all but dark as we go out on to the "rocky road to Dublin," which I have understood this to be, commemorated in verse and story, and associated with visions of "Sweet Peggy on the low-backed car." In closing I would fain ask Chrysanthemum raisers when seeking for a name for some fair flower to give us a "Sweet Peggy," and earn the blessing of—E. K., *Dublin*.

GALVANISED WIRE AND FRUIT TREES.

SEVERAL examples of injury to shoots of fruit trees and plants through coming in contact with new galvanised wire having recently been brought to our notice, we promised to republish something of what appeared in the *Journal of Horticulture* a few years ago. In articles prior to the one now cited, it had been pointed out that wire before being coated with zinc is placed in baths of muriatic acid for cleaning it, often remaining there a long time, absorbing the acid and this subsequently escaping to the injury of contiguous vegetation. The article, as will be seen, is a summing up of evidence, some of which having been tested by experiments. It is as follows:—

PUBLISHED evidence on this subject has shown that the injury to trees is by far the most pronounced where smoke prevails; and if the cause of that injury is due to the escape of acid from the wire then it seems to follow, that all the worst wire—that containing the most acid—has happened to be sent to the vicinity of towns, and the best—that containing the least acid, to the country districts where the air is pure and the trees not nearly so seriously nor generally affected. It is not possible that such a division of injurious and safe wire could have occurred by chance; and the different effects of the wire, assuming that the escaping acid is the sole cause of the injury, can only be accounted for in one way—namely, that the wire has a much slower sale in the country than the town, and often remains in stock for a considerable time in the shops of local ironmongers until most or all the acid has escaped from it; but in towns it does not remain in stock nearly so long, and is consequently newer and more noxious to vegetation. This contingency is worthy of mention, for it is certain that old wire is much safer than new. Although the "escaping acid" theory does not, to my mind, settle the question at issue in a satisfactory manner, it must not be altogether ignored, and it will be decidedly safer to use old wire than new, and especially that which does not bend freely, as its brittleness is evidence of its long immersion in the acid bath.

I pass now to another aspect of the case, and one that demands careful attention. Whatever injury may result from acid within the wire, I think it can be demonstrated that the branches of trees secured to zinc-coated wire are injured by the action of acid from without acting on the zinc surface with which the shoots are brought in contact. It is on this basis, and, so far as I can see, on this alone, that the different and conflicting statements that have been published can be reconciled, and this accord being effected we may hope to find an answer to the vexed questions—1, "Why is the wire injurious in some cases and not in others?" 2, "Why is the injury to trees so slight, or non-existent, in the pure air of the country, and so serious in situations where the atmosphere is impregnated more or less with the sulphurous compounds of smoke and vapours from 'works' and manufactories?" If these questions are not already answered, the following fact, which I think indisputable, will complete the reply—namely that sulphuric acid combined with zinc forms white vitriol—sulphate of zinc—which is a corrosive poison, and I will further show that sulphate of zinc is the active agent of the injury under examination:

After the publication of the various letters on the question at issue, it was considered most desirable that a subject of such practical importance should not be left in the uncertain state it was. Different kinds of wire were therefore obtained in the spring, to which the young laterals of Vines were secured in a small house in a decidedly "smoky district," for it is within the sound of "Big Ben" of Westminster. The following were, briefly, the results:—1, New galvanised wire, serious injury. 2, One-year-old galvanised wire, slight injury. 3, Two-year-old galvanised wire, scarcely any injury. 4, Charcoal-drawn wire, no injury. 5, Copper wire, no injury. 6, Pure zinc wire, no real injury (but not put up soon enough). 7, Painted galvanised wire, new or old, no injury. Where the growths touched the new galvanised wire corroded specks were apparent in four days, and in a month the injury was severe, and was equally apparent on the shoots, tendrils, foliage, and berries that were placed in contact with it. Eventually the wire became covered with a thin film of oxide; as this increased the injurious power of the wire decreased, and towards the autumn the wire had little or no effect on the harder wood. Long before the autumn, however, and as soon as the effects of the different wire were apparent, the whole subject was considered, and I was supplied by Dr. Hogg with a packet

each of oxide of zinc and sulphate of zinc with the object of proving the presumed safety of the former and danger of the latter. The results were exactly in accordance with the anticipations. On worsted being saturated with a solution of the former tied round the stems and wires, old and new, and kept moist, no injury whatever followed; but on whatever kind of wire the sulphate of zinc was placed and the shoots attached to them, injury immediately followed, and this of a kind precisely similar to that communicated by the new galvanised wire. On examining laterals injured artificially with the sulphate of zinc with those affected naturally by the wire, no difference whatever could be detected between them; in fact, it was utterly impossible for anyone to whom injured portions were submitted to determine which had been injured artificially and which had sustained damage by ordinary contact with the wire. Some shoots that were girdled with worsted saturated with the sulphate of zinc were speedily killed, others that rested on the poisonous solution were only corroded on one side, the same as those resting on the wire. I am confident that whoever adopts the plan recorded will experience the same results.

We have here a few important facts in precise harmony with each other. Sulphuric acid combining with zinc produces sulphate of zinc—sulphate of zinc corrodes Vine shoots in contact with it; sulphuric acid is more abundant near cities and towns than in the country where there is little or no sulphurous vapour—injury to trees in contact with galvanised wire follows where smoke prevails, but is much less marked, when observed at all, where the air is quite pure; old wire covered with the protective and innocuous oxide is comparatively safe; new wire, especially near towns, is decidedly dangerous to vegetation that is in contact with it. These facts appear to point directly to the conclusion that the cause of the injury under notice is that above indicated, and, what is more, they do not seem to be so well reconcilable on any other basis that has yet been suggested.

I have examined the subject as closely, fully, and fairly as I have been able, with the sole object of eliciting the truth. Two years ago I was a disbeliever in the injurious effects of galvanised wire, now I am fully satisfied that it is, when new, highly dangerous in certain situations. It is, perhaps, too much to expect that all will agree with the conclusions arrived at; but those who differ will, of course, submit proof that the injury in question, that in many places has been so serious, has not resulted either from the escape of acid from the wire or the action of acid on its zinc surface from a vitiated atmosphere.

Several letters relative to the injuriousness of the galvanised wire have been received that it was not necessary to publish, as the writers simply repeated in substance what had previously appeared in the *Journal of Horticulture*, but extracts from a few of those letters may be given. "Civis" writes from Derby as follows:—

"Last spring I wrote two or three letters in your *Journal* calling attention to the injurious effect of galvanised wire for tying Peach trees, which called forth several replies disagreeing with my opinion as to the injurious effect upon the trees, notwithstanding I had all the galvanised wire removed and substituted copper wire instead; and no one need wish to see a better lot of trees in any house. They are full of flower buds, and the wood ripened. I enclose you a small branch I cut off one of the trees that is tied to the back wall of my Peach house, and you will see for yourself the injurious condition of the wood. I found this branch had rested against a galvanised peg stuck in the wall, through which the copper wire ran. You will see it has eaten nearly through the branch, which in itself is a proof of damage the zinc wire will cause."

The injury to the shoot was very pronounced, and precisely the same effects are produced by placing a shoot in contact with sulphate of zinc, which corrosive substance forms on galvanised and not on copper wire. "W. E." writes from near Birmingham:—

"I planted *Habrothamnus fascicularis* in the border of a conservatory and trained it to galvanised wire. About a month after planting the leaves turned black and fell off, also the ends of the shoots were injured. I took it out of the border from the wire and potted it. When it had made shoots 2 or 3 inches long I returned it to the border. In a short time the same thing happened to it again. I again took it up, and kept it in a greenhouse through the winter. The following spring I again planted it in the afore-said border, but with the same results as before. I then had the wires painted, and the tree grew away amazingly. From observation I find that wire that has been in use some years to be harmless by being coated over with dirt, &c., which destroyed its injurious properties, and also think that the process of galvanising has something to do with it, some new wire being harmless and others very destructive."

Both the theories advanced receive confirmation from this letter. The coating of dirt, &c. (oxidation) preventing the sulphurous acid of the atmosphere of a smoky district acting on the zinc and producing the poisonous sulphate; while some "new wire being harmless and others very destructive," suggests that there is "something in" the mechanic's assertion that some wire contains more acid than others by a longer immersion in the bath, and that the acid afterwards "sweats out," and corrodes the plants. This view also applies to the following case. Mr. Allis writes from a presumably salubrious district, Bedfordshire:—

"Last spring I planted two houses with Peaches and Nectarines. The summer's growth was trained to new galvanised wire; the consequence is that many of the shoots are badly gummed. I have looked carefully through both houses, but I have not been able to detect a single instance of gumming except where the shoots came in contact with the wires. I have just had the wire painted with one coat of good white lead mixed

with linseed oil. I am of opinion that one coat of paint is ample at one time, for this reason: If more than one coat is put on I am afraid it would scale off. Besides, it would be better to give the wires one good coat annually rather than two or three coats at one time, for at least two or three years. I have found that Cucumbers, Melons, and Tomatoes have been diseased where trained to galvanised wire. I have had my suspicions that Vines have been injured where the tender shoots have come in contact with the wire, but as a preventive I shall have all the wires painted with one coat of good white lead and the walls with Carson's anti-corrosion paint, which answers the purpose admirably. We have tried it on galvanised wire, but it does not adhere to it."

This letter repeats a remedy that, so far as I know, has never failed; and it does not appear to be necessary to incur the expense of substituting copper for galvanised wire.

Mr. Geddes, writing from near Derby, attributes the injury to the overheating of the galvanised wire by the sun. He states that—

"The wires in a Peach house became so hot that no young shoot in contact with them could escape injury. I immediately had the wires painted with two coats of white paint, and a gentleman suggested that blue paint would be equally effectual. We painted again with blue, and never had a shoot injured since. Last summer we had two Peach houses painted. The painters painted the stout iron rods black, and every shoot that crossed those rods was burned, and by way of experiment a part was shaded from the sun, and no injury followed there. Galvanised wire becomes too hot when not painted, and that is the sole cause of injury. Black or brown paint will not prevent the wire being heated; white will, as it is a non-conductor of heat."

That, as the Yankees say, is a "new notion," but the over-heating theory fails to answer the question that the wire under notice is injurious in some cases and not in others. The sun's heat is general, and is certainly as intense in the country as near towns—at Longleat, for instance, where galvanised wire is innocuous to vegetation, as near Sheffield and Derby, where its use is dangerous. Further, charcoal drawn wire is black and safe, and old oxidised wire is much darker than new galvanised wire, while the latter and lighter coloured is unquestionably the more injurious.

A Berkshire correspondent, "A. L. N.," writes as follows on imperfections in galvanising:—

"Assuming for the moment that perforations in the zinc coating do exist—though they may, perhaps, be too minute to be visible with the naked eye—what will be their effect. At each one of them we have two out of the three requisites for forming a galvanic cell. We have the two dissimilar metals, iron and zinc (the latter the most active ordinary metal that could be found for the purpose), and at some near point they are perfectly connected. The only thing, therefore, that is required for producing a slight local electric current is a drop of water, whilst a drop containing an acid will give a considerably stronger current. Drops of either kind may be supplied by the rain according to the situation. If they fall through the pure air of the country the raindrops will give feeble currents; if through the smoke-laden atmosphere of our towns they will have absorbed some of the sulphurous acid which is always present, and the action will be stronger. In either case its effect will be to dissolve some of the zinc, thus enlarging the uncovered portion of iron, which at first may have been a mere speck, till sooner or later it reaches some branch that is tied to the wire and subjects it to the fatal influence of the electric current. Several of Mr. Wright's facts tend probably to this explanation. He finds that—first, wire of the same metal throughout has no injurious effect (no galvanic action can here take place); secondly, more injury takes place near towns than in the country districts, because the rain contains acid in the former case; thirdly, immunity is obtained by well painting the wire—the paint closes the perforations and prevents the action. The alleged existence of free acid in the body of the wire is curious. If it is there and escapes in the manner stated, it would in doing so act more readily on the zinc than on the iron, and would thus produce the perforations in question. But independently of their being produced in this way, one would quite expect to find them, as zincing depends only on mechanically moistening the surface of the iron, which is itself far from homogenous. Lastly, the almost passive condition which zinc assumes after exposure as compared with its chemical activity when bright and clean, would seem to account for old wire being harmless in cases where new would do mischief."

This a very interesting letter, but whatever force the observations may have generally, they do not apply to the above mentioned experiments, which, with four Vines out of the five, "not a drop of water" was applied to the wires. The Vines were grown under glass, and there was no leakage from the roof.

In purchasing new galvanised wire any that will not bend freely should be rejected. Unpainted and pliable wire may probably be safely employed in country districts where the air is pure, provided the wire is placed in water for a week before it is used for the extraction of any acid it may contain, but near towns and in manufacturing and mining districts the new wire cannot be regarded as safe if it is not well painted.—J. WRIGHT.

A FASCIATED VEGETABLE MARROW.

MR. JOHN E. JEFFRIES, Oxford, sends us a remarkable example of a fasciated growth in a Vegetable Marrow, similar to that depicted in the engraving (fig. 54). The growth is 5½ inches in width and is about 3 feet in length, and is, moreover, studded with small Marrows to the

end of the shoot. We have seen fasciated growths in Vegetable Marrows on many occasions, but such specimens as that sent by our correspondent are not of frequent occurrence.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

ANNUAL DINNER.

THE supporters and members of the United Horticultural Benefit and Provident Society held their eighth anniversary dinner at Cannon Street Hotel on Tuesday evening, the 9th inst. Arnold Moss, Esq., presided, and he was supported by a large company, about 130 persons sitting down to the tables. Among those present we noticed Sir Stuart Knill (ex-Lord Mayor of London), Clarence Smith, Esq., M.P., Messrs. H. J. Veitch, W. J. Nutting, J. H. Veitch, P. Barr, J. Cheal, G. J.



FIG. 54.—A FASCIATED VEGETABLE MARROW.

Ingram, W. Marshall, N. Cole, J. Hudson, G. W. Cummins, J. George, G. Wheeler, G. Mortimer, and many other patrons of horticulture, nurserymen, and gardeners. The tables were beautifully decorated with Begonias, Dahlias, Ferns, Palms, and various flowers and plants kindly sent by Messrs. H. Cannell & Sons, J. Hudson, J. Laing & Sons, and others. The first mentioned firm also forwarded bouquets for the ladies, who carried out an excellent musical programme. Fruit for dessert too was likewise liberally supplied by Messrs. W. Thomson and Sons, Clovenfords, and many friends of the Society. The arrangements were admirably carried out by the Secretary, Mr. W. Collins.

The Chairman, after the usual loyal toasts had been honoured, proposed the toast of "The United Horticultural Benefit and Provident Society," coupled with the name of Mr. J. Hudson. In doing this he remarked that the Society was in a wonderfully flourishing condition. There were now 520 benefit members, about half of which subscribed 9d., and the others 6d. per week, exclusive of a small subscription for the management fund, and these were entitled to receive 10s. and 16s. respectively for sick pay. Gardeners could not have a better investment for their money than this, and it was now proposed to increase the sum to 12s. and 18s. a week as the sick pay. (Applause.) He was of the opinion that this fact was worthy of the consideration of all subscribers, and he also thought it was a great pity that more gardeners did not join

the Society. He knew many persons sympathised with gardeners in their troubles, but he would like to see those sympathisers raise the wages of their employés. (Cheers.) Gardeners, as a rule, were by no means a well-paid class of men, considering the responsibility which rests on their shoulders in connection with the work they perform. If gardeners were better paid he contended that the majority of them would make an effort to provide for their wives and families, and he ventured to say that the Society would grow much richer in a very few years. As regards the financial position of the institution, they all knew it was remarkably sound. Up to the end of January of this year £8700 were invested, but he was glad to say that since then £800 had been added to that fund. (Cheers.) He hoped it would soon be £10,000, and he urged all gardeners to become members of the Society. There had been three deaths this year, but fifty-nine new members had joined, and he also had the pleasure of announcing several new life members, including Sir Stuart Knill (ex-Lord Mayor of London) and Mr. G. H. Cuthbert of Southgate. (Applause.)

Mr. J. Hudson, in responding, pointed out the firm basis on which the Society was working, and remarked that their funds could never become exhausted, simply because they were liquidated every year. During the past few years they had had an increase of ten per cent. of members, and he hoped to see still further progress in this direction. He should like to make a special appeal for the management fund, for were this improved they would be better able to make known the advantages of the Society. They were determined not to be behind other societies in the matter of sick pay, hence the proposal to increase the weekly sum by 2s., which had been mentioned by the Chairman.

Clarence Smith, Esq., M.P., proposed the toast of "The Visitors," observing that he did this now as a member of the Society. Last year he had the honour, as a visitor, of responding to a similar toast, and then announced his intention of becoming a life member. He had noted the extreme warmth with which the officers of the Society had been referred to, and he was quite sure, from his own knowledge of the matter, that the excellent Treasurer (Mr. Hudson) invested their money in perfectly safe hands. He earnestly hoped that they would be able to increase the amount of sick pay, as proposed. (Hear, hear.) He ventured to suggest that Sir Stuart Knill be asked to propose the same toast next year, because they had heard of his intention to become a subscriber to the Society, and they all knew of his unbounded generosity. He need not further commend Sir Stuart to them, because they were aware that he had been one of the best, most liberal, and most righteous of Lord Mayors of this great City. (Hear, hear.) He was sure though, that even at the Mansion House, Sir Stuart had never seen tables more charmingly arranged with flowers, or a better display of fruit. (Cheers.)

Sir Stuart Knill, in responding, said that as an Englishman he loved flowers and his garden, although he was one of the least capable to speak of their history. Having, as he thought, a little Scotch blood in his veins, he was also proud of the fact that the abilities of Scotch gardeners were recognised throughout the world. When Lord Mayor of London he happened to be an innocent cause of promoting a greater interest being taken in gardening by obtaining a livery for the Worshipful Company of Gardeners. This Company was of ancient origin, having been inaugurated at the instigation of one of the kings of this country, about 300 years ago, but up till the last year or so it had not been recognised in the proper manner. He was glad to say that it had now a livery, and moreover that the Fruiterers' Company also took a keen interest in horticulture. After referring to the ancient gardens of London, when Roses grew and bloomed around St. Paul's, and Strawberries were cultivated in Hatton Garden, Sir Stuart observed that nothing gave him greater pleasure than a walk through a beautiful garden with an intelligent gardener. (Applause.)

Mr. Nathan Cole rendered the toast of "The Honorary and Life Members," to which Mr. W. Marshall responded. In doing this Mr. Marshall said he strongly objected to the proposed increase in the amount of sick pay, because it would upset the working of the Society.

Sir Stuart Knill proposed the toast of "The Chairman," and remarked that, in reply to the challenge of Mr. Clarence Smith, he might say he had never sat down to a table where the beautiful flowers and fruit appealed so strikingly to one's senses as they did on this occasion. He congratulated the members on having Mr. Arnold Moss in the chair, because he knew personally of the great interest their Chairman took in the Society. Mr. Moss briefly responded, announcing among other subscriptions the sum of 5 guineas from Mr. N. Sherwood for the Convalescent Fund.

The other toasts included "The Donors of Flowers and Fruit," and "The Press," after which the company dispersed.

BELTON HOUSE GARDENS.

AMONG the comparatively few establishments which have not to any perceivable extent felt the effects of the wave of commercial depression which has, according to the pessimists, overwhelmed this country of late years, may be instanced Belton House. This is the Lincolnshire residence of Earl Brownlow, and is situated about two miles from Grantham on the Great Northern Railway. Travellers from London would find no difficulty in reaching this town, there being several trains each day that accomplish the journey of over a hundred miles in less than two hours—a feat worthy of record, notwithstanding the apparent digression. A pleasant walk from Grantham, more famed for its lofty church spire and

the manufacture of agricultural implements than anything else, through fields, brings one to the entrance lodge of Belton Park. From this point the mansion is approached by a straight drive about a mile in length, and bordered on each side with a row of Elm trees of gigantic proportions. Some grand specimens of Oak and Beech trees are also noticeable, and the park generally is well wooded, the surface rising on the right to a considerable extent. On a recent fine day the whole presented a charming appearance to one whose life is chiefly spent amidst the bricks and mortar of the metropolis, the various tints of the foliage on the trees harmonising beautifully with the other surroundings. Herds of deer and cattle roam at will over the broad acres, which are also, thanks to the generosity of the owner, open to the inhabitants of the neighbourhood for the greater portion of the year.

The gardens are extensive and admirably managed. Some years since the writer was privileged to visit this establishment, hence the improvements that have been recently effected were more conspicuous, and it is obvious to the most casual observer that the gardens are in good keeping. It is particularly gratifying to come across an instance of this kind, inasmuch as the reverse is, unfortunately, the rule nowadays, and many gardeners are practically called on to "make bricks without straw." In other words, the staff of workmen in some places is so reduced that those in charge find it a very difficult task to keep the grounds in anything like a presentable condition. As has been said, in the establishment under notice we have an exception, and the utmost is made of it. Mr. W. Emerton, the able and courteous manager, evidently takes more than an ordinary interest in his work, and has just cause to be proud of his accomplishments. There is ample scope here for displaying abilities, a large and constant supply of fruit, flowers, and vegetables of the best quality being in demand.

The fruit and vegetable gardens are some distance from the mansion and on the opposite side of a public road. There are several walled-in divisions, the walls being occupied with well trained fruit trees. Some of these are old and past their best, but efforts are being made to plant young ones in their places. Pears are very abundant, but rather small on some trees, although excellent fruits were noticeable on the younger, and consequently more vigorous ones. As elsewhere, this year, Apples are not very plentiful, and Cherries were a comparative failure. This was caused by the severe frost in May, which also seriously affected both Currants and Gooseberries to such an extent that the bushes have not yet recovered. Apricots do remarkably well, and the trees, which are in splendid health, have borne grand crops this year. Strawberries are extensively grown, both in pots and outdoors, about 2000 plants being used for forcing annually. For early use Auguste Nicaise is much esteemed, this handsome variety being followed by Keen's Seedling. The plants of these well-tried kinds are in 6 and 7-inch pots, and have well-developed plump crowns. In the open quarters a plantation of Keen's Seedling was pointed out as bearing the third crop this season. The plants fruited in pots in the spring under glass, and from thence were planted outdoors where a crop was produced in July. They flowered again, and at the time of my visit, the middle of September, a large number of excellent fruit were perceivable. John Ruskin Strawberry also does fairly well, and Scarlet Queen is considered an acquisition as an early variety. This kind is said to ripen fruit some days before any other sort in the locality mentioned.

Vegetables are well and extensively grown, and it is seldom that such splendid crops are seen. Onions are magnificent, there being, it is estimated, about 2 tons weight of bulbs obtained from one plantation. These are large, sound, and as close on the ground as they possibly can be, there being three to four bulbs in 1 foot of space. No special treatment was given them, and no extra care taken in preparing the ground other than an application of wood ashes previous to sowing the seeds and a dressing of soot when the plants were a few inches high. The variety is Veitch's Maincrop, which is obviously an Onion possessing much merit. Nearly an acre of Asparagus is grown, the bulk of this being forced. The first Asparagus is usually ready for cutting in November, and from thence a constant supply is maintained until the outdoor crop is ready. French Beans, too, are grown all the winter and spring, there now being a large number of plants in pots. The earliest crop of Potatoes, Sharpe's Victor, was produced in pots at the New Year last winter, and these were followed by others in frames. It will be apparent to all that this involves much labour, but it is carried out annually. Cucumbers are likewise well represented, plants in pits bearing heavy crops of fine specimens. Outdoors the various vegetables are cropping splendidly, and if one kind is more worthy of being particularised than another it is the Autocrat Pea. A long row of this variety has borne an enormous number of large, well-filled pods for seven weeks, and it appeared as if the plants would continue bearing for some time to come. Sutton's Matchless Marrowfats and Latest of All are also grown, whilst Sturdy is recommended as being a good late Pea.

As already hinted, flowers are much in demand, and consequently an abundance of these is forthcoming. Roses in pots form a feature, and a house is about to be specially devoted to their culture. Arum Lilies, too, are likewise grown in large numbers, about 600 of these plants standing in pots in the open air. Chrysanthemums are in grand health, and comprise most of the latest novelties, whilst many of the well tried kinds are cultivated for producing flowers for cutting. Under glass Poinsettias are unusually fine, the same also applying to the plants grown for house decoration, which are noted for their cleanliness and excellent appearance. Thousands of Marie Louise, Neapolitan, and Comte de Brazza Violets are grown for blooming in frames during the

winter, and of Orchids, Cypripediums, Coelogynes, and others that produce flowers for cutting are most favoured. The blue Ipomea Deari flourishes on the roof of a stove, as does the white kind, the attractive blossoms of former being used for table decoration. Smilax trained to wires is also cultivated for the same purpose, as are other flowers too numerous to mention. Summer bedding is not practised, the embellishment of the flower garden during the spring being considered of more importance. For this 20,000 Pansies, 7000 Wallflowers, with equally large numbers of Primroses, Forget-me-nots, and other plants are grown. Narcissi of different types have been planted on the turf and elsewhere, and these when in bloom will doubtless enhance the appearance of the grounds considerably. Near to the mansion is a fine conservatory filled with huge Camellias, Palms, and other plants, the roof being draped with creepers, whilst the numerous other houses are devoted to the cultivation of various plants.

Turning to the fruit houses, which are also numerous, we find excellent crops of Grapes on the young Vines that are being substituted for the older ones. The bunches are above the average in size, and the berries are well coloured. This was remarked in most of the vineries, although it is deemed advisable to make various improvements that are absolutely necessary for the production of Muscat Grapes of superior quality. Peaches of course, are past, the houses being thrown open to enable the trees to ripen their wood. A Fig house attracted notice, and some Fig trees on the back wall of a vinery were carrying a heavy crop of fruit. Melons, both early and late, are grown, a house of these being filled with plants that will probably produce ripe fruit in November. Much more might be written about these admirably managed gardens, but want of space precludes further reference, and it only remains to acknowledge my indebtedness to Mr. Emerton for the courtesy with which he treated me on the occasion of my hurried visit.—C.

WOOLTON GARDENERS' MUTUAL IMPROVEMENT SOCIETY.

THE sixth season's work of this Society was commenced by holding a horticultural exhibition and promenade concerts in the Parochial Hall, Woolton, on Wednesday and Thursday, October 3rd and 4th. Taking into consideration the amount of space at command the arrangements were admirable, reflecting as they did the good taste of those who had charge of the work. The balance resulting from the exhibition, as mentioned last week, is to be handed over to the Woolton Convalescent Institution, a most deserving charity.

Mr. J. C. Craven, gardener to J. Grant Morris, Esq., Allerton Priory, was first for a handsome collection of indoor and hardy fruit, the former consisting of nine distinct varieties of Grapes—viz, Muscat of Alexandria, Buckland Sweetwater, Mrs. Pearson, Madresfield Court, Alnwick Seedling, Gros Colman, Gros Maroc, Foster's Seedling, and Black Alicante, Sea Eagle Peaches, Black Diamond, Coe's Golden Drop, and a local variety of Plums, nine dishes of Pears, four dishes Apples, several dishes Tomatoes, and a dish of Red Currants. Mr. Jellicoe, gardener to F. H. Gossage, Esq., J.P., Camp Hill, Woolton, was second for a valuable group of plants, fine Croton mortfontainensis, Palms, and two bunches Muscat Grapes. This group contained some of the finest flowered plants of Cattleya aurea to be found in the country. For these and a beautiful plant of Dendrobium formosum Mr. Jellicoe was unanimously awarded cultural certificates. Mr. T. Carling, gardener to Mrs. Cope, Dove Park, Woolton, was third for the decoration of the stage, vestibule, and a box of Roses and stand of twelve cut Chrysanthemum blooms. Mr. W. Tunnington, gardener to Mrs. MacIver, Calderstones, Aigburth, made a very imposing stand for fourth position. He had handsome Celosia pyramidalis, a well flowered plant of the too seldom seen Urceolina aurea, stands of single and double Dahlias, two good bunches Golden Queen Grape, twelve dishes of Pears and nine dishes of Apples. Mr. B. Cromwell, gardener to T. Satton-Timmis, Esq., Cleveley, Allerton, followed with a bank of plants, two fine Adiantums and two splendid Hero of Lockinge Melons. Mr. Geo. Eaton, gardener to W. H. Shirley, Esq., Allerton, who is invincible as a grower and exhibitor of herbaceous flowers, showed in choice variety, the arrangement being perfect for sixth place. Mr. W. Wilson, gardener to H. Cunningham, Esq., Gorse Cop, Gateacre, and Mr. Stephenson, gardener to Exors. of the late F. R. Leyland, Esq., Woolton Hall, had fruit for seventh and eighth positions, the former with superb Alicantes and Muscats, the latter for a prettily arranged basket. Other exhibitors in the gardeners' class were Mr. Hitchman, gardener to Arthur Earle, Esq., Childwall Lodge, for Celosias and Lilliums; Mr. T. Hayes, gardener to Mrs. Janion, Woolton, for black and white Grapes; and Messrs. J. Griffiths and W. Ellis for cut flowers.

Under gardeners, amateurs, and cottagers increased the exhibits considerably, Mr. Jno. Elsworth, Doe Park, Woolton, having three handsome baskets of flowers; Mr. H. Corlett, Dove Park, Woolton, a design for flower garden; and Mr. J. Rothwell, Camp Hill, Woolton, for sprays. The trade helped also to make the exhibition a success. Messrs. R. P. Ker & Sons, Aigburth Nursery, staged new and rare plants—a most interesting table; Messrs. Jno. Cowan & Co., Ltd., miscellaneous plants; and Mr. C. A. Young, Floral Nursery, West Derby, a table of well-flowered tree Carnations, rising from a groundwork of Maidenhair Fern, all being in perfect condition. Certificates were awarded to all the three firms. To Messrs. Disley and Waterman, and the Committee the thanks of all who were privileged to attend are due, and it is to be hoped that a substantial balance will be gained.—R. P. R.

ROYAL AQUARIUM.

OCTOBER 10TH, 11TH AND 12TH.

AN exhibition of Chrysanthemums with other flowers, fruit, and vegetables, was opened yesterday (Wednesday) at the Royal Aquarium, Westminster, under the auspices of the National Chrysanthemum Society. The classes for cut blooms of Chrysanthemums were fairly well filled, and the flowers staged were very good, especially the Japanese kinds. The miscellaneous contributions, however, comprised the bulk of the exhibits, and these made an excellent display. We append the names of the prizewinners in the leading classes, though pressure on our space precludes a detailed report.

Cut blooms of Japanese Chrysanthemums were large, and, as already said, on the whole above the average in merit. In the class for twenty-four blooms the competition was very keen, and here Mr. W. Wells, Earlswood Nurseries, Redhill, was first. The best blooms shown in this stand were Mrs. C. H. Payne, William Seward, La Cherine, Miss Dorothy Shea, Lizzie Seward, Kentish Yellow, Mrs. E. W. Clarke, Excelsior, Mdle. Thérèse Rey, and Charles Shrimpton. Mr. W. Collins, gardener to J. W. Carille, Esq., Ponsbourne, Hertford, was second with a fine stand, which included grand blooms of Mrs. E. W. Clarke, Mrs. C. H. Payne, William Tricker, and Mdle. Thérèse Rey. Mr. C. Cox, gardener to John Trotter, Esq., Brickenden Grange, Hertford, was a good third, showing a charming stand of blooms.

Mr. E. Rowbottom, gardener to H. R. Williams, Esq., The Priory, Hornsey, secured the first prize for a dozen Japanese blooms. These were large and well coloured, the best being Madame Edouard Rey, Mdle. Thérèse Rey, Louise, Mrs. E. W. Clarke, G. C. Schwabe, and W. Tricker. Mr. W. Wells was second with smaller flowers, the third award going to Mr. W. Collins. As in the first-mentioned class, the competition was keen, seven exhibitors staging blooms. In another class for a dozen blooms Mr. E. Trickner, gardener to John Watney, Esq., Shermanbury House, Reigate, was first, showing excellent blooms. The second and third prizes went to Messrs. T. L. Turk and T. Knapp.

The two classes for six blooms of Japanese Chrysanthemums did not bring forth such a large number of exhibits. In one Messrs. T. L. Turk, E. Trickner, and J. Knapps secured the prizes in order of their names. In the other the awards went to Mr. William Amies, Miss Annie L. Gaunt, and Mr. H. Wedekind in order of their names.

Mr. W. Wells secured the first prize for half a dozen blooms of "new" varieties, showing W. Seward, Charles Davis, Frank Wells, Miss Dorothy Shea, Louise, and T. W. Sanders. Mr. J. Agate was second, the best flowers in this stand being W. Seward and Louise. The prizes in this class were given by Mr. H. J. Jones.

The incurred blooms in the competitive classes were rather small though this could only be expected at such an early date. For a dozen blooms Mr. E. Rowbottom was awarded the first prize for by far the finest stand. The best flowers in this contribution were Mons. R. Bahuant, Baron Hirsch, Mrs. G. Rundle, and Madame F. Mistral. Mr. James Agate, Havant, was second, the third prize going to Mr. W. Wells. Mr. T. L. Turk, The Gardens, Cholmeley Lodge, Highgate, was apparently the only exhibitor in the class for six incurred blooms, and the second prize was awarded. Pompon blooms were not very well shown, the chief prizes going to Miss Debenham, St. Albans.

There were only two groups of Chrysanthemums in pots arranged for effect, and here Mr. W. Wells, Earlswood, was placed first. Mr. G. Stevens, St. John's Nursery, Putney, was awarded the second prize for a group of plants very closely arranged.

The table decorations and epergnes were much better than can usually be seen, those shown by Mr. J. R. Chard, Stoke Newington, being particularly good. The first prize was awarded for this effective table. Mr. L. H. Calcutts, Fern Bank Nursery, Stoke Newington, also had a fine collection of epergnes, for which a silver medal was awarded. In the class for three vases or epergnes of Chrysanthemums there were a large number of exhibitors, and Mr. J. R. Chard was placed first with a charming arrangement. Mr. D. B. Crane, 4, Woodview Terrace, Archway Road, Highgate, was a close second with three epergnes grandly arranged, the third prize going to Mr. F. V. Seale, Sevenoaks. Mrs. E. Beckett, Aldenham Road, Elstree, was first with a single vase of Chrysanthemums, the second and third prizes going to Mrs. W. Mole and Mr. D. B. Crane.

As before mentioned, miscellaneous exhibits were numerous and of a diversified character. Mr. H. J. Jones sent a large collection of splendid Chrysanthemums, for which a silver medal was awarded. Mr. W. Wells also had Chrysanthemums, as did Mr. W. J. Godfrey, Exmouth, the last named securing a silver medal. Carnations Miss Mary Godfrey and Reginald Godfrey were also shown by the same exhibitor. Mr. T. S. Ware, Hale Farm Nursery, Tottenham, had hardy flowers in variety (silver medal), and Mr. S. Mortimer, Rowledge, Farnham, sent a collection of Dahlias (silver medal). Messrs. B. S. Williams, Upper Holloway, won a silver-gilt medal for a group of Crotons and other plants, and a similar award went to Messrs. J. Burrell & Co., Howe House Nurseries, Cambridge, for a collection of Gladioli. Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, sent Dahlias and hardy flowers in variety (silver medal). Messrs. H. Cannell & Sons, Swanley, had a very fine collection of Dahlias and the Onions which were shown at the Drill Hall the previous day (silver-gilt medal). Messrs. W. Cutbush & Son, Highgate, sent hardy flowers and fruit, and a silver medal was awarded.

Fruit was extensively shown by Messrs. J. Laing & Sons, Forest Hill, who had finely coloured Apples and well grown Pears (silver-gilt medal). Messrs. S. Spooner & Sons, Hounslow, won a silver medal for

a collection of Apples and Pears, and a silver-gilt medal went to Mr. H. Berwick, Sidmouth, for a similar contribution. Mr. H. Deverill, Banbury, exhibited some mammoth Onions and Carrots, and a silver medal was awarded. Messrs. W. Edwards & Sons, Nottingham, had Edwardian decorations; Messrs. Fenlon & Sons, heating apparatus; Mr. C. Williams, Hammersmith, table decorations; and Mr. Alfred Wyatt, Hatton, a collection of Apples and Pears.

First-class certificates of merit were awarded for the following Chrysanthemums:—Duchess of York, a pale yellow Japanese, full and good size, with somewhat narrow florets; from Mr. Jas. Carruthers, Hillwood, Costorphine, Midlothian. Souvenir de Petite Amie, a large white Japanese, somewhat flat as shown, but decidedly promising; from Mr. W. Wells, Earlswood. Mrs. E. G. Hill, a very fine and full delicate blush variety of great promise; T. H. Dennis, bright chestnut crimson with golden reverse, an incurved variety, the florets becoming drooping with age; Madame C. Molin, a large white Japanese of the style of Vivand Morel, from Mr. W. J. Godfrey, Exmouth. Mr. W. H. Lees, a large drooping Japanese, the centre sulphur and white, the basal florets delicate pink; and for Commandant Blusset, a variety opening of a rich crimson tint, paling to magenta crimson with age, from Mr. E. Beckett, The Gardens, Aldenham House, Elstree.

Plants of *Nicotiana colossea variegata* and *N. affinis variegata*, and Apple Dyke's Seedling from Messrs. J. Laing & Sons, were highly commended.



HARDY FRUIT GARDEN.

Gathering Late Fruit.—The latest varieties of Plums ought now to be gathered, and frequent attention given to carefully gathering and storing late Pears and Apples. Those trees especially from which the fruit is falling should first be attended to, selecting fine dry weather. Storms of wind and rain soon bring down bushels of fruit at this season, therefore it is wise to gather frequently the choicest samples in order that their keeping qualities may not be impaired by bruising.

Lifting Young Fruit Trees.—When the opportunity presents itself, and the time can be given, the practice of lifting and replanting young fruit trees is one of the best methods of curbing a tendency to vigorous and late growth. If fairly well furnished with fibrous roots, lifting and replanting gives that mild kind of check which the trees need. It induces an increase of fibrous roots, promotes the formation of fruit buds, short-jointed growth, and surface-rooting. The operation must be done quickly, so as not to dry the roots by exposure to air. Any strong roots may be shortened well back or to branching fibres. Long bare roots cut smoothly across soon break forth again. If, after lifting and replanting, the trees flag in sunny weather, the foliage must be syringed, the soil about the roots kept moist, and a mulching given.

Labelling Fruit Trees.—The present season is an excellent time to attend to this wherever it is necessary. Seldom does such a good opportunity occur for comparing the various kinds, and fruit trees should always be labelled for convenience of gathering and storing, so that the whole of each kind may be placed together, and also to assure accuracy when propagating. One of the best kinds of labels is made of sheet lead cut into strips, and the name punched into it by means of moveable type. The end of this must be long enough to roll round one of the smaller branches of the trees. These are not liable to damage the trees in any way, and are almost indestructible, but are not so easily found as the ordinary wooden label, and the latter answer well where only small quantities are required if time can be found to renew them when necessary. Labels attached by wire to the trees are almost certain to be neglected and to cause injury. For wire trellises and walls those made of zinc and inscribed with indelible ink are very useful, as they can be fastened with wire without any fear of injuring the trees.

Root Pruning.—Old trees are not easily lifted, nor is it desirable, because the needful check may be given by root-pruning wholly or in part, that is, the roots outside a certain distance from the tree can be cut all round, or one side of the tree only treated in any given year. The system followed is to dig out a trench usually about 3 feet from the stem, and to sever all strong roots in the process, paring the ends smooth and clean. When this is done there still remains perhaps strong roots descending perpendicularly into the subsoil. It is these roots which need cutting most urgently, as they are usually the main cause of the permanently unfruitful character of many otherwise excellent trees. Frequently these roots are reached by simply undermining the main ball of roots, but a readier method consists in drawing a tree partially over, thus exposing the base of the ball of roots, and revealing the whereabouts of gross descending roots. It all depends on the severity of the operation whether the roots all round should be cut or only half way. The latter is the safest when many roots require shortening. It is better to do it tentatively than to run the risk of over-pruning, and jeopardise the existence of a valuable tree. The extremities of every shortened root must be smoothly cut so that every facility is given for the emission of rootlets. In filling the trench return the best of the soil removed,

with a little fresh to improve it and favour rooting. Lay out the fibrous roots preserved in a horizontal direction as near the surface as possible, and firm the soil well about them. Finish with a light mulching of half-decayed manure.

Spur and Branch Pruning.—Pyramid and wall trees are frequently crowded both with branches and spurs, and may well be relieved so as to admit more light and air among them. It is advisable to do this now rather than wait for the leaves to fall, because the process can be so much more effectually carried out, owing to the guidance which the presence of the foliage gives in thinning sufficiently. Few pruners thin enough when operating only in winter, besides losing the advantages of late autumn ripening influences. Wall, espalier, and pyramid Pears especially need opening out in this manner. A foot apart is as close as bunches can remain fruitful, and when freely clothed with spurs this distance may often be increased without detriment. Projecting spurs ought to be partially cut back, the aim being to secure fruitful buds closer to the branches. Frequent attention given to thinning and shortening will, in the course of time, effect this. The main clusters of spurs ought to be so distributed that the hand may be easily placed between them. A crowd even of fruitful spurs can only give at the best a number of small fruits, and such growths rapidly weaken one another.

Autumn Treatment of Peaches and Nectarines.—All the fruit being gathered, cut out the current year's bearing wood or any other superfluous shoots. The whole energies of the trees will then be diverted to the maturation of the remaining shoots which are intended for the future crop. A system of careful pruning carried out now insures more thorough and complete ripening. It favours the gradual building up of firmer and bolder buds than can be the case when the growth is crowded and the foliage prematurely ripens and falls early. The admission of light, air, and sunshine is imperatively necessary to convert the vigour present in the trees to good account. When each leaf has a full share its ability to manufacture food is increased and spread over a longer period, which is of immense benefit to the bud it serves. Fibrous roots also are of great assistance in wood-ripening, as the food they supply is invariably of high quality. They may, therefore, be encouraged in the autumn, as at other seasons, with the greatest possible benefit to all trees. To this end watering borders should be resorted to if the soil be dry. Impoverished soil over and around the roots may be replaced with fresh loam of a calcareous character and decayed manure to which about one-sixth of bone meal and wood ashes has been added, making it firm.

Improving Soils.—In addition to deep cultivation there are certain classes of soil which may be materially improved in their texture and suitability for fruit cultivation. Clayey soil, for instance, may be improved by adding fresh sandy loam and gritty material from roadsides in order to lighten it. If of a very tenacious character ashes can be utilised with advantage, or pulverised lime rubbish free from wood, which is liable to create fungoid growth, employed. Soils opposite in texture to the foregoing, such as those of a sandy nature, which are hot and dry, may receive a dressing of pounded clay or chalk. It is useless, however, to add it unpulverised and dig it in in the expectation that it will fall readily. If not otherwise reduced it must be spread on the surface, allowing it to lie for a season so that the frosts, rains, and snows of winter may act upon the material and break it down. After this has taken place it should be thoroughly worked into the soil during dry periods.

Manuring.—Heavily manuring soil just prior to planting ought to be avoided if possible. Manure, especially near the surface, so that the roots seize hold of it with avidity, may cause a rank, sappy, strong growth. Good friable soil of a character which produces first-class vegetables is rich enough for fruit trees. Poor, hungry soil must, however, be enriched by working in in the lower spits a fair quantity of well decomposed manure. The upper layer of soil must be more sparingly dealt with. An addition of maiden loam to the staple material for the new roots to work in is better than manure, which can be added from the surface as required by means of mulchings and top-dressings. A compost formed from the general refuse heap, if thoroughly decayed and sweetened with lime, and a fair quantity of wood ashes mixed in, makes excellent material for top-dressing the surface.

FRUIT FORCING.

Peaches and Nectarines.—*Earliest House.*—The trees are now leafless, and should be overhauled for pruning, dressing and readjustment of the growths. Where due regard has been paid to disbudding, preventing overcrowding and removing the useless growths after the fruits were gathered, very little pruning will now be required. Weakly and unpromising branches, however, may often be advantageously cut out in favour of sturdy, short-jointed growths, and unduly long shoots be shortened so as to originate vigorous ones from them at the proper place for covering the trellis evenly with bearing wood. The house should be thoroughly cleansed, woodwork with soap (preferably carbolic or soft) water and a brush, glass with clear water and the walls limewashed, adding a handful of flowers of sulphur to a pailful, the sulphur being first formed into a paste with a little skim milk. The trees also should be washed with a softsoap solution, 3 ozs. to a gallon of water, applying with a brush and taking care not to dislocate the buds following with an approved insecticide. Likewise the border needs attention, removing the mulching or loose surface soil, pointing over very lightly, and supplying fresh loam, but not covering the roots more than 2 inches. About a quart of some advertised fertiliser may be mixed advantageously with every barrowload of the loam, and its manurial elements will get diffused through the soil by rains or watering, and be

available as food when the trees start into growth. The roof-lights may remain off until late November or the approach of severe weather, frost and snow sometimes interfering with their replacement. Both outside and inside borders are the better for whatever rains may fall up to starting, provided the drainage be thoroughly effective, and no covering is necessary beyond a light one to prevent the soil becoming frozen, for no roots can absorb moisture or nutriment from it in that state.

Trees Started at the New Year.—The foliage is mainly off, but some leaves cling to the latest growths with remarkable tenacity, an indication that the wood is not so well matured as obtains with forced trees generally, yet the buds are sufficiently plumped, and there is nothing to fear from immaturity, indeed there is more danger from over or premature ripening in the buds falling than from somewhat late retention of the foliage. Clear away the leaves as they fall, and when all are down lose no time in having the house thoroughly cleaned, the trees pruned and dressed and tied to the trellis, top-dressing the border as before advised unless the trees have been lifted or root-pruned, when it will not, of course, be necessary. If the lights are moveable they may be taken off, or if already off they need not be replaced till December, otherwise afford all the air possible, and keep the inside border in a properly moist condition.

Succession Houses.—The foliage in these is quite green, being fully a month later in being shed than last year. The growths, however, are firm, and the buds quite prominent enough in the axils of the leaves. Too much air cannot be admitted, but it is necessary to reduce the ventilation on cold nights, or close the house in case of severe frost, which may cause the sudden collapse of the foliage and prejudicially affect the buds. Any trees that are unsatisfactory should be root-pruned or lifted as soon as the foliage is sufficiently matured—that is, gives indications of falling. In the case of young trees making a late growth it will be advisable to form a trench at a distance from the stem equal to about one-third the spread of the branches, detaching all the roots, leaving the trench open for ten days or a fortnight, when it may be filled firmly. This checks growth, and contributes to the maturity of the wood and buds. It also encourages the formation of fresh rootlets, insuring a fibry formation of them, which will decidedly benefit the setting and stoning of the fruit, as the tree is better nourished provided it is present in the soil. Care must be taken not to allow the soil to become dry in the part undisturbed.

Late Houses.—The wood which has borne fruit may be cut out and thinned where too crowded. The structure may be kept rather close by day when there is sun, throwing the house open at night, which will assist the wood to ripen and concentrate the tree's energies on the buds. In cold localities a gentle warmth in the pipes in dull weather will facilitate the ripening process, but it must be accompanied by a free circulation of air.

Planting Young Trees.—The border must be efficiently drained, the base having an incline to the drain, which should be formed of 3 or 4-inch tiles having proper fall and outlet. In unfavourable subsoils it may be necessary to concrete the base, otherwise it is not advisable to do so, as moisture then has a better chance of ascending, and the roots will not descend if they are properly nourished in the border. Use clean drainage; first a layer of half-bricks or rubble of that size, another of smaller, and a third of the size of road metal, these 9 or 12 inches thick collectively, with a 3-inch layer of old mortar rubbish on the top, will make a very substantial foundation. The old mortar rubbish must be free from pieces of wood, be broken up rather fine and passed through a quarter-inch sieve, using that not passing through for drainage and the fine for mixing with the soil. Good strong loam is the only suitable material, the top 3 or 4 inches of a pasture with its turf being the best; but well worked garden soil will grow Peaches and Nectarines well. If the turfy loam incline to be light add a fourth of clay marl finely divided, preferably dried and pounded; if very strong add a fourth of road scrapings. A cartload of wood ashes may be added to twelve cartloads of loam and about 4 cwt. of crushed half-inch bones. These will supply mineral matter of which turf is generally deficient. If these cannot be had use 4 cwt. of basic slag phosphate and 2 cwt. kainit, mixing thoroughly with the loam and quantity named. Lime rubbish may be added to the extent of one-sixth to a tenth, according to the calcareous nature of the soil or otherwise. If ordinary garden soil be used it will be advisable to add a fifth part of fresh stable manure, freed, as far as possible, from the straw; the materials to be well incorporated and put together firmly when in a fairly dry state, 24 inches depth of border being sufficient, and for young trees the border need be only 3 feet wide, 4 feet 6 inches width accommodating trees trained two or three years to walls, while in any case the border need only be a foot more in breadth than the spread of the roots to begin with. Plant rather high, as the soil will settle and the surface dressings will raise to soil correspondingly. The earlier the trees are planted after the leaves show indications of falling the better, as provision is made for the emission of fresh rootlets at once. Supply water after planting, allow it to soak in, and when dry enough firm well and mulch as far from the stem outwards as the roots extend or a little more, with a couple of inches thickness of short, rather fresh manure. Though it is desirable to plant the trees inside the roots should have the run of outside borders, but for early forcing the roots are best confined inside.

Varieties.—There is now so many that it is difficult to make selections. For very early forcing Alexander and Early Louise Peaches, also Rivers' Early Nectarine. Second early: Hale's Early, Royal George or Stirling Castle or Dymond Peaches; Lord Napier and

Stanwick Elruge Nectarines. Midseason: Grosse Mignonne, Alexandra (Noblesse), Goshawk, and Bellegarde Peaches; Elruge, Dryden, and Byron Nectarines. Late houses: Barrington, Princess of Wales, Gladstone, Walburton Admirable, Sea Eagle, and Golden Eagle Peaches; Pincapple, Newton, Spenser, Milton, and Victoria Nectarines. Unheated houses or wall cases to give a long succession of fruit: Waterloo, or Early Louise, Hale's Early, Dr. Hogg, Rivers' Early York, Alexandra (Noblesse) or Goshawk, Royal George, Grosse Mignonne or Dymond; Bellegarde, Barrington, Princess of Wales, Gladstone or Sea Eagle; Walburton Admirable or Golden Eagle Peaches; Rivers' Early, Lord Napier, Stanwick Elruge, Byron, Dryden, Pineapple, and Victoria Nectarines. With those or some of them in their order of naming from first to last a supply of fruit may be had from early in July to the middle of October or later, and all of the highest excellence both in appearance and quality.

Cucumbers.—Place out the latest plants which are to afford a supply of fruit about the new year on ridges or hillocks, training with a single stem to the trellis, up which they may be allowed to advance about two-thirds, when the lead may be pinched. Those not having the convenience of a Cucumber house may secure fair supplies of winter fruit by growing the plants in pots or boxes, training the growths near the glass over the paths in stoves, fruiting Pine houses, or other heated structures. Plants in bearing should not be overcropped, or the fruit allowed to remain longer than it is fit to cut, removing all deformed fruit in a young state. Maintain a night temperature of 70°, 5° less in the morning, 75° by day up to 85° with sun heat, admitting a little air at the top of the house at every favourable opportunity. The evaporation troughs may be charged with liquid manure, and the floor damped with water about 8 A.M. and 4 P.M., dispensing with the syringe. Reduce the supply of water at the roots, but not so much so as to cause flagging. A few horse droppings, not too fresh, will benefit the plants through the waterings and the ammonia given off. Keep the foliage thin and free from insect pests, also the glass clean to secure those roughly solidified growths.

Melons.—The supply of fruit will be kept up for some time longer, the later ones being only swelling. Sufficient moisture will be secured to this crop by damping in the morning and again early in the afternoon, affording water at the roots moderately, a supply once a week being sufficient in most cases. Cut off all superfluous growths to afford the principal leaves the benefit of the autumn sun. Plants with fruits approaching ripeness must be kept dry and a brisk heat maintained with rather free ventilation, the temperature being kept at 65° at night, 70° to 75° by day, rising to 85° to 90° from sun heat, affording a little air at the upper part of the house whenever the weather is favourable. Any fruits approaching ripeness may be cut with a portion of stem, and placed in a house with a gentle warmth to ripen.

PLANT HOUSES.

Stephanotis floribunda.—Plants that have completed their growth should have a drier and cooler atmosphere to harden and ripen the wood. No artificial heat is really needed, provided the structure in which the plant is grown is closed at night. During sunny days a liberal supply of air should be given. Syringing may be discontinued, and considerably less water will be needed at the root. If trained under the roof weak growths should be removed so that every ray of light necessary can reach the wood required for flowering another year. If the plants are infested with mealy bugs eradicate them by syringing freely with petroleum and water. The foliage and wood being firm, they will bear without injury stronger doses than during the period of growth. One ounce of petroleum to the gallon of water may now safely be used, but if the plants are badly infested one application will not prove sufficient.

Allamandas.—These plants will flower for some considerable time if they are kept growing in a temperature of 60° at night and are fed with stimulants. The flowers will be found very useful during the next two months. Plants required for early starting may be kept drier and cooler to harden and ripen their wood. Water should be withheld until the foliage flags. A rest of six or eight weeks of cooler and drier treatment is ample, when the plants may be pruned back and started again into growth.

Caladium argyrites.—Neat plants in from 3 to 5-inch pots are very useful during the winter. Plants that were grown early and have enjoyed a good rest may be started again into growth. The most convenient way is to shake them out of their pots and place the tubers in boxes thickly together, in light soil and sand composed of fully one-half of leaf mould. The boxes can be stood over a warm pipe until they have started well into growth, when suitable pots can be made up. If these afterwards can be given a little bottom heat until they are established all the better.

Achimenes.—These are going past their best. All that have been raised from cuttings may be thrown away providing the old pans from which these were taken will provide sufficient stock. Those retained for stock purposes must not be hurried to rest; they should be gradually dried off, or else their underground stems will suffer considerably. A dry atmosphere should be given them—say a shelf in a vinery, where they can be watered for a time when dry until the foliage and stems naturally display signs of dying away.

Oloxias.—Young plants from seed to flower next month must not be kept too warm, or they come forward too rapidly. Plants that flowered early and have rested may be started again into growth. The treatment advised for Caladium argyrites will suit them very well at

first. When once fairly started and placed into pots they are best on a shelf in a warm house, where no water will fall upon their foliage. They will grow and flower in this position, and their flowers for home decoration will be found very useful. More tubers may be started a month later.

Begonias.—Various winter-flowering kinds should be removed from cold frames to any light structure where the temperature at night can be kept from falling below 50°. Too much moisture should not be maintained in the house to cause them to grow too soft. These plants will soon commence flowering, and yield large numbers of useful flowers for cutting for a long time. Few plants flower more profusely than Begonias, and none is really more graceful for cutting purposes. The nitida section will do under the same treatment; those only in thumb pots may be placed into 4-inch, in which they will flower during the early part of the year. The tuberous-rooted kinds flower for a long time if gentle warmth can be given them. Seedlings or plants raised from cuttings now in cold frames would continue to grow and flower for weeks. The flowers of these kinds are serviceable of table decoration, and small glasses especially.

Poinsettias.—These plants must not be allowed to remain too long under cool conditions or their roots will decay, and the plants lose their lower foliage, and thus produce only poor bracts. They should occupy a position where the night temperature will not fall below 55°, and where a little air can be given them during fine bright days. They must not be excited again into soft growth; the object should be sturdy growth until signs of their bracts are visible, when the night temperature may be raised 5° to 10°. The heads should be fairly close to the glass, and in the heat given large well coloured bracts will be developed. Feed the plants with weak stimulants if the pots are full of roots.

THE BEE-KEEPER.

APIARIAN NOTES.

FEEDING.

As the season is much later than is usually the case, a great deal remains to be done in the apiary. Many bees are to feed yet, and the best way at this period is from beneath in tin fountains, the sluice covered with wire cloth. Have the crown of the hive covered with porous material to allow the escape of moisture, and feed after sunset. After all the bees are fed see that damp is removed from the floor of the hive, or a dry one substituted. The best and safest formula for the syrup is equal weights of the best sugar and water.

THE YIELD OF HEATHER HONEY.

The yield of honey is varied throughout Scotland, in some places it being almost nil, while in others the quantity is good. The highest records come from Lochlomonside, where Mr. J. Buchanan has one prime swarm, a late one too, which has filled 105 1-lb. sections of pure Heather honey. The others have also done well. The most of his hives are of the original Lanarkshire type, made with extension for two queens more than a quarter of a century since, but he works with one queen only in each, these being young ones. There are twelve frames 16 by 9 inches inside measure.

Mr. Buchanan saw at an early date the evil of double-cased hives, so had his apiary remodelled with single-cased hives. They are cheaper at the first, last longer, and are more easily managed, besides being healthier for the bees. He finds the ventilating floor a great advantage, as all do who give them a fair trial.

MANIPULATING BEES.

The dull weather preventing the bees flying and marking their site makes it difficult to remove the honey without the loss of bees. I like to see them all having a good flight before commencing operations, but the season being late when rain may be expected, making it more fatal to stray bees, compelled me to begin before they flew much. As smoke irritates bees I do not use it much, preferring crude carbolic acid or grey paper, beginning at the top and working downwards, causing the bees to retreat to the bottom of the hive. When the combs are freed from bees and all removed a wooden box or straw skep is placed over the under division to which they ascend, ready to be carried away by those starting bee-keeping. There being few bees lost at the Heather this year, single colonies of bees weigh about 14 lbs., and had there been warmth during August they would have gathered from 20 to 30 lbs. daily, judging from what they did procure during odd hours. The most of my stocks intended for 1895 have twice the number of bees I care for. I shall grade the honeycombs, passing it

through the presser, with which I find 40 lbs. can be passed through in about an hour—quicker than it will pass the sieves. I do not approve of honey being pressed through cloths of any sort. —A LANARKSHIRE BEE-KEEPER.

FOUL BROOD.

IN some districts foul brood has been very prevalent this season, and during a recent tour I have examined several stocks that were said to be affected with this disease. One had been condemned by an expert, but on examining it I could find no trace whatever of foul brood. Some bee-keepers on looking over their hives and finding chilled brood, caused by careless handling, or combs containing mouldy pollen, at once come to the conclusion that they have this disease. One should be quite certain of the fact before condemning a stock, but if found to be badly affected bees, frames, and combs should be all burnt. The hive ought also to be well washed with boiling water, and painted inside and out with carbolic acid, well working it into every crevice. This will destroy all germs of the disease. Leave the hive empty until spring, when it will be quite safe to use it for another stock.

I am induced to make these remarks, as last week I visited an apiary where several stocks had been badly affected for months past with foul brood. Two of the worst hives and their contents—bees, combs, and frames—had been consigned to a fire in the open air, but had been carelessly attended. Several of the foul-broody combs had not been burnt, but lay about so that the bees from other hives were busy clearing them of what honey remained. These would contaminate healthy stocks, and next year the bee-keeper will in all probability be still complaining of foul-broody stocks, whereas with careful management it might have been prevented. Others in the neighbourhood may be affected in a similar manner. Some stocks that were least affected were being fed with medicated food, and naphthaline was used on the floor-boards of all the hives. It will be interesting to know if the experiment is a success, but it will not be possible to speak with certainty till next June, and if free from disease then may be looked on as healthy. As the spring is the time when this disease develops I would impress on all bee-keepers the necessity of at once taking steps to eradicate this disease wherever found. I find it is more common in the south and west of England than it is in the midland and northern counties.—AN ENGLISH BEE-KEEPER.

TO CORRESPONDENTS

* * All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Pansy John Allan (A. Irvine).—The bloom you send is very beautiful, the purple body colour dense and glossy, the white belting pure and well defined. Among the "others sent to fill the box" the yellow ground David Rennie is very bold and effective.

Marketing Flowers (Horti).—There is no prescribed rule either as to the size of boxes or numbers of flowers in a bunch, when they are bunched. For instance, early in the season a bunch of Lilies of the Valley may consist of a dozen spikes, later twice that number, later still five, ten, or even more dozens, according to the supply. Thousands of boxes of Chrysanthemums and other flowers are sent thrice a week to Covent Garden closely packed, but not bunched. Boxes vary from 2 feet by 18 inches and 6 inches deep, to others not much more than half the size. If you have really good "stuff" to send, and it is of small use sending inferior, you had better perhaps write to such a sound dealer as Mr. James Dickson, Central Avenue, Covent Garden, for direct advice on the subject.

Verbena Cuttings Damping (H. P.).—We have examined the cuttings, and the coloured fungus is one of the moulds assumed by

fungologists to be only an early stage of fungi, more complex in structure when matured, and have the power of producing spores that when lying in fluid which contains sufficient food, cause a ferment. This they may obtain in the soil used for inserting the cuttings, which, containing leaf soil, may afford a fermentable substance; but the fungus exists on plants the leaves of which remain damp. The germs exist in the soil, and then it is not possible to prevent their growth in damp places when they find a suitable host. We can only suggest that the cuttings be inserted in pure sand (drift, *i.e.*, road sand, river, or sea sand), using no soil whatever in striking them, but keeping the sand thoroughly moist. The sand used hitherto probably contains earthy matter, but it is not unlikely the fungoid germs are on the cuttings when inserted, and then germinate through the damp being regular and prolonged. It would be advisable to try a fresh stock. It often proves satisfactory both in growth and freedom from disease.

Scyphanthus volubilis (*H. P.*).—This plant, also known as *Grammatocarpus volubilis*, is a native of Chili, from whence it was introduced to this country about the year 1824, but from inattention to the collecting of seeds was lost to cultivation, appearing again among more recent introductions. It is a hardy annual, having a very slender twining stem, which is hard and wiry, covered with small stiff hairs bent downwards, making it rough to the touch, but entirely devoid of the stinging properties of its near ally the *Loasa*. The leaves, which are opposite, are pinnatifid, with fringed margins. The flowers are large, cup-shaped, and of a beautiful lively yellow tint, being sessile and terminal when the buds first appear, but the young shoots are generally produced on each side, so that when full expanded it is between two branches or forks. Planted against a south wall with a few twigs to cling to, it has a very pleasing effect, growing from 8 to 10 feet high, and is well adapted for covering old or unsightly walls. It is also well adapted for covering trelliswork in the flower or pleasure garden, and is unequalled in the form of a screen, having also the advantage of giving variety to those generally grown. Although perfectly hardy as an annual, we advise its being raised in pots in a cold frame in spring, and planted where desired about the end of May.

Bauera rubioides (*Reader*).—You are right in saying that this plant should be more extensively grown, for though it has now been in cultivation in a few gardens for about ninety years, it is very rarely seen, especially in nurserymen's collections. Yet the plant is of easy culture, floriferous in the extreme, the flowers being of a distinct form and pleasing deep rosy colour, the latter character alone being sufficient to recommend it strongly. The foliage, too, is effective, the narrow dark green leaves being arranged in whorls round the slender branches. There is some difference between authorities respecting the introduction of the plant. Andrews states that it was "first raised at the seat of the Marchioness of Rockingham, Hillingdon, Middlesex, in the year 1793." Dr. Sims, however, states that it was first raised by Messrs. Grimwood and Wyke of Kensington. It was in the Kew collection early in this century, and is mentioned in Aiton's "*Hortus Kewensis*" as being originally from New Holland, introduced to this country by the Marchioness of Rockingham, thus corroborating or accepting Andrews' account. The cultural requirements of this plant are few. A cool house such as a conservatory or greenhouse, or indeed a sheltered position out of doors in the southern counties, suit it well. Peat, a little turfy loam, and a small quantity of leaf soil form a good compost for it, draining the pots carefully and supplying water judiciously, as extremes are very injurious to it. It can be readily increased by cuttings of the young wood inserted in sandy soil under a bell-glass, preferably in slight heat.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. *They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state.* (*F. H.*).—Apples: 1, Beauty of Kent; 4, Royal Russet; 5, Warner's King; Pears: 2, Beurré Bosc; 3, Marie Louise; 4, Comte de Lamy. We can only name six specimens at a time. (*W. S.*).—The Apples sent are not recognised, and are probably local varieties. Pears: 4, Marie Louise; 5, not in a proper condition for naming. (*A. A.*).—The Apples are probably local seedlings that never had recognised names. The trees should be grafted with good named varieties. Pears: 1, Quite rotten; 2, unrecognisable—inferior. (*R. G. L. B.*).—1, Jersey Gratioli; 2, Doyenné Boussoch. (*J. L. S.*).—1, Duchesse d'Angoulême; 2, General Todtleben; 3, Marie Louise; 4, Beurré Diel; 5, Lewis' Incomparable; 6, Ecklinville Seedling. (*J. B.*).—3, Probably Grosse Calabasse. The dessert Pears were not in proper condition for naming.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*Bear*).—Probably a variety of the Swamp Magnolia (*M. glauca*). There is one with very fragrant flowers, cream colour changing to yellow, appearing in July. It was introduced from the United States to Mile End some eighty years ago, and is slow to ripen its seeds until thoroughly acclimatised. (*T. F. W.*).—The Orchid is evidently a form of *Cymbidium Tracyanum*, not *C. Lowiana*.

COVENT GARDEN MARKET.—OCTOBER 10TH.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, per half sieve	1	6	to	3	6	Peaches, per doz.	1	0	to 10 0
Grapes, per lb.	0	6	1	6	Plums, half sieve	1	6	3	0
Cobs, per 100 lbs.	21	0	22	6	St. Michael Pines, each ..	2	0	6	0
Lemons, case	10	0	15	0	Strawberries per lb.	0	0	0	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Beans, Kidney, per half sieve	1	0	to	1	6	Mushrooms, punnet	0	9	to 1	0	
Beet, Red, dozen	1	0		0	0	Mustard and Cress, punnet	0	2		0	0
Carrots, bunch	0	3		0	4	Onions, bushel	3	6		4	0
Cauliflowers, dozen	1	6		3	0	Parsley, dozen bunches ..	2	0		3	0
Celery, bundle	1	0		1	3	Parsnips, dozen	1	0		0	6
Coleworts, dozen bunches	2	0		4	0	Potatoes, per cwt.	2	0		3	6
Cucumbers, dozen	1	0		2	6	Salsafy, bundle	1	0		1	5
Endive, dozen	1	3		1	6	Scorzonera, bundle	1	6		0	0
Herbs, bunch	0	3		0	0	Shallots, per lb.	0	3		0	0
Leeks, bunch	0	2		0	0	Spinach, bushel	1	6		3	0
Lettuce, dozen	0	9		1	0	Tomatoes, per lb.	0	2		0	5
						Turnips, bunch	0	3		0	4

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.		s.	d.		s.	d.		s.	d.
Arum Lilies, 12 blooms ..	4	0	to	6	0	Mignonette, 12 bunches ..	1	0	to	3	0
Asparagus Fern, per bunch	2	0		3	0	Myosotis or Forget-me-					
Asters (English) doz.bnchs.	3	0		6	0	nots, dozen bunches ..	1	6		2	0
Bouvardias, bunch ..	0	6		1	0	Orchids, per dozen blooms	1	6		12	0
Carnations, 12 blooms ..	1	6		2	0	Pansies, dozen bunches ..	1	0		2	0
" doz. bunches..	18	0		20	0	Pelargoniums, 12 bunches	4	0		6	0
Chrysanthemums	3	0		9	0	Primula (double), dozen					
" doz. blooms	2	0		6	0	sprays	0	6		0	9
Cornflowers, doz. bunches	1	0		2	0	Pyrethrum, dozen bunches	2	0		4	0
Dahlias	2	0		4	0	Roses (indoor), dozen ..	0	6		1	0
Eucharis, dozen	2	0		4	0	" (outdoor), doz. bnchs.	3	0		8	0
Gaillardia, dozen bunches	1	0		1	6	" Tea, white, dozen ..	0	6		1	6
Gardenias, per dozen ..	2	0		4	0	" Yellow, dozen .. .	2	0		3	0
Geranium, scarlet, doz.						" Safrano (English),doz.	1	0		2	0
hunches	6	0		9	0	" Maréchal Niel, doz. .	1	6		4	0
Gladiolus, dozen sprays ..	1	6		2	0	Smilax, per bunch .. .	2	0		3	0
Lavender, dozen bunches	4	0		6	0	Stephanotis, dozen sprays	2	0		3	0
Lilium lancifolium, dozen						Stocks, dozen bunches ..	2	0		4	0
blooms	1	6		2	0	Sunflowers, various, dozen					
Lilium longiflorum, dozen	6	0		9	0	bunches	1	0		3	0
Maidenhair Fern, dozen						Sweet Peas, dozen bunches	1	0		2	0
hunches	4	0		6	0	Tuberose, 12 blooms.. .	0	4		0	6
Marguerites, 12 bunches ..	1	6		3	0						

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.	
Arbor Vitæ (golden) dozen	6	0	to	12	0	Fuchsia, per dozen	3	0	to 6	0
Aspidistra, per dozen ..	18	0	36	0	Heliotrope, per dozen ..	3	0	6	0	
Aspidistra, specimen plant	5	0	10	6	Lilium auratum, doz. pots	12	0	18	0	
Asters, dozen pots	3	0	4	0	„ Harrisi, per dozen	12	0	24	0	
Chrysanthemums, per doz.	3	0	6	0	„ lancifolium, dozen					
„ large, per doz.	9	0	18	0	pots	9	0	15	0	
Coleus, per dozen	2	0	4	0	Lycopodiums, per dozen ..	3	0	4	0	
Dracæna, various, dozen ..	18	0	42	0	Marguerite Daisy, dozen ..	6	0	12	0	
Dracæna viridis, dozen ..	9	0	24	0	„ yellow, doz. pots	6	0	10	0	
Erica gracilis, per dozen					Mignonette, per doz. . .	3	0	6	0	
pots	12	0	15	0	Myrtles, dozen	6	0	9	0	
Euonymus, var., dozen ..	6	0	18	0	Palms, in var. each	1	0	15	0	
Evergreens, in var., dozen	6	0	24	0	„ (specimens)	21	0	63	0	
Ferns, in variety, dozen ..	4	0	18	0	Pelargoniums, per dozen. .	6	0	12	0	
„ (small), per hundred	4	0	6	0	„ scarlet, per doz. . .	2	0	4	0	
Ficus elastica, each	1	0	7	0	Primulas, per dozen	6	0	9	0	
Foliage plants, var., each	2	0	10	6	Solanums, per dozen	12	0	15	0	



ROUGH PASTURE.

By the term of rough pasture it is not intended to refer to that having coarse herbage, but rather to that which has either been laid down with improper seed, or has been let go out of cultivation, and so has become clothed with indigenous grasses and weeds. It also has reference to neglected pasture, which may have been sown with good grasses, of which the plant has become thin and the growth weak; to that of which the growth

is unsatisfactory for want of drainage; to pasture foul with such robbers of the soil as Thistles, Docks, Brambles, Broom, Gorse Furze or Whins, Nettles, Ononis, and Rushes; and to that on which numerous ant hills are an unmistakeable token of a form of negligence of many years' standing. Repeatedly has it fallen to our lot to reclaim rough pasture, of which our experience has been so wide and peculiar as to embrace every aspect of it, that we have given as well as others not enumerated. We purpose now giving some examples calculated to afford useful hints to those readers who may be engaged in such work. For their encouragement it may be said that experience has shown most inferior pasture to be susceptible of improvement; it must indeed be a hard case that is not so. Here is one.

It was a field at one extremity of the home farm, so far from the homestead that manure carting had apparently never reached it. Low down on the margin of a brook in the heart of a valley it was unmistakeably "wet"—Rushes, Willow bushes, Sedges, and Brambles were present in thickets and tufts, the herbage was so poor as to be worthless for grazing, yet it had been in the hands of a tenant farmer for many years, who had paid rent for it with the rest of the farm, yet had done nothing to reclaim it. As a meadow it would be most useful, so we resolved to try and make it a good one. First of all, all bush and wood growth was cut down close to the surface and burnt, and the land was drained as well as its proximity to the brook would admit; then having regard to the formidable nature of the roots left in the soil near the surface, a plough with a strong wooden beam, and a share warranted "to go through anything," was set going with four horses. The surface was so uneven that no regular depth of furrow was possible, nor did that matter. Sod and roots were torn up, a cultivator and harrows worked most of the soil out of it; the whole of it was burnt in small fires, and the ashes spread over the surface. It was worked sufficiently to get a level surface and a good seed bed, wintered in ridges and laid down to pasture again, with a crop of Black Tartarian Oats, a dressing of nitrate of soda, steamed bone flour, and mineral superphosphate being sown broadcast over the ridges before they were broken down with harrows for the seed drill. The result was an excellent crop of corn, sown so early as to be harvested in time to admit of a strong growth of herbage from the seeds that autumn. This was cleared off by sheep folds passed quickly over the field, the sheep being then withdrawn altogether, no stock being allowed to go on the pasture till the following spring. By subsequent attention to the systematic annual application of manure, either by sheep folding or chemical manures, it became a valuable meadow, as useful both for grazing and mowing as any on the farm.

In the same valley we found a bog much infested by Rushes and Sedges, and so tender on the surface in places as to cause much trouble from live stock becoming fixed in it, or "mired" according to the dialect of that locality. An abundant deposit of ochre on the bottom and sides of the brook showed that drainage with pipes would not answer, as they would become choked. Some Alder thickets close by were turned to account for a supply of faggots, which placed end to end in deep wide drains answered so well that the character of the herbage was quite changed. The Rushes and Sedges disappeared, the finer grasses taking possession of the surface, which became sound and firm, and though the peat was 4 or 5 yards in depth the characteristic features of a bog vanished, and another useful addition was made to the pasture. Hay was being made on it when it passed out of our hands.

There was much other rough pasture on this neglected farm calling for no particular mention, with the exception of a meadow high up on one side of the valley, which we found so impoverished as only to afford an occasional brief—very brief change for sheep. A sand pit on one side of it showed that

the drainage was sound enough, the only fault to correct was poverty of soil. Manure carts were out of the question. Sheep folds were not to be thought of till there was something for the sheep to eat. It was a unique opportunity for testing the true value of chemical manures, which were turned to account with such remarkably successful results, that we have often pointed to that meadow as showing how, when soil is well drained, we have simply to store it with fertility, to be sustained by annual dressings, to obtain crops as full and abundant as were produced there.

WORK ON THE HOME FARM.

So favourable for autumn tillage has the weather been that our full strength has been devoted to it. It is pitiable to see men and horses working with the threshing machines now when they ought to be on the land. Money at any cost seems to be the guiding principle of many a farmer just now. Dire indeed must be the necessity which compels them to thresh and sell corn out of condition. Wheat continues to decline in value if market quotations are still to be taken as a guide, but they are not altogether to be trusted, and there is bound to be some reaction, however trifling, when samples of really dry corn appears. Very much of the Wheat will require some months in the ricks to become dry and hard. Barley has hardly done "sweating" in the ricks, and corn-threshing had altogether better be postponed till autumn tillage is over, and the root crops are got into heaps.

The carting of a heavy dressing of coal ashes on some heavy land (corn stubbles) was done before they were broken up, the liming of another field also followed harvest in the same manner; the thorough mixing of lime and ashes with the soil during the cleaning and ridging of the land is thus assured, and is in connection with drainage the first step in effecting a radical change in soil condition. Land badly infested by wireworm should have a sufficiently heavy dressing of salt after it is cleaned and ridged to saturate the ridges with brine as the first heavy rain falls, which will destroy this pest, and also do much good to the land. Regard every fine day now as a golden opportunity for land tillage; every day's work now is worth two or three in spring. Much better is it for men and horses to work hard now from daybreak till twilight, and to rest in winter, than to turn out to plough then when the land is so wet, and the work heavy and unsatisfactory. Pay the men well, feed the horses well, and be with them early and late while so much good may be done. Every man worth his salt will enter into the spirit of the thing, and do his utmost.

A poor meadow to be drained this autumn is being stocked heavily to clear off the herbage, so as to get the draining done in good time. It is a meadow with a bad character which is to become really good pasture. How this is to be done we shall explain in the "Rough Pasture" articles which begin this week.

LORD TREDEGAR'S AGRICULTURAL AND POULTRY SHOW.—We are requested to remind readers that Lord Tredegar has fixed November 27th and 28th for holding his agricultural and poultry show as advertised in our columns. The prize list contains fifty-one classes for cattle, sheep, and horses, the prizes varying from £20 to £5. The prizes for poultry amount to £240. There will be no show of pigs, and the entries close on November 14th.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1894. September and October.		Barometer at 32°, and Sea Level.	Hygrometer.		Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature			
			Dry.	Wet.		Max.	Min.	In Sun.	On Grass.		
Sunday ..	30	30.454	51.8	48.7	N.E.	52.2	61.3	44.5	101.0	36.7	—
Monday ..	1	30.515	51.1	49.2	N.	52.1	61.6	43.1	93.4	35.2	—
Tuesday ..	2	30.472	54.0	49.6	N.	52.2	62.1	48.8	101.9	42.2	—
Wednesday	3	30.272	54.1	49.3	N.E.	52.4	61.2	48.1	87.3	42.3	—
Thursday ..	4	30.144	51.9	49.2	N.	52.0	61.7	48.7	101.9	46.0	0.032
Friday ..	5	30.047	54.9	52.9	N.E.	53.1	59.6	5.1	78.0	46.0	0.165
Saturday ..	6	29.948	53.6	52.9	N.E.	53.2	59.0	49.8	71.4	48.0	0.052
		30.265	53.1	50.3		52.6	60.9	47.6	9.7	42.3	0.249

REMARKS.

30th.—Frequently sunny in morning, generally cloudy in afternoon, clear again in evening.

1st.—Overcast early, frequent sunshine after 10 A.M.

2nd.—Overcast early, bright sunshine from 9.30 A.M.

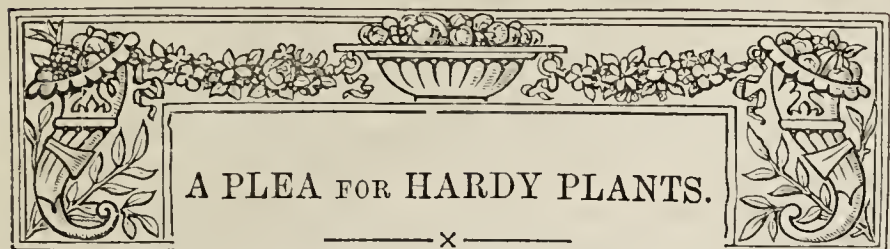
3rd.—Generally sunny in morning, occasional sun in afternoon.

4th.—Overcast, with occasional drizzle till 10.30 A.M., and after 3 P.M., bright sunshine at times between.

5th.—Generally overcast, with a slight shower at 11.30 A.M., and heavy rain at 3 P.M.

6th.—Rain in small hours, drizzle in the morning, overcast afternoon, and rain again at night.

A dull week with average temperature, and less than the average rainfall.—G. J. SYMONS.



FOR some time past the advantages gained by the extended use of hardy plants for the embellishment of flower gardens have been pointed out in these pages, and at first sight further reference to the matter may appear superfluous. Such, however, is not the case, for those persons who take more than ordinary interest in the utilisation of these floral gems seldom fail to lose an opportunity of debating the question, urging the claims of their favourites with enthusiasm. That there is some justification for this apparent reiteration will be admitted by all who know and grow perennials for their intrinsic beauty. The wheel of fashion revolves, though but slowly in this case, and it would not be a difficult task to name many pretentious gardens where hardy plants are decidedly in the minority. Why such is so can be scarcely comprehended, inasmuch as a number of beds laid out with geometrical precision and occupied by tender summer flowering plants only, can bear no comparison to a garden judiciously planted with hardy perennials so far as interest and effect are concerned. There is obtainable from the latter, or rather should be if properly managed, a continual supply of bloom of a varied character. From early spring, and even before that period is hardly reached, until long after frost has blackened the more fragile occupants of the garden, some at least of the plants for which the writer now puts forth another plea, produce an abundance of blossom. It is here where the charm of a hardy plant garden is most conspicuous, and although some readers may look on pattern beds as models of neatness, there is no disputing the fact that such examples of "garden art," however well accomplished, are inclined to become monotonous.

To many persons the cultivation of hardy perennials is a source of perpetual pleasure, and the keen interest with which the plants are attended is worthy of commendation. It is to such enthusiasts as these, amongst whom may be mentioned Mr. S. Arnott, that we are indebted for the gradual development of this phase of gardening. If in the future they are as persistent in their efforts as in the past in bringing to the notice of the public the beauties of many hardy plants, the time is not far distant when beds and borders of choice perennials will be found in most gardens throughout the kingdom. Every admirer of Nature in her most beautiful form will gladly welcome this extension, but it must be done with discretion. There are gardens where the natural surroundings differ materially from those of others, and to fill all with beds or borders of hardy plants indiscriminately would result in an inevitable failure. A border of even common perennials is undoubtedly interesting and attractive when the occupants are laden with blossoms, but these in some cases are of a fleeting nature, and unless steps are taken to provide a succession of bloom by the interposition of other plants the charm is broken. This is where many growers fail, and the reason perhaps why some do not appreciate hardy plants or advocate their extended cultivation. To achieve the best results a choice collection should be grown, selecting those that will form an unbroken succession of bloom from at least February until November. This is not a very difficult matter, provided each species is given a suitable position, which is a point of some importance. As before hinted, it is comparatively useless to plant a number of perennials irrespective of soil and situation with the hopes that the results will be of a satisfactory

character. The requirements of each plant must be well understood and afforded, then a bed or border of hardy perennials becomes the most interesting spot in the garden.

Regarding the employment of hardy plants in beds, or the flower garden proper, this practice unfortunately makes but slow progress in private establishments. Many gardeners are apparently prejudiced against the introduction of new features, and cling persistently to the summer bedding system. The fact of the latter method being so generally seen forces one to this conclusion; or is it that the owners are of a conservative turn of mind, and object to the beds being planted with perennials? It may be the last named cause which prevents the extended use of select hardy plants for the decoration of the flower garden, though we venture to say that no one who has seen a series of beds thus planted in a judicious manner could raise any legitimate objection to them. In some of the metropolitan parks this season Carnations, Violas, Pentstemons and other hardy plants have been somewhat extensively grown in beds that a few years ago were annually devoted to "carpet patterns." It may also be noticed that Sedums and Saxifragas of different types, even including the well-known London Pride, are used as edgings to various beds, forming a pleasing association to the other plants. A large circular bed was also recently brought under the writer's notice as being unusually attractive at most periods of the year. The bed in question is filled with choice plants chiefly of a dwarf habit of growth, and is seldom without flowers. Near the edge are several clumps of Christmas Roses, between which are masses of Hepaticas. The white flowers of the former are scarcely expanded ere the beautiful blossoms of the Hepaticas force themselves into prominence. Here and there, too, may be discerned clumps of the Winter Aconite (*Eranthis hyemalis*), Snowdrops, Squills, which are followed by Forget-me-not, Saxifragas, and others, prolonging the display until clove-scented Carnations and Campanulas produce their blossoms in the summer. Other plants flower in the autumn, noticeable amidst these being the dwarfer perennial Sunflowers, Aster Amellus bessarabicus, and a fine bush of the old China Rose. This combination of simple flowers is the property of an amateur, who is proud of his achievement, and thinks the bed is worthy of imitation. Be this as it may, it is obvious that a greater amount of pleasure is derived from that one bed than from a series which are unplanted for a greater portion of the year, such as can be seen in many large gardens during the winter, and the matter is deserving of more than a passing glance.

As already mentioned, there are some gardens in which hardy plants are seen to greater advantage than in others, and Belvoir Castle may well be cited as an example. True, summer bedding is practised at that place, and this, moreover, is well carried out, but from an artistic point of view it cannot be compared with the masses of hardy plants which are noticeable on every side. A garden of this kind is, of course, at its best in the spring, when the numerous plants for which this ducal domain is noted are in bloom, although there were ample to interest the writer whilst on a brief visit there last month. Mr. W. H. Divers is evidently as great an enthusiast in hardy plant culture as he has been in the production of splendid fruit, and a pleasant hour spent with this well known horticulturist at once revealed the fact that he is well qualified to carry on and improve the great work commenced by one who was in the past recognised as a leader among gardeners. Here the true beauties of hardy plants may be seen. Despite obstacles which are now being removed, masses of choice Alpines, growing on rockeries as luxuriantly as on their native mountains, attract attention, as do huge clumps of flowering shrubs and plants on grassy slopes. This is truly a beautiful garden of hardy plants, and although it possesses advantages for their cultivation, it is after all but an instance where the gardener's art and good judgment have combined with and assisted Nature. Similar gardens, if on a less elaborate

scale, could be formed, and for the benefit of those who may be desirous of doing so a further reference to some of the plants grown for the purpose will be made in a future issue.

Apart from the utility of hardy plants for outdoor decoration, no one can raise a doubt as to their value for supplying flowers for cutting. Provided the weather is fairly good an abundance of bloom may be obtained from a good collection of hardy plants for at least eight months in the year. The majority of the flowers, moreover, last for a considerable time when cut, and such can hardly be said of those procured from the more tender plants. In some cases the blooms may be cut before they are opened, thus avoiding their being spoilt by rain, and if placed in water indoors for a few days they will expand beautifully. Naturally the best blossoms are secured from well-grown young plants, and, where possible, it is advisable to have a number of specimens in reserve. These, too, will be equally useful for renovating the beds and borders, which should be done annually. It is an error, and one which frequently leads to much ultimate disappointment, on the part of many growers in leaving perennials to take care of themselves. Because the plants are hardy, and will bear a moderate amount of rough treatment with impunity, it does not follow that they should be systematically neglected. This, however, is too often done, and to some extent is the reason hardy plants are not seen to advantage in some gardens. Times without number have writers possessing indisputable practical knowledge mentioned the folly of permitting the stronger and common occupants of the herbaceous border to outgrow the weaker and more choice kinds. Yet instances of this may be seen every day, and in perhaps 50 per cent. of the gardens in the country. Would that it were otherwise, and gardeners bestowed as much attention on the cultivation of hardy plants as on the annual planting of summer flower beds, then we should have a deeper interest taken in them than even at present exists.

No attempt has been made in the foregoing remarks to deal with the subject in an exhaustive manner, because this is impracticable in a single article. Much might be written in favour of hardy plants, and doubtless a good deal could be said in regard to the manner in which many of them are now managed. These, however, are questions which arise more or less in the minds of all advocates, as does doubtless that of arranging the plants with regard to the colour of their respective flowers. It is evident that comparatively few growers seem to bear this important point in mind when planting hardy perennials, or we should assuredly never see the crude mixtures which are now too apparent. It is undoubtedly no easy matter to arrange plants of this kind to produce an harmonious effect, because some of the flowers are here this week and gone the next, to be substituted by others of a different shade. Considering these continual transformations it is not surprising that some growers fail to construct a picture replete with harmonies or pleasing contrasts of colours, and the inexperienced may be allowed some latitude. At the same time it would be as well to improve this condition of affairs, and the matter, with others, may be advantageously discussed by all lovers of hardy plants, on the eve of the planting season.—C.

THE APPLE CROP.

FROM many quarters we hear reports of the scarcity of the Apple crop, not entirely owing to the severity of the frost in May, but to the long continued cold and sunless weather during the time the trees were in bloom, and through what should have been the initial swelling stage of the fruit. Such a season as the present is no doubt instructive with a view to future planting of trees whether we should depend so much upon the newer kinds for giving crops of fruit, or whether we ought not to more closely adhere to those sorts that have been unfailing in the main over so many years. Of course I am alluding to quantities for market and home supplies rather than to exhibition fruits. For the latter purpose we must have the newer, shapely, and higher coloured specimens. For

cooking and dessert purposes these points are not quite of such an imperative character.

The kind of weather we experienced also during the time the fruit is swelling has much to do with the success of certain varieties, whether they will be appreciated in the market or not. Ecklinville, a well known and excellent culinary Apple, was so affected by the excessively dry weather of last year that the fruiterers in some towns would hardly have them at a gift, whereas this year the same persons are glad to pay 8s. per bushel for picked samples. Last year the fruit was badly "specked" owing to the drought, these black disfigurements of the skin being not merely skin deep, but they penetrated quite half an inch in many instances. Altogether the fruit was soft and not what fruiterers require, as owing to the many times it must be handled that first affected is more liable to suffer. This year the fruit is more firm in texture and less affected by "spot," and as this Apple is bearing good, and in some cases heavy crops, it is decidedly useful. From Dr. Hogg's "Fruit Manual" I learn that Ecklinville was raised in Ireland about the beginning of the present century.

Lane's Prince Albert has surprised me more than any other sort this year. This I had regarded as a certain cropper, but with me the trees (100) are practically fruitless. I never saw the foliage on any tree so sickly looking, and so unlikely to be the means of giving us a full fruit crop next year as upon that sort at the present time. Warner's King is with me an especial favourite, it seems so well adapted for our heavy soil. I think, however, it is better grown as a freely trained bush than as a standard. In this latter form it seems to lose its vigour after being planted fifteen years or so. I have one particular tree trained as a bush that has not failed to give us a full crop of fruit once during the last thirteen years. No kitchen Apple that I know sells more readily, or commands a higher price than this. I have several hundred trees that have been planted four years, and are now well established. They bore excellent fruit last year, but this season the crop is very thin indeed upon the same trees, yet they blossomed freely.

Lord Grosvenor has again proved itself a valuable culinary Apple to plant. It has cropped fairly well, the fruit swelling to a good size without any special attention. The first week in August this variety was realising the highest prices. For general planting it is superior to Lord Suffield, as it will grow well in any soil, whereas the latter is fickle. Stirling Castle is another deserving kind, carrying a full crop in spite of the same trees bearing heavily last year. For those with but a limited garden space this is perhaps the best kitchen Apple to plant. Mère de Ménage has again given full crops of highly coloured fruit. It is a good kind to plant in heavy soil. Alfriston is a failure, and so are Wormsley Pippin and Tower of Glamis.

Amongst newer kinds Bismarck has a part of a crop, but Belle Pontoise is laden with highly coloured fruit. Schoolmaster set a heavy crop, but scarcely any swelled to a useful size; the fruit appeared to be affected by the adverse weather. Peasgood's Nonesuch, The Queen, and Frogmore Prolific are total failures this year.

Regarding dessert varieties, Cox's Orange Pippin failed to set a twentieth part of a crop this year, whereas it produced such an abundant one last season. I have no doubt this failure is partly due to exhaustion last summer consequent upon the weight of fruit borne and the dry season experienced, which must of necessity deprived the trees of support. Devonshire Quarrenden, one of the best early market Apples, had but a partial crop, and Blenheim Orange none. The trees of this magnificent Apple look the picture of health this year, and may make amends next season for the present short crop. Too much wet now though must render the trees more liable to canker during the coming winter. Benoni is a total failure. Beauty of Bath, although a handsome Apple, seems exceptionally shy in bearing while in a young state; the same remark is applicable to Gascoigne's Scarlet Seedling. Baumann's Red Reinette is a useful Apple, and worthy of a place in any garden on account of the sure crop, small space required, and length of time it will keep in good condition. Mr. Gladstone seems unable to even make satisfactory growth during an unfavourable season, let alone give us a crop of fruit.

Red Astrachan, one of the finest of early market Apples, has been exceptionally scarce this year. Irish Peach suffered much by a fungus that fastened on to the skin of the fruit early in the summer, thus preventing its expansion, consequently the bulk of the fruit on heavy land cracked and was useless. The old Ribston Pippin is fairly well laden with good fruit on some trees, while others are fruitless. Even the generally sure cropping Beauty of Hants, which I regard as an inferior type of Blenheim Orange, is devoid of a crop. Worcester Pearmain has a full supply on trees that bore little or no fruit last year; on others the reverse is the case. This is an Apple that might with advantage be extended in numbers, its handsome skin will always command a good price. In my opinion the future

of the Apple crop rests more with individuals than aught else. Plant those kinds extensively that succeed in your own district. That, in my opinion, is the way to make Apple growing pay.—E. MOLYNEUX.

DOES GRAPE CULTURE FOR MARKET PAY?

I AM tempted to ask this question, not that I do not believe such fruit culture does not pay, but because there are pessimists who hold to the contrary, and delight in telling the British public that all such culture is conducted at a loss, and that the trade is going to the dogs. The most striking evidence to be furnished as to the paying nature of the vocation is found in the exceeding extension of glass houses for the purpose that is going on in all directions. If market growers can afford

A short time ago I called for a few hours at Messrs. Quertiers' vineries, Fordingbridge, where Mr. Stephen Castle, one of the most able of Grape growers for market in the kingdom, has charge; and there I found that the little town of glass, really a fine number of houses, chiefly devoted to Grape culture, had not only, since my last year's visit, been extended by a large 150 feet span, but that also a group of five noble span houses, making a total of some 800 or more feet run, was in process of erection, and would, so soon as ready, be also planted with Vines. These houses, as one solid block, will have no party walls, only brick piers, so that air can circulate throughout them. One thing will seem to be imperative in this case. It is that all the blocks must be kept at the same temperature throughout. The plan, however, has not badly answered in some of the older houses. That such an extension of glass in a place so remote from large markets is held to be needful, shows that Grape growing, in



FIG. 55.—GRAPES AT FORDINGBRIDGE. (From a photograph.)

to extend their houses and operations on losses, then have we to face one of the most astounding financial trade problems of modern times. If I am told that profits are not what they were, I can very well understand such is the case. Without doubt, formerly those engaged in this form, or indeed in any similar form of market trade, made money too fast. They aggrandised and enriched themselves at the expense of the consumer; but they also had restricted outputs and more costly methods of production.

Now that much is changed, and whilst the output is enormous, more economical methods of production prevail. The grower is getting a very fair return for his expenditure, and the consumer can now obtain the best of produce at fully one-half the cost he had to pay for it not so many years ago. I thought of all this some time since, when Mr. Cannell was driving me past that huge town of glass houses, where 10,000 troops could well be housed, that Mr. Ladds has at Swanley, and where I counted no less than sixty 200 feet span houses all side by side, and then left many others uncounted, besides one, a tremendous house of 650 feet long, a span of some 25 to 30 feet wide, all planted, so Mr. Cannell told me, with Gros Guillaume Grape. Well, all about that locality small areas of glass houses are springing up in all directions. Over at Hampton in Middlesex one need not go far to count some fifty groups of glass houses, really an immense extent if all were counted, all devoted to market work, and largely to fruit culture.

spite of all that is said about it, must pay. That is at least my very natural deduction; but then it must be done well as is the case at Fordingbridge, where not only is everything first class, but, *rara avis* in such establishments, everything outside and in is as clean and as neat as a new pin. That shows that Mr. Castle is, besides being a good Grape grower, also a lover of order.

Perhaps some of the success which comes to this establishment is due to the fact that few of the Grapes, besides Tomatoes in enormous quantities always selling well, Peaches and French Beans, go to the greatest markets. They find their way direct to the shops in numerous towns from Land's End to John o' Groats, and thus secure the best prices devoid of commissions. Still the fine, nay, superb, quality of the material goes a long way to secure good returns, whilst besides this, the produce can only be relatively described as enormous. The greatest weight carrier is Gros Colman, which still remains the most popular and perhaps profitable of market Grapes.

Just take one huge lean-to house, devoted to latest Grapes, divided into three compartments of equal length. In the first is a heavy crop of Alicante, very hard thinned in the bunch. These are for bottling, to hang in the Grape-room, just being extended to hold 2000 bunches, till April, when the price is much higher than it is in the winter. In the farther compartment are two-thirds Gros Colman, and, curious mixture, two Vines each of Black Hamburgh, all cut; Madresfield Court, a

capital crop colouring, but is not a good market Grape all the same; Muscat of Alexandria, each rod carrying thirty good bunches, but not yet ripe when I called. Still it is remarkable to see Muscat of Alexandria doing so well here. Then the Colmans have an immense crop, berries fine, and colouring well. These are to hang as long as possible, and then be cut and bottled. Finally the centre section is all Gros Colman. There are twenty-nine Vines, one rod each, at about 2 feet apart. Each rod has on the average twenty-five bunches, and again an average of 2 lbs. each. This gives a produce of 50 lbs. per Vine, and 700 bunches, or in all 1400 lbs. of Grapes in this one compartment. Putting the crop just by way of remark at 2s. per lb., here is a return of £140 from this one section, but even after all deductions are made the return be £100, is it not a huge sum for the small area of ground and the moderate original outlay? These Vines have been planted seven years, and have carried good crops for five years, the present, one of the heaviest crops on such an area I have ever seen, is perhaps the greatest. The berries are fine, and no doubt will colour very well for the variety. Still farther, by his system of culture Mr. Castle secures both in Gros Colman and Alicante remarkably good flavour. The illustration (fig. 55, page 357), from Wright's "Fruit Grower's Guide," used by favour of Messrs. J. S. Virtue & Co., Limited, accurately represents the house of Gros Colman.

It is not possible to refer here in detail to all the houses of Grapes, they are so numerous, but Hamburgs, Muscats, Gros Maroc, Gros Colman, and Alicante are the chief sorts. I give one other house, a span of 25 feet wide and 100 feet long, having fifty Vines on each side, all Gros Colman, from which it is expected a ton weight of Grapes will be taken. These are earlier and finely colouring. The Vines were planted in 1891. In one house of 120 feet Gros Maroc, black as sloes, are alternated with Muscat of Alexandria, giving at once a splendid crop and a very handsome appearance. Cannon Hall Muscat here is very fine; indeed, are fruiting freely. It is very distinct from Muscat of Alexandria, and obtains a much better price in the market. In the new ranges this splendid Grape will be largely planted. It is not easy, however, to obtain it true, for it is not found possible to propagate at home. When the new range of houses is complete there will be here some 24,000 feet run of glass at least, all large, broad houses, almost entirely planted with Vines.

Tomatoes also, Webb's Regina and Conference being the best, are grown very largely. In one house, for fruiting up to Christmas, are 800 plants, all vertical, but the entire number must run into thousands, and the earlier ones will be replaced by Chrysanthemums presently. French Beans are also well grown during the winter and spring, the floors of the new houses will be covered with them in due course. The natural soil is of a very fair loam some 2 feet in depth, the site of the vineries being a meadow sloping southwards, excavated, and some fresh loam from near by is added to the natural soil, and that is trenched. Very little animal manure is added, indeed this year there was not a bit of it to be seen as top-dressing on any of the borders. These are very firm, literally to walk upon as hard as a road, yet are thoroughly porous. The only dressings are of patent silicate manure, in the merits of which for Vines Mr. Castle has great faith. He gives a liberal dressing to the borders in the early spring, and that is just pointed in, for it is not possible, so matted are the roots, to get the points of the forks in more than an inch. Then as colouring comes on another moderate top-dressing is given, and that is well washed in, as water is liberally given. Lime rubbish and sand form invariable dressings for Muscat borders.—D.

RIPENED WOOD.

IN response to "A Sceptic's" appeal (page 336) for a definition of "ripened wood," I venture to supplement previous notes on the subject, in the hope that I may in some measure assist in the attainment of the object in view. Reading between the lines of his last and previous articles, I take it that your verdant correspondent is more anxious to arrive at the truth than to wash out the subject in a wave of scepticism. Reasoning thus I do not consider the task of conversion a hopeless one. I fear that as "I have committed myself to nothing," a clear expression on my part has been wanting. This shall be my endeavour to rectify, for I certainly feel more solidly placed than "sitting on a rail." But a truce to railery.

Respecting the different phases of culture that have been noticed in the discussion, it is obvious that the man who has made a special study of any particular subject is better qualified by his practical experience than one who in a busy life can confine his observation to no one object. Such men should be and are the best teachers in each department, and are there any valid reasons for supposing they will lead us astray, or pamper us in our "almost Chinese conservatism so hide-bound in character" as to "terribly handicap us with the more intelligent foreigner?"

I need not here go into a defence of my class or my country, for I feel that none is required, but regret that "Sceptic" should have avoided this heavy artillery of practical evidence of what he terms "ripe wood nonsense." But I will not re-hash those teachings; no need, there is a fresh dish this week (page 350), "Autumn Treatment of Peaches and Nectarines," also another little *entrée* on the succeeding page—"Late Houses," and more to follow I dare

affirm, all worthy of digestion. Why this thushness, may I ask? and why can it be so comfortably ignored?

Ripened wood is the technical term by which is understood the perfect maturation of the wood by the influence of light—sunshine. The term "ripened," as employed by us, appears to me to bear the same relation to the wood that ripeness does to fruit, and expresses maturity; hence has probably arisen that confusion of ideas apparently in "Sceptic's" mind when he inquires, "Do they smell it or eat it?" Well, not exactly; but we do feast on it with our eyes, knowing how good it is, and sniff the capabilities of its produce.

The mineral substances of potash, magnesia, lime, and other necessities of plant life, building up the structural tissues of annual growth give the "hard firm wood;" carbonic acid is a powerful agent in free growth, but can only be formed into carbon, forming a large proportion of the starch element, by the action of light—sun, giving the ripened wood. As an illustration to the point, I may remark that the Oak grown in the more humid atmosphere of Ireland is, as timber, inferior in value to the British Oak grown under sunnier conditions. Practical evidence of this I saw on a demesne, where the rapid decay of home-grown Oak used on the place was remarkable. It is, I believe, an acknowledged fact that isolated trees fully exposed to the influence of light form a tougher and more durable material than the same species growing in dense forests.

That fellow feeling which exists among Chrysanthemum growers brings me to the note thereon. I rejoice to find the "Sceptic" is a grower of what my employer terms my children. I can only deduce (rightly or wrongly) from his remarks that a "Sceptic" grows by deputy, and so fails to recognise my parental anxiety by which I appear to have been guilty of maltreatment in robbing luxuriant Nature of some foliage. "Amazing proposition" (though, as a matter of fact, it is not mine), and it is with diffidence I must add my culture has been successful, and substantial proofs could be shown.

That no undecided opinion on the subject may suggest itself this time I must be dogmatic, and say that well ripened wood is not only important, but of absolute necessity to the development of high-class blooms. The finest specimens of these can only be obtained from ripe wood, as unripe wood is deficient in the elements which build them up. Damping of blooms has no relevance to the subject, only as late plants forced by chemical stimulants, which plants after housing are deprived of the light essential to digest the food. As for shading, all blooms under glass are better preserved by the direct force of the sun's rays being broken, and tiffany does but little more than that. Light is essential to development of colour, hence the deprivation of it bleaches, as in Seakale, purple Lilac, and so on. This phase of the question is capable of extended reasoning, which space precludes.

Roses—"Do I mean to advocate the substitution of autumn pruning for spring pruning?" Hardly that, and as "Sceptic" has been a rosarian for twenty-five years, I fail to see how he could misconstrue or jumble up the two, especially as I had previously (in a former article) called his attention to a seasonable note by "D., Deal," on the matter. I, however, assert with confidence that early autumn thinning, where the growths are crowded, is of enormous advantage to those retained in view of future blooms.

As for the "Welsh Grape-growing muddle," I do not see any beyond what has arisen from "Sceptic" overlooking those two eyes the canes were cut back to; therein is the gist of the matter. Vines afford the best example that I know of respecting the value of ripened wood. To thrash out this subject a dissertation on Grape-growing would be necessary. May I venture to ask the question if any "Sceptic," admittedly searching for light, is quite competent to describe the practice of such an experienced and accomplished gardener as Mr. Pettigrew is known to be as "muddling?"

Respecting Strawberries and "Hibernian wit" the laugh was premature. "Sceptic" ignored the ripened crowns, not wood, but occupying the same relative position. If wrong I am open to correction. Bush fruits—"Do I consider these are great lovers of sunshine?" Yes, I think they love all we can or are able to give them, if the roots have adequate food in solution—moisture. "And why do they not flourish in Southern Europe?" Perhaps because they have little enriched root moisture, or perhaps "the intelligent foreigner" lolls under them whilst the "hide-bound Britisher" is conveying food and water to his fruit carriers. Old Raspberry canes (excuse my speaking dogmatically) are cut away to admit light and air to the young canes; the business of the old ones with the roots is over. Dendrobiums, too, *do* require ripening. Repetition is not desirable, but I must hark back to the original article, in which the Burmah consignment of Wardianum Lowi was mentioned, and the marvellous floriferousness evident on the imported bulbs. I believe the plants were found growing in a locality exposed to the sun.

The "knock on the head" anent Camellias has raised no bump of unbelief. The foliage is liable to injury by scorching, but scorching is not ripening—it is an impediment to it. Healthy foliage is essential, with light (sun) in proportion to root activity. Camellias more or less starved in pots are scorched when the transpiration of moisture from the foliage is in excess of that supplied by the roots, not otherwise. Witness the grand specimens grown in favourable localities in the open air.

I trust it may be thought there is no uncertain sound about my article this time. There is much more it would be desirable for me to get off my mind; but I feel the importance of the subject and the feebleness of my pen to express the thoughts of many a side-light bearing on the matter. There are, too, Editors to be thought of. Nor do I wish a monopoly of space. I would rather that "Sceptic" have room to define his "firm hard" wood, and kindly say whether it goes near enough to ripened wood to contain the elements, elaborated by the action of light, from which only the best results can be looked for? I should, too, be glad to know if "Sceptic" is located in the sunny south-east corner of England? If so, I should say the ripened wood he complained of was roasted, like dried fruit bushes on the Continent. In that case, he derives some benefit this year from his highly coloured fruit. Would that I could say the same. But thereby hangs another tale, for another time if necessary. I shall be pleased to thrash out any phase having direct bearing on the subject if "Sceptic" is willing, and the Editor will let us into his field. But I have now burned the midnight oil, and hope it may have shed some further rays of light on the subject. In the meantime readers of the *Journal of Horticulture* will have noted that "Sceptic" has still to explain his views of the essential conditions for perfect blossom formation in plants and trees. We may presume that sound knowledge is possessed by the author of "Ripe Wood Nonsense." Let it not longer be withheld.—E. K., *Dublin*.

As a regular reader of the *Journal of Horticulture* I should like to say a few words on the above subject. In the first place I think it is ridiculous that men should waste their time in haggling over things they do not understand, leaving all concerned more mystified than instructed. One instance of this is the "Ripe Wood Nonsense," another, the imbroglio over the "Nutrition of Roots."

One of your correspondents, "Sceptic," judging by his recent notes, disbelieves in the maturing or ripening of wood to an alarming extent. He certainly is not short of nerve, and I think his ideas on the subject will have to be ripened before they will bear much fruit. How any person can set up a doctrine that is in direct conflict with Nature is past comprehension. No sound gardener would do this, nor would any scientific man who had made a study of vegetable physiology.

Will "Sceptic" kindly turn to page 351, October 11th, and read there what is advised by one of the leading papers in the three kingdoms for *Stephanotis floribunda* and *Allamandas*? I need not repeat it, but will say that in my opinion the advice is practically and scientifically sound. Out of six papers relating to gardening this week, the maturing (ripening) and resting of things in general is everywhere recommended. Take for instance *Deutzia gracilis*; will "Sceptic" prove to me that it will flower when forced during the winter months as well on soft unripened wood as on the ripened portion? I think he will not say that.

I think he slides rather hastily over *Chrysanthemums*. If maturity or ripening has nothing to do with good blooms, why have we to wait for them till the said maturity is effected? Even a "Sceptic" cannot have them at any time. Again, has he ever noticed the effects of a severe winter on *Roses*—how those which have been late in completing growth have been blackened, rendering severe pruning necessary? Of what use are bulbs if not ripened? Also, why the following announcement which I saw lately, "Splendid Ripened Bulbs of *Freesia refracta alba*. Ready in August. Please order early to ensure good bulbs?" Why, again, are *Tea Roses* in pots placed outside in the summer? Is it not that they may produce sound matured wood, for pruning in spring to ensure healthy shoots so essential to free blooming. As to old *Raspberry* canes, does "Sceptic" not think if the canes were removed before they were old, say when the main crop of fruit was over, it would not tend to give strength and fruitfulness to next season's canes? There are, as everybody knows, two sides to everything. If *Camellias* cannot have plunging material or plenty of water during summer in an exposed position, then of course under the trees is the right position for them. I do not expect this will be the last of this argument, but I hope "Sceptic" will pause before he treads again on so dangerous a path. He writes in such a "sit-on-everything" style that I think he is liable to fall.

As a thorough believer in ripened wood let me try to explain its meaning in a sentence. It is the completion—the maturing of

all growths before the resting period, so beneficial to the production of flowers and fruit. Let "Sceptic" picture the coming *Chrysanthemum* shows, as if the plants that produced the blooms were grown under the shade of trees. Does he grow his plants there, and if not why not? Have we to conclude by his remarks regarding the use of tiffany for the prevention of damp in *Chrysanthemums*, that well ripened wood is the cause of this damping? We have heard of "ripe wood nonsense," what about "damping nonsense?" Without going into the cause of the evil I will venture to say this—there will be no damping of grand blooms from unripened wood, because there will be no grand blooms to decay. The plants must be matured for producing acceptable blooms both for show and for market, and if "Sceptic" cannot tell us that he grows his *Chrysanthemum* plants like his *Camellias*, under trees or in the shade, he cannot expect that his further denunciations of ripened wood will have the least effect on intelligent readers, except to "convert" them to the belief that there really is a doctrine of "ripe wood nonsense." As to fruit I think no person of knowledge on this subject could see the fine American Apples now coming into Hull, and declare them the product of soft or unripened wood, unless he were a crotchet monger.—J. G. PETTINGER, *Strawberry Dale Nursery, Harrogate*.

HARVEST FESTIVALS.

To all lovers of Nature the season of autumn is one of peculiar interest. Vegetation on every hand appears to have become united in one grand effort to make its dying days the most beautiful. It seems but yesterday since the budding spring burst forth in all its joyous gladness, as if only too delighted to be set free from winter's cruel fetters; then followed the long days of summer, in which all Nature seemed busy in performing its allotted duty; and now we have entered once more upon the peaceful days of autumn, and all vegetation wears an air of calm and beautiful resignation, as if satisfied that it has done its duty, and is now content to settle once more to its long winter sleep. It is not my intention to endeavour to set forth the many useful lessons which the seasons teach to mankind, but as we wander through the fields of stubble, from whence the corn has lately been harvested, and notice the orchards, now stripped of their luscious fruit, or turn our attention to the garden and the storing away of Potatoes and many other things that go to keep up man's winter supply, we cannot fail to be struck with thoughts of satisfaction that Nature has again dealt kindly with us, and our wants are once more provided for.

Harvest festivals or thanksgiving services are now being held on every hand, and to give weight to these the sacred edifices of all sects and denominations are profusely decorated with the fruits of the earth. There appears to be a growing tendency nowadays towards beautifying places of worship with flowers. To what extent this should be carried out opinions differ, but all sects endeavour to make their churches and chapels look as beautiful as possible on the occasion of harvest festivals. In rural districts, where men live with Nature as it were, there is nothing particularly new or striking about these harvest decorations; but in towns the case is very different, and the crowded population, who perhaps seldom or never have the opportunity of seeing the beauties of Nature, can, if they choose, view many charming arrangements of flowers and foliage. Again, take the children, who perhaps in many cases have never journeyed beyond the limits of the mass of bricks and mortar, in which they have been born and are being reared; how their young minds must long to wander through the fields and woodlands, and gather for themselves, to their heart's content, the beautiful flowers and foliage they see there adorning their church or chapel.

Thoughts then naturally turn towards the most suitable species for harvest decorations. On one occasion I noticed wreaths of Oats, adorned with berries of *Mountain Ash*, hanging over the ends of the pews, which gave a pretty effect. Long sprays of the coloured *Virginian Creeper*, of which "E. K., *Dublin*," speaks so highly in page 314, is unsurpassable for foliage decoration, and looks charming with its bright colour when trailed round reading desks and pillars. Branches of *Horse Chestnut*, too, are indispensable, and when judiciously arranged with drooping heads of Wheat or more graceful bunches of Oats, the exquisite colouring of the foliage of the former makes a pleasing contrast. Perhaps nothing is more suitable than the dying fronds of the common *Bracken Fern*, whose great diffusion of colour, ranging from bright golden yellow to almost silvery whiteness, is in itself almost sufficient to form a decoration.

Turning to flowers, we find the bold heads of giant *Sunflowers* greatly in requisition, while the brilliant spikes of *Gladiolus*

branchleyensis and the heads of Tritomas form a most pleasing contrast. Dahlias of all kinds are extensively used, though I think the singles are the most elegant. Sprays of the Canary Creeper, too, are very effective, and light Grasses, Reeds, and Sedges all help to make a charming decoration. Berries of many kinds are also largely used, chief among which are the Mountain Ash and red Berberis, while long brambles of Blackberry, with its bright yellow leaves and tipped with glossy fruit, produce a good effect. In the windows we find rosy cheeked Apples, and on the floor in prominent places heaps of vegetables, whilst dotted about are sheaves of corn—in fact, all the first fruits of the harvest, for which the festival is dedicated to give thanks.—G. HOLLINGWORTH.



NOTES ON SOPHRONITES.

THIS is not a large genus, but one that is quite indispensable. There is no plant in the whole Orchid family so bright and showy as *S. grandiflora*, and the size of the flowers compared with the growth is quite remarkable. Sophronites are small-growing Orchids of pseudo-bulbous habit. They grow very compact, the pseudo-bulbs pressing closely against each other so as to almost hide the rhizome, and each bears a single leaf.

Being of true epiphytal character, they do not like much compost about their roots, and many growers have been successful with these plants on lightly dressed blocks. Shallow, well-drained pans are, however, to be preferred, as they give much less trouble in watering during hot weather, and the plants thrive equally well. The temperature best suited to their requirements is an intermediate one between the cool and the *Cattleya* houses. If this is not at command they may be accommodated either with the *Odontoglossums* or suspended near the door in the *Cattleya* house. In the latter position they are more likely to be attacked by insects, especially scale, than if growing in the cool house, and should be frequently examined and, if necessary, cleaned.

Very little peat is required for the compost, and that used should be quite free from sand or any earthy particles. Clean sphagnum and finely broken potsherds are quite sufficient to grow these Orchids well. They must be elevated a little, and firmly fixed in position with wire pegs or otherwise. While growing they must be kept uniformly moist, and like all small growing Orchids dislike fluctuations in the atmosphere. The plants must not be allowed to get quite dry at any time, particularly while in blossom.

S. grandiflora is the most popular species in the genus. There are at least two varieties of this plant, one rather stronger growing than the other, and having longer pseudo-bulbs. The flowers of this variety are 3 inches across, bright scarlet, with yellow markings on the lip. The smaller growing kind has flowers of a bright purple or carmine shade. *S. violacea* is not much grown, but is an interesting little plant with pseudo-bulbs less than an inch in height, and small violet coloured flowers.

S. cernua comes from Rio de Janeiro, and is the oldest species in the genus. The pseudo-bulbs of this kind are small, compressed-looking, and grow so closely together as to form a dense, cushion-like tuft. Unlike the preceding species, which produce single-flowered scapes, this kind has usually about six blooms on each. These are about 2 inches across, similar in colour to *S. grandiflora*, and like this species flowers in winter, lasting many weeks in good condition.—H. R. R.

NUTRITION OF ROOTS.

As Mr. Bishop has neither confirmed or withdrawn the statements he has made during the progress of this controversy, it only remains for me to bring the matter to a conclusion.

How delightfully easy is the art of discussion conducted on Mr. Bishop's method! Suppose next week he writes to say that he has discovered that the moon is made of green cheese; suppose I write asking him to quote authorities to that effect; all he has to do is to reply "that he believes it to be so," and that "twenty authorities could be quoted to support his view." There you are! Could anything be more simple?

Mr. Bishop in the first instance entered the arena with a great flourish of trumpets on purpose to put me right, to extend his valuable protection to Mr. Raillem, and to contend that that gentleman was correct when he said that roots of plants absorb water as it is in process of being evaporated, and on this point Mr. Bishop defied contradiction. Mr. Bishop now—abandoning his friend Mr. Raillem altogether, and contradicting himself as usual—says that he has stated in every instance "that roots do absorb their food in solution with water." What, then, could be his object in pretending to defend Mr. Raillem's proposition? Perhaps Mr. Bishop believes that evaporation and condensation mean one and the same thing.

Mr. Bishop's eight statements, which I have brought together and numbered (page 218), are, as far as I know, utterly opposed to the teachings and writings of all the standard authorities. Putting forward such statements he is bound honourably to supply authorities for them, or to withdraw them. Well, Mr. Bishop is the best judge of what he owes to himself, if he fails to perceive what is due to the readers of the *Journal of Horticulture*. But as sure as the night follows the day, so surely the time will come when he will regret the course he is pursuing on this question. Some day, when he has wiped the cobwebs of ignorance from his mind, he will learn:—

1, That evaporation and condensation are not one and the same thing.

2, That roots can *only* absorb actual water.

3, That moisture in the soil *is* water, and that even in the driest weather every tiny particle of soil is surrounded with a film of actual water.

4, That capillary attraction can only move liquids.

5, That clouds, mist, fog, and visible steam are all actual water; that Professor Tyndall says so, and that Mr. Bishop or his scientific instructor can have the quotation if required.

6, That nothing but actual water can contain *all* the elements of plant food.

7, That one gas cannot dissolve another, and that a gas cannot hold anything in solution.—D. GILMOUR.

[Mr. Bishop has sent us a letter on this subject, but it cannot be inserted this week.]

NOTES ON PEAS.

THE Pea season is now drawing to a close, and as a whole it has been a good one. During the summer one or two of the sowings never reached perfection, mainly, if not entirely, on account of aphides, which again were a result of the abnormal frost in the third week of May. I do not remember ever to have seen Peas attacked in the same manner as these, though other gardens in the neighbourhood did not escape.

As an early variety I grew only Chelsea Gem, which is a thoroughly reliable sort, being early, heavy cropping, and of excellent flavour. William the First followed, and was also good. As a second early I imagine that Colossus will be found worthy of attention. The pods are enormous, yet well filled with large peas of fine flavour. Epicure and Censor are capital main crop Marrow Peas. Of the former I have very high opinion. Critic, Main Crop, Daisy, and some on trial were among the varieties destroyed by aphids, so these must be passed over.

Coming to late Peas, Fame holds a high place. It is a splendid cropping variety, with larger pods and seeds than Ne Plus Ultra, which in other respects it greatly resembles. I have not yet arrived at that stage when the latter must be set aside for Fame. It has proved for too many years a sheet anchor to discard it hurriedly for any novelty howsoever good, but it must at least divide with Fame its former position of superiority. At the time of writing some fine pods are being secured from Juno, which might almost be called a dwarf form of Fame. I was, unfortunately, too late in sowing this variety—21st June. Fourteen days earlier would have given much better results. Moreover, the shoots have never been stopped, an operation that is of great importance in helping the swelling of a late crop of Peas. The method of stopping is somewhat rough and ready, consisting as it does in cutting off with a sickle all the growths as they reach the top of the Pea sticks. But though rough it is eminently effective, and causes not only a better set of pods, but what is of as much consequence is helpful in causing the seeds to swell. The proper swelling of the seeds is indeed where so many varieties fail late in the season. The Duchess appears likely to be a variety worth consideration for late work. It is known as a good summer sort, but it also possesses the power to swell out its seeds late in the autumn as well.

Another point in the management of late Peas is that of the manure supply. I have seen the seeds sown on a thin layer of soil underneath which a thick dressing of manure had been buried. My experience points to growing late Peas in soil without manure. The first effect produced by manure is a strong and tall growth, and no bloom on the lower parts of the haulm. Peas grown on unmanured ground, such as here, do not grow so rankly, and pods are formed from the ground upwards. Then as the autumn advances plants growing in rich ground do not pod so freely as those in comparatively poor soil.—R. P. BROTHERSTON.



EVENTS OF THE WEEK.—Apart from the meeting of the Royal Horticultural Society, which takes place at the Drill Hall, James Street Westminster, on Tuesday, the 23rd inst., but few events of special interest to horticulturists will occur in the metropolis during the ensuing week. As announced in another paragraph, the Rev. G. Henslow will lecture on an interesting subject at the afternoon meeting on the 23rd inst. Most of the exhibitions of Chrysanthemums in the public parks and gardens of London are now open, and are worth inspecting.

— **THE WEATHER IN LONDON.**—Damp mists prevailed in the metropolitan districts towards the end of last week, and rain fell occasionally. Sunday was fine and rather cold; Monday and Tuesday proving less favourable, showers being of frequent occurrence. Wednesday opened bright in some neighbourhoods, but foggy in others, and slightly frosty, though vegetation does not appear to have suffered in some localities to any perceivable extent.

— **ROYAL HORTICULTURAL SOCIETY.**—The next meeting of the above Society will take place in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday, October 23rd. Besides the usual display of flowers, large collections of fruit are anticipated. At 3 P.M. the Rev. Professor George Henslow, M.A., F.L.S., &c., will lecture on the "Origin of Common Vegetables and their Value as Food."

— **THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.**—The annual meeting and election of pensioners will take place on a date to be announced in January next. Intending applicants should at once apply for the necessary "form of application," which must be sent in to the Secretary on or before November 10th, 1895.—**GEORGE J. INGRAM, Secretary, 50, Parliament Street, London, S.W.**

— **THE DEAN OF ROCHESTER (REV. S. REYNOLDS HOLE)** having accepted invitations to give addresses in the principal cities of the United States, with the hope of promoting on his return the further restoration of his Cathedral, was to have left Liverpool for New York by the "Majestic" on the 17th inst. It is expected that Dean Hole will be absent from England about three months.

— **TROPEOLUM SPECIOSUM.**—This charming plant is frequently to be seen in the English Lake district. On the high road between Windermere and Grasmere numerous plants, vigorous in growth and profusely flowered and rich in colouring, are to be met with, some climbing on old cottages, whilst others ramble amongst the trees. At Derwentwater and many other parts of Westmoreland it grows with the greatest of freedom. I was more than astonished to find it flourishing in the neighbourhood of Liverpool, but at Ardenholm, Maghull, in Mr. McMillan's charming garden, to which I paid a recent visit, it was to be seen growing abundantly in various positions.—**R. P. R.**

— **DEATH OF MR. H. W. LEWIN.**—We much regret to record the decease on the 9th inst. of Mr. H. W. Lewin, who for about forty years managed with the greatest success the extensive gardens of Sir David Carrick Buchanan, of Drumpellier, Coatbridge, N.B. A correspondent writes:—"Mr. Lewin was a man of sterling ability, great energy, and refined taste; nothing would satisfy him unless it attained the highest excellence, consequently it was always to the horticulturist a great pleasure to visit Drumpellier Gardens. For some thirteen years in succession he scored first for Cyclamens at the Glasgow and West of Scotland Horticultural Society's shows; and in table decoration he was also pre-eminent. Mr. Lewin's earlier years were spent at Kew; Maresfield Park, Sussex; and Lonsdale House; from whence he removed to Drumpellier, bringing with him, though a very young man, those marks of brilliant ability which were so well displayed in after years. He is survived by his wife and one son. The funeral was largely attended, and among those present were Sir John Floyd, Bart., Sir David and Lady Buchanan, who referred to Mr. Lewin as their old and valued friend. Mr. Lewin had been in failing health for several months, yet within a very few days of his death continued giving directions in the management of the gardens. He was sixty-two years of age."

— **A REMARKABLE STRAWBERRY.**—According to a western contemporary, Mr. Randall, The Poplars, Hook Norton, recently picked a very fine Strawberry, weighing over 1½ oz., and was of perfect flavour, shape, and colour.

— **DEATH OF PROFESSOR PRINGSHEIM.**—It has been announced that this well-known German botanist died recently at the age of seventy-one. From 1864 to 1868 Professor Pringsheim was at Jena, where he founded the first institute for vegetable physiology, and this example was soon followed in other parts of Germany.

— **WOOLTON SHOW.**—The show held at Woolton, reported on page 349 of your issue of October 11th, was never intended to be a competitive one. We were merely asked to make a small exhibit for a charitable purpose, and I think your correspondent has not carried out the spirit of the Committee in classifying us in his report.—**W. TUNNINGTON.** [Our correspondent was not aware of the fact when he sent his report.]

— **MESSRS. DOBBIE & CO.**—We are requested to publish the following notification:—Messrs. Dobbie & Co., Seedsmen and Florists to the Queen, Rothesay, have just arranged for a lease of the Chelsfield Estate Farm, Orpington, Kent. This farm is finely situated thirteen miles south of London, and is intersected by the main line of the South Eastern Railway. It is about 60 acres in extent, and will be used by Messrs. Dobbie entirely for seed-growing purposes.

— **BECKENHAM HORTICULTURAL SOCIETY.**—The first of a series of lectures for the season was given in the Public Hall on Friday evening in last week, the Rev. Henry Arnott, the President of the Society, in the chair. The essay was the "Persian Cyclamen," by Mr. Jas. Martin of Messrs. Sutton & Sons, and it need hardly be said that he dealt with his matter in a masterly manner. Mr. Webster, gardener, Kelsey Cottage, had on view a collection of hardy fruit artistically arranged, which was greatly admired. On the 19th inst. a lecture will be given by Mr. H. J. Jones on "Pelargoniums and How to Grow Them."—**T. C.**

— **BIRMINGHAM GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.**—The first autumn meeting of this Association was held last week, when Mr. John Pope read a paper on the "Dahlia," with special reference to its new development. Mr. Pope gave a brief description of the origin of the name, and then a very interesting account of the rise and progress of this grand autumn plant. Incidentally he mentioned an interesting fact—that one of the first Pompon Dahlias, a variety called "Little Wonder," was raised at Handsworth about thirty-five years ago by a Birmingham button maker named Smith, who was a great enthusiast in growing all florists' flowers.

— **BLENDWORTH PERFECTION CUCUMBER.**—We received on 16th inst. a notification of a clerical error which occurred in the report of the Royal Horticultural Society, published in our issue for September 27th. Mr. J. Busby, Blendworth Lodge, Horndean, says the Cucumber to which a certificate was granted, and mentioned on page 303, was named Blendworth Perfection, and not "Buxley's Seedling," as printed. Further, he remarks that his name was erroneously given as Mr. "Buxley." This is but a case in point of the many mistakes that are liable to occur through the names and address of the exhibitors at the meetings of the Royal Horticultural Society being, as they frequently are, so illegibly written.

— **HORTICULTURAL CLUB.**—The first dinner and conversazione for the season of 1894-95 took place at the Hotel Windsor, on Tuesday evening in last week, and there was a good attendance of members. The chair was occupied by Sir Alex. Arbuthnot, and there were present Messrs. Assbee, H. C. Seebohm, C. E. Pearson, Alfred H. Pearson, T. Francis Rivers, J. Webber, Rivers, jun., George Bunyard, Cockett and the Secretary. The subject for discussion was the abnormal Pear crop for 1894, which was opened by Mr. George Bunyard in a very interesting paper, which is printed on page 367. The essay led to a most animated discussion, in which all those present took part, and many curious facts were elicited. A cordial vote of thanks was proposed by the Chairman to Mr. Bunyard for his excellent paper. The thanks of the meeting were given also to Mr. T. Francis Rivers for the sumptuous dessert which he gave to the members, consisting of dishes of Muscat of Alexandria and Madresfield Court Grapes, Doyenné du Comice, Beurré Hardy, Louis Bonne of Jersey Pears, and two dishes of splendid Cox's Orange Pippin Apples. Mr. Cockett also brought before the meeting a piece of a branch of Ne Plus Meuris Pear, showing the enormous crop produced so near to London as Wanstead. He had also a fine specimen of Pitmaston Duchess from the same locality.

— THE DEVON AND EXETER GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—The following essays are to be read at the meetings of this Association, to be held in the Council Chamber of the Guildhall, Exeter, at eight o'clock prompt on the respective evenings. October 31st.—Mr. S. Radley, Exeter, "Hyacinths, Tulips, and Bulbous Plants for Exhibition." November 14th.—Mr. A. C. Bartlett, Dropmore Gardens, "Flowering Trees and Shrubs." November 28th.—Mr. F. W. Parker, Exeter (Assistant Secretary of the Devon and Exeter Horticultural Society), "The Devon and Exeter Horticultural Society, its History and Development." December 12th.—Mr. F. W. Meyer, Royal Nurseries, Exeter, "Public Parks and Gardens."

— SYDNEY BOTANICAL GARDENS.—Dr. Taylor, the eminent English naturalist, when visiting Australia, was much impressed with the appearance of the Sydney Botanical Gardens, and, in a description of a ramble through these, he says, after describing many trees of special note:—"Floral parterres and patches are gay with flowers, whose manifold colours offer a rich feast to the eye. The rocks and rocky places are covered with the grotesque forms of Cactuses and Aloes. Climbing plants from all parts of the world have been trained to clamber up and festoon trees and shrubs of a less conspicuous character. All that botanical and horticultural art and skill can do, combined with, perhaps, the most picturesque situation in the world, and a most delightful climate, have made the Sydney gardens a place worth coming to the Antipodes to see."—J. P.

— MARKET GARDENING IN FRANCE.—In various districts of France, notably in that of the West Centre, many farmers, says a daily contemporary, have taken to market gardening; but even this recourse has proved ineffective, for the reason that there is no large constant market except Paris, which is mainly supplied with fresh small fruits and vegetables from its own neighbourhood, and the local railway tariffs are so high as to preclude the sending of such produce to any great distance. Unless a region has a speciality, as, for instance, the neighbourhood of Hyères, for early Strawberries and Artichokes, which sell at high prices, there is no opportunity for market gardeners in the remote provinces to contribute much to the supply of Paris. An additional reason for this is the fact that of the early and expensive garden luxuries a great part now comes from Algeria, which has an advantage of two or three weeks over even Southern France in point of climate.

— APPLE BISMARCK.—Mr. George Bunyard sends us a photo of a maiden Bismarck Apple tree, grown from a bud inserted last year, showing a fine fruit growing from that bud. There have been many similar examples in the Maidstone and other nurseries this year, the fruits being very large and almost resting on the ground; yet it is noteworthy that although these fruits were necessarily shaded in the close nursery rows (at Maidstone they were on the north side of the rows) they were richly coloured. In the photograph before us blossom buds have formed freely on the current season's growth, thus showing the early bearing character of this increasingly popular variety. There is no wonder it is in such great demand for growing for market. It will be interesting to learn if Bismarck succeeds as well in the north as the southern parts of the kingdom. The fruit attaining a large size early in the season suggests that this Apple will succeed almost anywhere where other varieties can be satisfactorily grown.

— SHIRLEY AND DISTRICT GARDENERS' AND AMATEURS' MUTUAL IMPROVEMENT ASSOCIATION.—The monthly meeting of this Association was held on the 15th inst. at Shirley, Southampton. There was a good attendance of the members, and Mr. W. H. Rogers, J.P., presided, the President being away from home. "British Fungi" was the lecture, very ably dealt with by the Rev. W. L. W. Eyre. The reverend gentleman, in the course of his remarks, pointed out the character and usefulness, or otherwise, of a number of examples which he had before him, and the class to which they belonged, cautioning his hearers against indulging by eating any unless first being sure of their identity. A long and interesting discussion followed on the distribution of the spores, the lecturer, in reply, expressing his opinion that they were carried in the air, and thus deposited in unlooked-for positions. There was a great display of fungi, collected in the immediate neighbourhood and the New Forest, representing over 100 varieties, contributed by the Secretary, Mr. Ladhams, jun., Mr. W. H. Rogers, Mr. E. Bartlett, Mr. E. J. Wilcox (forty varieties), Mr. Risbridger, and Mr. B. Ladhams. Mr. Wilcox also exhibited Marguerite Carnations from open border; Mr. Hallett, second crop, nearly ripe Victoria Plums; Mr. Arlett and Mr. G. W. Othen, Pears; and Mr. B. Ladhams, hardy perennials.

— THE BOTANICAL SOCIETY OF AMERICA.—We learn from "Nature" that this Society is about to try the experiment of admitting working naturalists only to its full fellowship. By a unanimous vote the Society has adopted a new constitution, providing that none but American botanists engaged in research, who have published work of recognised merit, shall be eligible to active membership. Candidates for active membership must be recommended by three active members of the Society, but any nominee may be objected to by any member, and if ten members object the name will not be considered by the Council. Nominees may be rejected by two negative votes in the Council, which numbers seven members, or by one-fifth of the votes cast after the name has been approved. The President of the Society for the present year is Prof. W. Trelease; the Vice-President, Prof. N. L. Britton; the Secretary, Mr. C. R. Barnes; the Treasurer, Mr. J. Donnell Smith.

— VIBURNUM CASSINOIDES.—This handsome shrub, which has its home in the swamps of the Northern States of America, succeeds well in any ordinary garden soil, and, like other members of the genus, deserves, says the "Garden and Forest," a larger place in parks and gardens than it has yet received. Just now its clusters of berries, some of them bright pink, some flesh coloured, contrasting in colour among themselves and with the dark green leathery leaves, give the plant a singular attractiveness. Later on the berries will be dark green and the foliage will assume rich autumn colours. In June it bears abundantly broad cymes of cream white flowers, while its vigorous health and its compact habit make it serviceable at all seasons. *V. nudum* is a closely allied plant of more southern range, and like *V. cassinoides*, when taken from its native swamps into good garden soil, it abandons its spindling habit and spreads out into a broad mass of lustrous foliage that makes its worth planting even in choice collections of shrubbery.

— FLORAL DECORATIONS AT LEEDS.—When the Duke and Duchess of York visited Leeds on the 5th October, the route was decorated in a most becoming manner, the floral decorations being very effective, many of the principal tradespeople using natural flowers and foliage plants with great advantage. The Town Hall, Yorkshire College, Victoria Hall, and Medical School were beautifully decorated, specimen Palms and other foliage plants and thousands of flowering plants being used with telling effect. The Corporation most liberally threw open the Town Hall to the view of the public after the Royal visitors departed, thousands of persons taking advantage of the liberal offer of seeing the decorations, which were entrusted to Mr. Featherstone, Kirkstall Nurseries, Leeds. His resources were severely taxed, for over 100 vases were used at the banquet filled with flowers and foliage. The magnificent bouquet presented to the Duchess by the Yorkshire College members was also supplied by him, and was a grand example of artistic floral art. It was composed chiefly of *Cattleya labiata*, *Dendrobium Schroderæ*, *Vanda cœrulea*, *Odontoglossum Alexandræ*, relieved with Lily of the Valley, and was the admiration of everybody, reflecting great credit upon the designer.—O.

— FLOWER BEDS.—When recently inviting replies to the question how ground should be prepared for successful culture, I could but think of what I saw at Hampton Court the previous day. There the summer denizens of the beds having been cleared off, heaps of short half-decayed manure had been carted on to the beds, and men were busily engaged in trenching them some 18 inches in depth, burying the manure well down. Soon the beds will be planted with Polyanthus, and bulbs, chiefly Tulips, intermixed, and then in the spring the effects of the deep working and manure dressing will be seen. Then, ere the summer bedding plants are put out, the beds are again trenched even deeper. Thus it is that such fine bedding results are obtained, and those who see the fine floral display wonder why the plants do so well, when perhaps their own flower gardens wear so starved an aspect. In how many places is it ever the practice to trench flower beds and borders at all? So many persons seem to think an ordinary digging and very little of manuring to be all that is needful. Then they entirely ignore the fact that about most flower gardens there are trees and the roots of these running out long distances in search of food, seem to scent the newly moved soil of a flower bed as vultures do carrion, and rush for it, filling the soil with fibre that is greedily devouring the plant food the bed furnishes, to the starvation of the summer or other bedding plants. The only remedy is found in deep annual or half-yearly trenching, and occasional exchange of soil from the beds for some from the vegetable quarters. That is the way to have a good show in the flower garden.—A. D.

— GARDEN FLOWERS OF NEW SOUTH WALES.—The ease with which garden flowers can be cultivated is almost incredible, most of the ordinary English flowers, such as Geraniums, being in bloom nearly all the year round. The Geranium, it may be mentioned, is in New South Wales a very different plant to what it is found in England, often attaining the size of a Gooseberry bush, covered during eight months out of the twelve with a profusion of large blossoms. Violets do not, as commonly supposed, lose their fragrance on Australian soil, but thrive to an extent unknown in English gardens. Sweet Williams, Convolvuluses, Daisies, Stocks, Wallflowers, and other common English flowering plants grow in a most luxuriant manner even in the poorest soil, while in some districts the rapidity with which the Sweet Briar overruns the land causes it to be regarded as a noxious weed, to be extirpated at any cost. It is the same with the Cactus, better known as the Prickly Pear. Although grown with much difficulty in English greenhouses, it has thriven to such a wonderful extent in New South Wales that the Government have had to take steps for its eradication. Roses, Lilies, Camellias, &c, flourish everywhere, the most tender kinds being grown with the greatest ease, except in districts where the rainfall is lightest. —JOHN PLUMMER.

— HISTORICAL TREES.—A daily paper furnishes the following interesting figures anent some very old trees in the British Islands. According to this writer the oldest appears to be the Brabourne Yew, in Kent, the age of which was estimated by De Candolle to be 3000 years, and he attributed the same age to another Yew, that of Fortingall, in Perthshire. The Oak of Swilcar Lawn, in the Forest of Needwood, Staffordshire, was still robust in 1822 at the age of 600 years, and about the same time there might have been seen at Chipstead Place, Kent, a large Elm, around which a fair was annually held during the reign of Henry V. (fifteenth century). An Oak still living at Tilford, near Farnham, is mentioned in a charter of Henry of Blois under the date of 1250. The Hethelthorn in Norfolk is the old Hawthorn spoken of in an Act of 1200. Perhaps the most reliable information respecting the age of trees is found in the report of the German Forestry Commission, published some years ago. This assigns to the Pine an age of 500 to 700 as a maximum, 425 years to the Silver Fir, 275 years to the Larch, 245 years to the Red Beech, 210 years to the Aspen, 200 years to the Birch, 170 years to the Ash, 145 years to the Alder, and 130 years to the Elm. The heart of the common Oak commences to decay at about the age of 300 years.

— GINGER CULTIVATION IN JAMAICA.—Mr. W. Faucett, Director of the Public Gardens, Jamaica, has made an admirable report on the collecting and curing of ginger in Jamaica. According to "Meehan's Monthly," it appears that very much of the value of ginger depends on the method of curing. After being scraped it should be kept from dampness, and be exposed to the hot sun until hard. The slightest mildew will injure it, and if put away spongy it is likely to mildew. The best ginger is prepared late in the season when there is constant sunshine. When dug the roots are at once scraped and peeled with thin knives especially imported, and known as ginger knives. They are then washed once or twice, and turned out on mats to dry. Some varieties are said to be better than others. The best ginger brings profitable prices. Poor ginger hardly pays. It is said that there are two distinct forms of the plant, one producing what is known as yellow ginger, and the other blue ginger. The yellow is regarded as being the best. A ginger patch has to be planted every year. They commence planting at Christmas time, and continue until March and April; from thence to December it is being harvested. Small pieces of the root-stocks are planted in the same manner as we plant Potato sets. In judging ginger, the more brittle it is the better the quality, and yet care has to be taken to keep it from being broken, which depreciates its value. Lime juice is often used in washing the roots to make them look whiter, which insures a better price, but the quality of such ginger is said to be inferior. Ginger is one of the principal paying agricultural crops in Jamaica.

— MUSCATS AT LONGLEAT.—Through the courtesy of Mr. Trollope I had the privilege of looking through the Longleat Gardens a few days ago, the primary object of my visit being to see the Grapes in the large vinery. I have many times seen Grapes from this house on the show boards, but I have never before had the opportunity of seeing the Vines. It is a well-known fact that Longleat has for many years been famous for its Grapes, and that reputation is still maintained as is at once apparent by a look through the vineries at the present time. The first compartment I entered had been cleared of its crop, the next

compartment being all Muscat of Alexandria, except one rod of Gros Colman at the end of the house. Finer Muscats I have never seen. I do not know how many bunches were hanging on the Vines, but it looked to me a heavy crop. Many of the bunches were large and handsome, the others being medium sized, and upon a close examination every berry seemed to be perfectly finished, being of a beautiful amber colour, and not a spot on them. When we remember that we did not have much sunshine through July and August, it would seem that Muscats do not require so much sunshine to colour them as some gardeners think they do, and I noticed that these Grapes were carrying a good deal of foliage over them. This seems a case in support of what Mr. Iggulden wrote in a leading article in the Journal a few weeks ago respecting the colouring of Muscat of Alexandria.—R. MORSE.

THE ACHAN PEAR.

FRUITS of this distinct Pear have been sent to us from Ireland, and a correspondent from the north of England "wants to know something about a Pear called Black Bess."

The Achan and Black Bess are identical, and we cite what Dr. Hogg has written about this Pear in his *Fruit Manual*.

"Fruit, below medium size; turbinate, but frequently also of an obovate shape when grown to a large size, flattened at the apex. Skin, greenish yellow on the shaded side, and strewn with grey russet patches and dots. On the side next the sun it is of a dull brown ferruginous red, covered with large grey russet dots or freckles. Eye, large and open, with broad dry reflexed segments, and slightly depressed. Stalk, an inch long, obliquely inserted under a large prominent lip, and surrounded with thin russet. Flesh, tender, buttery, juicy, sugary, with a rich and aromatic flavour.

"A Scotch dessert Pear of first-rate quality; ripe in November and December. The tree is a very abundant and regular bearer, particularly when it has acquired age.

"The description here given is as the fruit is grown in Scotland, where it is justly reckoned one of the finest, if not the finest, winter Pear; but, singularly enough, when grown in the southern counties of England, it loses entirely its good properties. It is evidently one of those fruits that require to be grown and ripened gradually, for in the south, where it acquires much greater dimensions than it does in the north, the flesh is pasty and insipid, and the fruit does not last beyond the middle part of October. I have seen this variety grown in some of the cold and exposed parts of England in great perfection, as from Delamere Forest in Cheshire, and some parts of Yorkshire.

"Now that so many new varieties of Pears have been introduced of late years, our northern gardeners are not so confined to the Achan as their ancestors were, and it has now to encounter many a formidable rival. But the time was when this variety was with them the very ideal of a winter Pear, to which nothing could even approach. Some years ago, before the railways were in existence, a Scotch gardener of the old school set out from a northern port by sailing-smack on a visit to London. Being a man in easy circumstances, a little adventurous, and of an inquiring mind, he wanted to extend his knowledge and see how gardening was managed in the south. This good man was one of the old school even in those days, and had formed his own notion of things. His attire consisted of the time-honoured blue coat, with large yellow buttons, yellow waistcoat, and his nether garments and leggings were drab. He carried a stout umbrella, which, like himself, was inclined to corpulency. Among the places he visited was the Chiswick Garden of the Horticultural Society, and, being in the autumn, he was introduced to the fruit-room. His attendant showed him all the new Pears, which at that time had not long fruited in this country. He tasted first one and then another, but none of them in his estimation could approach the Achan. He was assured that they were infinitely superior to that variety, and that in the south it was not of any account. Still he insisted there was no Pear like the Achan. Beurré Diel, Beurré Bosc, and even Marie Louise, were all tried in succession, but the invariable reply was, 'There's nane o' them like the Achan.' At last a fine showy fruit of bright yellow colour and a glowing red cheek was presented. 'What ca' ye that?' said our friend. 'That's the Achan,' said the attendant. This *argumentum ad hominem* seemed too much for him, as he stared at his informant in blank astonishment; but he was not to be driven from his position, and, with an indignant assurance, he replied, 'Na, na, that canna be oor Achan.'

"I have never been able to trace the origin of the name of this Pear but I have no doubt but that it was introduced into Scotland from Norway at a very early period. When it is considered how close the relations were that existed between Scotland and Scandinavia, there is every reason to believe that this is its origin. I am strengthened in this belief from having seen it at the International Fruit Show of 1862, in a collection from Norway, under the name of Bouchrefin.

"The variety that is grown in some parts of Scotland under the name of Grey Achan is the Chaumontel."



CHRYSANTHEMUM FRANK WELLS.

AMONGST the many Chrysanthemums which have already figured as novelties of the year is Frank Wells, a bloom of which is depicted in the illustration (fig. 56). This is a Japanese variety raised, we understand, by Mr. W. Wells, The Earlswood Nurseries, Redhill, and by whom it was exhibited at the Drill Hall and Royal Aquarium last week. It is a fine variety when seen at its best, and is worthy of the award of merit adjudged for it by the Floral Committee of the Royal Horticultural Society on the 9th inst. The bloom is large, of a good form, and a delicate silvery pink colour, lighter in the centre. The plant appears to be a dwarf grower and of a robust constitution.

PROMISE OF CHRYSANTHEMUMS.

ALL persons interested in Chrysanthemums will now be making preparations for the annual feast of the golden flower. In less than a month from now we shall be in the thick of the fight—those of us who contemplate a tour of the exhibitions; those who do not purpose “doing the shows,” and who are not what can fairly be termed large cultivators but admirers of the flower in all its phases, would like to know what is the promise for the coming season. I look upon the prospect most hopefully. Although the weather has not been so intensely hot and dry as that of last year, on the whole it has been favourable for the growth of Chrysanthemums. I doubt not but that in a few instances we shall hear complaints of the wood being “soft” where the best cultural conditions have not been made the most of, and opportunities have been lost that might have been placed to better effect.

Much of the grumbling about the weather no doubt has a foundation to begin with, but when we see persons cultivating two plants where only one ought to stand, surely this is not the fault of the weather, but purely a want of that supervision and knowledge so desirable to combat difficulties when they arise. I had a striking instance of how a cultivator's plants may be in a condition to be termed “soft” not long since placed before me. The usual double line of plants was growing at the sides of a path in the kitchen garden. An Apple tree somewhat encroached over the path in one particular spot; the Chrysanthemum growing under the shade of its branches presented a different appearance all the time it was there as compared with the rest. Instead of it following suit in the ripening or maturation process, toward the end of September, like the rest, the stems and leaves of this particular plant were distinctly “soft” at housing time. I prognosticate that this plant will give blooms wanting in the customary depth and solidity. I record this fact as an illustration of how many collections of plants do not receive that treatment which is desirable in the matter of space during the long growing season. When the plants are cramped for room their wants cannot be supplied by sun, air, and wind in the same manner as is requisite. Complaints that we shall doubtless hear will come from those persons who do not give their plants a real chance, but expect them to give the same result as those which receive the correct treatment as regards space. The bright sunny weather that we are now experiencing will assist materially in developing the opening blooms.

Many plants in various collections which have come under my notice, and that are cultivated for the production of large blooms—whether for exhibition or home decoration it matters not which, the cultural requirements are just the same—show a tendency to lose more leaves prematurely from their main stems than I should prefer to see. In several instances this is distinctly traceable to mildew and insect pests, and is directly the result of not applying the usual remedies early enough for the destruction of this fungoid growth and the multiplication of aphides, especially that commonly known as black fly. Earwigs have made sad havoc of leaves and tender buds where they were allowed to have free sway. Where the usual bamboo canes or bean stems were set as traps the damage committed has been of little consequence. To show how numerous they have been, I saw sixty of these busy night marauders ejected from a single trap of the former construction one morning. What with the adverse weather, the insect pests, and the premature bud formation which some varieties have indulged in, I may say unmercifully, Chrysanthemum cultivators have had much to occupy their thoughts and time as well of late. Still in spite of these draw-

backs, those who attended diligently are within a short distance of reaping the sweets of victory.

Premature bud formation has been to many persons in the south of England a continuous source of trouble and anxiety this season. Many plants of the Queen family have been most persistent in bud formation at a time when growth would have been so much more desirable. Then that awful frost of May 20th and the succeeding night also crippled the points of many plants that were being grown to assist in winning cups and other valuable prizes. If the Queen and her family of sports do not acquit themselves upon the exhibition table as well this season as in others now past, I for one shall know the reason why. This bud formation is a peculiarity in some gardens. It sets one thinking that a radical change is necessary in preparing the plants to give cuttings the November and December previous.

The best preparation I can suggest is indeed a radical one—viz., that of burning the whole stock, and making a fresh start with cuttings taken from plants growing out of doors unprotected, or cultivated in any special way, but just allowed freedom from sulphate of ammonia, nitrate of soda, and the various other chemical manures. This would be a drastic change no doubt, but I think an efficacious one.

Taken as a whole, I think the plants have not attained to so great a height this season as in some. There are exceptions I know which certain varieties supply, but on the whole the tendency is to a dwarfer habit of growth, brought about by careful hybridisation in the procuring of new kinds. When we see Avalanche employed as a seed parent, and the result is superior blooms even to that favourite, and obtained from plants 1 foot less in height than that variety itself grows, who will say this is not a step in the right direction?

Last season was a prolific one in new varieties, especially in the Japanese section. This year will see many additions to an already long list, and many that will add increased interest and value to the exhibitor. Duchess of York is an instance of progress. Not only have we in this a massive example of a Japanese Chrysanthemum, but one possessed of much refinement. Such varieties as Louise, Kentish Yellow, Charles Davis, Souvenir de Petite Amie, Viscountess Hambledon, and International, all of a dwarf habit of growth, and which are new or nearly so, will assist the exhibitor of groups by their large and refined flowers upon dwarf plants. Such sorts as those quoted are indispensable to such an exhibitor, and equally so to those in the cut bloom classes.

Taken altogether I regard the Chrysanthemum season of 1894 as being at the present time quite as promising as many of its predecessors. In the following issue I hope to make a few suggestions for the benefit of exhibitors, judges, and all connected with the coming Chrysanthemum exhibition season.—E. MOLYNEUX.

A NEW CHRYSANTHEMUM SHOW AT WOOLWICH.

THE first autumn show of the Woolwich, Plumstead, and District Horticultural Society will be held at the Drill Hall, Beresford Street, Woolwich, on November 8th and 9th. A schedule comprising some fifty classes for Chrysanthemums, fruit, and vegetables, has been compiled, and the prizes offered should bring forth a good display. We are requested to say in connection with this, that exhibitors of groups of Chrysanthemums at this show will have their expenses paid, if desirable.

CHRYSANTHEMUM MRS. E. G. HILL.

MR. W. J. GODFREY, The Nurseries, Exmouth, sends us a bloom of the above-mentioned variety. It is an incurved Japanese kind, said to have been imported from America, and is an undoubted acquisition. The bloom is large, of good form and substance, and a distinct delicate colour, the florets being a pleasing shade of clear silvery pink. Mr. Godfrey says, “It is a good ‘doer’ in every respect, and is one of the finest varieties of recent years.”

GOLDEN WEDDING.

I HAVE been much interested in and hope edified by the correspondence on the above-named variety in your most instructive weekly. I am sorry, however, I have to go in with the majority of your correspondents, and say that Golden Wedding has behaved in exactly the way described by Mr. E. Molyneux. I wish to thank him heartily for giving us the benefit of his experience so readily. Until I read the correspondence in your issue of September 20th I could not think what had affected the plants. I hope we may be enabled to trace the cause of and then find a remedy for the disease.—ROBERT PATERSON.

SEMI-EARLY OR OCTOBER CHRYSANTHEMUMS.

BY far the larger portion of the best flowers exhibited at the last Floral Committee meeting of the National Chrysanthemum Society were new French varieties. Out of those certificated Souvenir de Petite Amie, Madame C. Molin, and Commandant Blusset were raised by Mr. Ernest Calvat. T. H. Denis, also certificated, was raised by M. Crozy. Other

French varieties submitted at the same meeting were President Armand, Petit Délaux, Prefet Robert, Marquise d'Aiquesvives. In the exhibitors' stands the following good French novelties were also staged in a highly creditable form—Madame C. Molin, Mdle. Thérèse Rey, President Borel, Mrs. C. Harman Payne, Madame Edouard Rey, Louise and Van der Heede.

Varieties of American origin, of which there are large numbers on trial, were not so freely represented, but may be expected later. I only

Whilst it greatly redounds to the credit of growers that from precisely the same sorts as give them the exhibition blooms of November they can have almost as superb flowers in October, I do not think anyone will venture to plead that we do not want such blooms in October. That September is early, because then we have a wealth of other flowers, there can be no doubt. October is, however, well into the sere and yellow leaf of autumn, and fine blooms will sometimes keep better then than during the fogs of November. Of course there are exceptions, as



FIG. 56.—CHRYSANthemum FRANK WELLS.

noticed in the best form Eda Prass, Mrs. E. W. Clarke, W. Tricker, and W. H. Lincoln. Of English raised kinds C. Davis, William Seward, Edith Rowbottom, G. C. Schwabe, Frank Wells, Miss Dorothea Shea, and Charles Shrimpton were the finest and best.—P.

As a distinct section I think it must be now admitted that these do not exist. Certainly the recent show at the Aquarium tended to dissipate any such suggestion. What is now found at an October show, or of fine blooms of any sort, are simply early ones of those varieties that are found in bloom under certain ordinary conditions in November. It is just as well it should be so, because it is evident that we have no need for any further or separate early blooming section.

just lately we had some most wretched, damp, dull weather. Still blooms seem to have withstood it wonderfully well, and certainly better than they would have done under similar conditions in November. It is a good thing that our season of fine blooms now, by taking the early buds of some plants, can thus be made so much longer.—A. D.

BIG CHRYSANthemUMS.

It is perhaps rather early yet to comment upon big exhibition blooms; yet as a visitor to the recent October show of the National Chrysanthemum Society at the Royal Aquarium I could not help noticing what a large number of very highly developed flowers were staged. It was curious how little the exhibits varied in the kinds that

were staged. There was certainly far less variation than might have been expected, and on the whole, early as it was in the season, the competitors may be congratulated upon the excellent quality of the flowers. Most of these were of very recent introduction, and the largest and most attractive of them appeared in almost every stand. Among white Japs were Madame C. Molin, Mdle. Thérèse Rey, and Utopia. In blush and pale pink varieties, Louise, Eda Prass and Frank Wells. In brighter pink or rosy amaranth shades there were some fine examples of President Borel, Mrs. C. Harman Payne, Wm. Tricker, and in yellows and bronzes Miss Dorothea Shea, Charles Shrimpton, and W. H. Lincoln.—P.

MUNICIPAL CHRYSANTHEMUM SHOWS.

It is surprising how much the liberal action of the London County Council in enabling such splendid shows of Chrysanthemums to take place in the largest of the London parks under that body's control has whetted the appetites of residents under other municipal bodies for similar displays of the people's flower. I was talking recently to a gentleman here in Kingston who lamented that we had neither a summer flower show in the district, nor a good florist who could offer something in a floral way for the public to see. That is very true, and it is as much to be deplored as it is remarkable for so populous a residential district. But I could not help going farther and pointing out, in spite of the fact that we had here in Kingston a very fine Chrysanthemum show in November, yet the Chrysanthemum was in the immediate locality apparently poorly grown and represented.

All the finest exhibits at the annual show come from a distance, and one of the best local growers, Mr. Woodgate, leaves a greater void by his departure than before existed. Still farther the show is so filled with small classes that have little of interest in them after the best blooms from outside growers have been seen, that there is no room whatever for the trade growers to show off their best novelties. Why these people should settle down in such out of the way places as Maidenhead, Earlswood, and Lewisham, it is hard to understand; but one of their great shows in this locality, such as they have at home, would be visited by thousands of persons during the season. Would that our municipal authorities were to provide a show house in which sometimes one trade grower and sometimes another could make an annual display. What a wonderful impetus would thus be given to Chrysanthemum culture.—A. D.

LONDON CHRYSANTHEMUMS.—BATTERSEA PARK.

WHILE it would be preposterous to suggest that Chrysanthemums are better grown in London than elsewhere, still it may be affirmed that the annual shows of them in the Temple Gardens for many years, and more recently in some of the London parks, have had enormous influence in increasing the popularity of and extending the cultivation of the autumn town and country favourite. The Temple Chrysanthemums are not so forward as some others, and the show did not open till the 18th inst., whereas the "Chrysanthemum house" in Battersea Park was opened to the public on the 7th inst., and is now extremely gay.

This structure is a lofty span-roof, 100 feet long by 24 feet wide, Palms and other tall plants being preserved in it through the winter. As showing the attractive power of Chrysanthemums 5000 persons passed through the house on the first Sunday it was open, and 50,000 may be expected to visit the show before its close.

The plants are arranged in banks on each side the central path, some being also trained up the rafters of the roof at intervals, so as not to unduly obstruct the light. The collection includes about 3000, amongst which most of the leading varieties are represented. Only the earlier forms are in bloom now, and these, as might be expected, chiefly Japanese, though there are a few incurves among them, also a fringe of Pompons. The fogs of last week cut short the beauty of some of the blooms, but the majority are remarkably fresh and bright, or pure and clean.

Mdile. Thérèse Rey, White Louis Boehmer, Elaine, Madame Lacroix, Bouquet des Dames, Duke of Berwick, and Mdle. Marie Hoste, are some of the light varieties, which, with the primrose yellow of Mr. C. Shea and Amos Perry, and the bright W. H. Lincoln contrast effectively with the deeper colours of Edwin Molyneux, J. Shrimpton, W. Holmes, W. Seward, President Borel, and Mons. R. Bahuant, while there are large blooms of the rosy L'Ami Etienne looking down from the roof. The deep green foliage free from mildew or rust displays the flowers to the best advantage, and denotes good cultural care.

The chief difficulty that London growers have to contend with is the confined space for growing the plants in summer, and the consequent exclusion of sun and air, as compared with country districts. Bearing this in mind the growers acquit themselves, as a rule, most creditably. The plants at Battersea Park are certainly a credit to all concerned—the London County Council, Mr. F. Coppin, the park Superintendent, who has controlled their cultivation, and Messrs. James Wheeler and John Hall who have attended to them well.

CHRYSANTHEMUMS AROUND LIVERPOOL.

THERE appears to be a promise for good blooms around Liverpool. Some are, perhaps, a trifle later than in former years, whilst in many of the newer ones the buds have been "missed" through an imperfect knowledge of their requirements. Considering the high price of some of them I think there might be more information supplied by raisers to purchasers. Golden Wedding has been just as precarious here as in other parts of the country. Various causes are assigned, such as dull,

damp weather, and a poor constitution caused by over-propagation, but I believe it to be the cause of some fungus such as infests the Tomato, for in addition I have lost several handsome plants of Violet Tomlin, Golden Empress, and Mons. R. Bahuant, all of which displayed the same symptoms. In the neighbourhood there appears to be a growing desire to pinch the Queen family in March, or resort to late propagation, the general opinion being that more shapely flowers with broader petals are gained.

At The Hollies, Woolton, Mr. Vaughan, an old Sheffield exhibitor, intends again to be well in the front rank, his plants being indeed promising. The incurved section are grand throughout, more especially the Queen and Princess types. The former with Lord Wolseley and Prince Alfred he thinks will be much the best from plants stopped in March. The Japanese kinds are equally good, the best being Charles Davis, Vivian Morel, Mdle. Marie Hoste, Mrs. Harman Payne on fourth bud, handsome in colour; E. Molyneux, Wm. Seward, Charles Blick, Florence Davis, Mrs. F. Jameson, Boule d'Or, Colonel Smith, G. C. Schwabe, and Mrs. E. D. Adams. Of newer ones Eda Prass, Princess May, Miss Dorothea Shea, J. P. Kendall, and Mdle. Thérèse Rey are the best. Anemones and reflexed are showing well. Over 300 plants are grown for exhibition purposes.

Mr. Haigh, who has won honours at York and elsewhere, has 500 plants arranged in six houses at Highfield, Woolton. The Japanese varieties occupy three of them. All the old varieties are splendidly represented. Newer varieties opening well are Princess May, Madame Octavie Mirabeau, Robert Owen, Mrs. Harman Payne (grand colour on fourth bud), Golden Gate, Madame Cambon, a large and very much improved Comte de Germiny, and Louise, the latter being one of the finest Japanese incurved at present, a large bloom with broad florets of a soft pink shade. Mr. Haigh has lost quite half of his plants of Golden Wedding, which he thinks might have been caused by the wet weather in July and August. Wm. Seward is damping and scorching badly, and Princess Victoria, as in many other places, is too late. The Queen varieties occupy another house, and are very fine, the best results being from March-stopped plants. Vice-President Jules Barigny is very little thought of. "Princesses, Heroes, and Tecks," as they are familiarly known, take up another; another small house of the useful early sorts bringing up a handsome collection.

Although not an exhibitor Mr. Cromwell of Cleveley, Allerton, cannot be left out, for the handsome corridor, filled with some 600 plants when in full bloom, is one of the sights in the district. At present it is occupied with 150 plants of three varieties—viz., Bouquet des Dames, Gorgeous, and Mons. Wm. Holmes, white, yellow, and scarlet, and to those who want to fill up a gap until the larger varieties come in there could not be found a better choice. As in other cases it would be useless to mention older varieties, as they are all doing well, but in newer kinds Eda Prass, Mrs. G. Dittrich, Miss Dorothea Shea, Colonel Chase, Kentish Yellow, The Tribune (which must supersede W. H. Lincoln), Waban, and Viscountess Hambledon are all remarkably good. Golden Wedding failures Mr. Cromwell thinks constitutional. Throughout the incurved section is admirable, here again the best blooms appearing on the March-stopped plants. I shall notice the corridor later on.

This season Mr. George Eaton of Allerton House has 350 fine, strong, and promising plants, being certain, as in past years, to prove himself a very formidable opponent. For several years he has been practising stopping the Queen types in March, but never with such a promise of success as this year; in fact, the incurved varieties throughout are of superior quality. All, or nearly so, in the Japanese section are well timed, the best new ones being Le Prince du Bois (which ought to be exhibited by him in perfect condition), Robert Owen, Madame Cambon, Mdle. Thérèse Rey, and President Borel. Of older varieties nothing but praise can be bestowed. Reflexed varieties are showing well.

Another persevering and successful exhibitor is Mr. Jno. Edwards, Allerton Beeches, his number for exhibition being over 300 plants. He is perhaps somewhat later than some of those mentioned, the Queen race having good shaped buds, free from scales. The buds on the Princess type, even though the wood does not look what would be called "ripened," are of excellent shape. In this section Mrs. W. Peto, Mr. J. Kearn, Sir Titus, Lord Rosebery, and Vice-President Jules Barigny are showing well among new ones. Percy Surman, which was sent out as an incurved, appears at present more like a Japanese flower. From appearances there are certain to be some grand Japanese. Robert Owen, Beauté de Toulousaine, Mrs. Grey Hill, H. Shoesmith, Duke of York, Mdle. Thérèse Rey, Miss Muriel Scott, Colonel Chase, Cecil Wray, Rose Wynne, President W. R. Smith, Madame Calvat, Madame Edouard Rey, Thomas Wilkins, Miss Dorothea Shea, and The Tribune are the best of the new ones. Mr. Edwards cannot account for Golden Wedding, one strong shoot having gone since housing.

Mr. Healey, Hillside, Allerton, who always shows well at Liverpool, has 200 very promising plants, the incurved being represented by clean healthy buds, Baron Hirsch, Madame Darier, and John Salter being specially good. In the Japanese he has at present by far the best Lord Brooke as yet seen. Robert Owen is also good. Others likely to be of great service are Waban, Mdle. Thérèse Rey, Beauty of Exmouth,

Princess May, and Mrs. Harman Payne, which, with other old standard sorts, should lift him immensely on the exhibition table.

Mr. Bracegirdle, Elm Hall, Wavertree, has grown 300 plants for exhibition, and famous as have been the exhibits here in days gone by, they ought to be none the less under the present able management. The Princess types are exceptionally good in comparison with others, so are the Queens, Brookleigh Gem, Madame Frederic Mistral, Alfred Lyne, and Baron Hirsch. The Japanese are showing fine buds of much promise, particularly good being Mrs. Harman Payne, Excelsior, Charles Davis, Golden Gate, Miss Dorothea Shea, Mdle. Thérèse Rey, Mdle. Jeanne Rey, Waban, Lord Brooke, and Robert Owen.

We have this season about 320 plants grown for exhibition at Blacklow House, Roby, and they are looking well in every respect. All the Queen family are promising, having been propagated late, and the majority of the plants pinched in March. Baron Hirsch, Mrs. Jno. Gardiner, Lord Rosebery, Mr. J. Kearns, and Mrs. W. Peto are good amongst the new ones. The Princess types and Tecks are in excellent time. The newer Japanese contain many good varieties, though some are rather late. Rose Wynne, Wm. Bolia, W. H. Atkinson (which promises to be very fine), Primrose League, Robert Owen, Mdle. Thérèse Rey, Mrs. E. D. Adams, Lord Brooke, Miss Dorothea Shea, Duke of York, Mrs. Bruce Findlay, Cecil Wray, Chas. Blick, and Miss Sylvia Shea are the best at present; Auemones and Reflexed are good also. Next week I hope to visit some of the older exhibitors, but who are yet invincible at exhibiting, and shall probably obtain some information regarding the ripening of Chrysanthemum wood, and whether the full sunshine is detrimental to their flowering or otherwise.—R. P. R.

THE ABNORMAL CROP OF PEARS, 1894.

[A Paper read at the Horticultural Club, October 9th, 1894.]

THE cause of the unusual crop of Pears this season is not far to seek. Pears did not carry much fruit in 1893, and the exceptionally dry and warm season ripened the wood thoroughly, while the autumnal rains plumped up the fruit buds and completed the laying up of organic forces, and the trees were prepared to do their best. They were somewhat early in bloom, and thus escaped the severe frosts that occurred while the Apples were in blossom, and as for the most part the blossoms are pendent, the stigmas were less exposed than Apples. Thinning had to be seen to very early, and many of our trees required nine out of ten of the fruit which had set to be removed at the first thinning, and twice since that they have been gone over.

The very cold nights and wet days of May and June caused many to drop, as they were unable under these conditions to progress, and it is noticeable that the fruit near the ground was much affected by spot (*Cladosporium dendriticum pyrinum*). This fungus hardens the skins, and when the fruit swells it cracks and becomes useless. It is evidently risky to try and grow such Pears as Easter Beurré, Bergamotte Esperen, Glou Morceau, Passe Colmar, Winter Nelis, Beurré Bachelier, and Beurré Diel, while Beurré d'Amanlis, otherwise than on a wall, even in our favoured part of England, has not been good this year. On the other hand we attribute the clean handsome fruit of the late sorts, viz., Duchesse de Bordeaux, Doyenné d'Alençon, Marie Benoist, Beurré Du Buisson, Josephine de Malines, Olivier de Serres, Passe Crasanne, Beurré d'Anjou, President d'Osmonville, and Brown Beurré, Baronne de Mello, and Duchesse d'Angoulême among autumn Pears are unusually clean, thanks to the well ripened wood of 1893. It is evident we ought to thin out the branches of our pyramidal and espalier Pears in the open more than we do to get high class fruit on these trees, and we must not be led away by the fine examples of such a year as 1893, when the tender Pears were superb in quality if somewhat out of season, for the kinds which ripen after Christmas were mostly over by November.

Taken as a whole, the season of 1894 has been unfavourable to the production of clean, handsome, large Pears, and it may probably be well to note those that have been good this cold, wet season. These were:—Beacon, a really good fruit, led off the season. This is a remarkable bearer, and if not left on the tree too long is quite fair as regards flavour. Clapp's Favourite has been large, clean, and handsome. Williams' Bon Chrétien has also been large and good, but rather spotty, and in beauty cannot approach Dr. Jules Guyot, which is gaining favour rapidly as a market fruit. Petite Marguerite will be one of our best August and September Pears. It is of Bergamot shape, and very sweet and pleasant. Fondante d'Automne is not so large as usual, but as good in quality as ever. Pitmaston Duchess is very large and good. This monster Pear is much improved in flavour if it is gathered before it is quite fit and laid by. Beurré Hardy is grand this season, and the crop is the heaviest we have seen. The clean fruit of this variety from California in the shops in September were remarkable. Louise Bonne and Marie Louise are not so good as usual, the weather being too wet and cold for these sorts. Our favourite Pear, Emile d'Heyst, is finer than ever. It is a pity people do not plant this in place of Marie Louise; its pleasant acidity would be greatly appreciated. Maréchal de Cour has the best crop ever seen, and the perfumed flavour of this kind will always make it welcome. It does well on the Quince in cold soils. Beurré Bosc is not bearing well this year. An orchard tree has a quarter of a crop, but the fruit will be small. Beurré Jean Van Geert is very handsome, and a free bearer, not yet ripe. The

red flush on the sunny side will be admired on the dessert table. Beurré Superfin is small, but a good crop. This may be called an improved Marie Louise. Doyenné Boussoch is very fine on pyramids, and quite clear and good. Doyenné du Comice has rather irregular fruit owing to the season, but a good crop, and will yet grow to size.

Among the new Pears which have been good are Marguerite Marrillat, a monster fruit, ripening in September; of delicious flavour, melting, and altogether A1, and will take a high position. It bears freely and grows grandly. Beurré Mortillet is another very fine kind, ripening in September; of an unsightly shape, being, so to speak, like a Malta Fig, and generally one-sided, but superfine in flavour. Rivers' Conference is a grand bearer, and the long russety fruit is most elegant, while the flavour is very fine; the habit of the tree is perfect, and it will certainly rank A1. Beurré Fouqueray makes a fine cordon, and is giving us a little fruit, but not yet ripe to report on. It is hardier than Beurré Bachelier, and will probably supersede it. Triomphe de Vienne is again grand; an enormous bearer, and of fine quality, juicy, and very handsome, being long and russety. Comte de Chambord is a fine bearer (on Pear stock only) of the Swan's Egg type, very rich, and of Bergamot flavour. Beurré Baltet Père is again grand; it ranks A1 for a close-growing kind, and is large, juicy, and good. Fondante de Thirriott has enormous crop of clean fruit; a grand, little known Pear for November. It should be borne in mind that my remarks refer to Pears quite in the open—i.e., not on walls or fences or under glass culture, as for all practical purposes this is the largest culture. Another reliable Pear for general culture is Belle Julie, small, but a great bearer, and of first-class flavour. Stewing Pears are all good, but the very large sorts—Grosse Calebasse, King Edward, General Todleben, Beurré Clairgeau—are scarcely so fine as usual.

A host of better known Pears has necessarily been passed over, but it is probable that we may be years before we see fruit of such a large collection. About 200 kinds have fruited this year, and we shall be able to gain much useful information when they have all been tested. We feel no doubt that, good as the 1894 crop is, we owe it more to the sun of 1893 than to any weather we have had this year. We are fruiting several novelties which may be noticed hereafter, but as a general rule planters cannot do better than keep to the varieties which are now named, as if good in a cold, sunless, and wet season, they will be grand when old father Sol is more propitious. For the poet truly says of him:—

"Hail! Life-giving soul of creation
* * * * *
Source of Fertility, Diffuser of Radiance."
* * * * *

As may be expected the Pears on the water-loving Quince stock have come to the front this year, while the same kinds on Pear stocks show many spotted leaves, but on both stocks they appear to have made ample provision for next season's fruit.

A word as to orchard Pears. Generally the crop has been enormous, and low prices have ruled. We sold 50 to 60 bushels of Hessel on the trees for 25s., for the town dwellers will have cheap Pears, and wise growers will severely thin the boughs of their trees as soon as picked, or they will not get a return for many years after the trees have endured such a strain.

Before concluding this skeleton paper our hearers may be as surprised as the reader to learn that in an old book (1650) entitled "The Spirituall Use of a Garden of Fruit Trees," the writer recommends grafting the Quince on the Pear stock for standards; while in another ancient book (1757) "Eden, or a compleat book of Gardening, by John Hill," p. 514, of which we possess a complete folio copy, the author states that, "The Quince stock agrees very well with Pears, and should be chosen for those kinds which are melting." He also recommends it for espaliers and bushes, and this agrees with our practice to-day, as the gritty and crisp Pears are not so satisfactory on the Quince stock. The practice of working Pears on the Quince would therefore appear to be more ancient than is generally supposed.—GEORGE BUNYARD, *Maidstone*.

CATALPAS AS ORNAMENTAL TREES.

ALTHOUGH so badly crippled by the May frosts seldom if ever before has such a display been seen as on Catalpa trees generally, and during their flowering period they certainly afford an ornamental aspect to the pleasure ground or park when in a thriving condition. Many plants and shrubs possessing less beauty in their flowers claim a place in the conservatory and greenhouse, and the wonder is the Catalpas are not more frequently planted where specimen trees are appreciated on the lawn. Standing alone or in company with evergreen trees of large size, not too closely adjoining, the foliage of the Catalpa is very striking, both on account of its size and delicate shade of colour. The trees are very late before starting into growth in spring, and for this reason I have more than once heard it repeated that when these trees unfold their leaves it may be considered safe to commence the summer bedding. True as this might have been in some past years it was not so in 1894, as many found to their cost, tender plants and hardy shrubs being crippled most severely, and at one time I scarcely thought it possible for the trees to bloom this year at all. Very little foliage was visible at mid-June, and it is surprising that such luxuriant foliage and abundant blossom could have developed after so late a date, and seeing what extent of damage was done in May. The tree assumes a spreading more than an upright habit of growth, and is or ought to be the more valuable on that account,

because the prettily spotted flower clusters are more within easy reach and view.

The finest specimen I have seen is at Lord Justice Lopes' Wiltshire seat, Heywood, Westbury. I am unable to give any exact measurements, but I should estimate that the spread of branches would be at least 50 feet. It has been considered necessary to brace the principal branches with strong bands and chains as a protection against snow and wind storms, and the tree very naturally has a considerable value set on it by its owner, and which it quite deserves. The solitary tree at Rood Ashton, I am told, was reduced to about half its original size by the loss of a large branch a few years since, but a very good specimen still remains, and flowered very freely from the middle of August till past the second week in September. In the Victoria Park, Bath, too, Catalpas have been a feature, and there is not a doubt but that their ornamental character, as displayed in public parks, will lead to an extension in planting at the proper season in private gardens.

The hot summer of last year, no doubt, contributed very largely to the fine display that has been general this season, but it does not follow that flowering depends on such a summer for ripening the wood, because in our case the display of last year was equal to that of this one, and it is worthy the attention of planters for ornament, independent of its floral dispositions. It is a tree that anyone unacquainted with it will stay to inquire for its name, particularly during the growing season. It has an aspect quite its own, whether in foliage or a deciduous state, and is claimed to be a good town tree, an additional recommendation certainly deserving of recognition. All the trees known to me are growing in good loamy soil, well drained; the one at Heywood during some structural alterations carried out at the house some years since had a deep layer of builder's refuse put on the surface, probably over the whole space occupied by its roots, but in spite of this it is perfectly healthy, and a very fine specimen.—W. STRUGNELL.



NATIONAL ROSE SOCIETY.

WE understand that this society has arranged to hold the annual meeting and dinner at Hotel Windsor on December 6th. The exhibitions in 1895 have also, it is said, been fixed as follows:—Southern show at Gloucester, June 26th; metropolitan show at Crystal Palace, July 6th; and northern show at Derby, July 17th.

THE TROPHY CLASS—FASHION IN ROSES.

IN answer to my question as to whether he wishes the trophy class reduced to thirty-six or twenty-four, Mr. Grahame complains (page 338) that I am undecided, and that "E. M." and I will not say what we want. This seems unreasonable. We have not been agitating for a change; he has. It is obvious that it is for him to state what he wants. Speaking for myself, I want nothing, which does not necessarily imply that I would grant nothing; but there will probably be others with me in requesting Mr. Grahame to fill in the cheque before he asks us to sign it.

In his second temperate letter (page 338) Mr. W. Paul brings no evidence in favour of the change of fashion in Roses, which he alleges to have taken place. It was not that he depreciated "John" or "James," but that he said fashion had changed from one to the other. It is rather difficult, as I said before, to follow him in the four Rose forms that he mentions, as they do not correspond with those adopted by the National Rose Society.

The "expanded" would probably mean what is generally known as a "flat," of which Souvenir de la Malmaison is a type. No doubt this was once fashionable, but I thought that at that time the imbricated and high-centred forms had not come into existence.

The "cupped" form, again, is not satisfactorily defined. It would naturally, according to all analogy, mean a hollowed centre, of which examples would be found in Lælia, Anna de Diesbach, and Coupe d'Hébé. I find, however, that some look upon "cupped" as representing the outward form of the flower, and take the chalice-like outline in profile of Marie Verdier as a type. The example given by the National Rose Society, viz., Baroness Rothschild, does not answer to either of these definitions.

The "compact" is a term I do not remember to have met with other than in Mr. W. Paul's writings. It seems applicable to those with short outer petals, generally incurved, such as Madame Bravy, Monsieur Furtado, and Comtesse de Chabillant; but these appear to me to be more correctly the true "globular" forms, this term being often applied equally to flowers of different shapes.

In his large work, "The Rose Garden," Mr. Wm. Paul applies the term "expanded" to A. K. Williams and Le Havre; "cupped" to

Beauty of Waltham, Madame Bravy, Madame Gabriel Luizet, Senateur Vaisse, and Victor Verdier; and "globular" to Niphetos. These examples, taken almost at random, show that his form ideals and standards are at all events different from those to which the National Rose Society has accustomed us.—W. R. RAILLEM.

RETIREMENT OF THE REV. F. R. BURNSIDE.

EVERYONE who knows Mr. Burnside will be sorry to read this heading. Domestic reasons have made this great rosarian decide on removal from Birch Vicarage, Hereford, and with that change the necessity arises to give up the culture and exhibiting of his famous Tea Roses. What, however, is a general loss gives a rare opportunity to some few of us to obtain specimens of the finest Tea Rose plants I have ever seen, as Mr. Burnside intends immediately to disperse his celebrated collection.—C. J. G.

[We share the regret expressed by our correspondent on Mr. Burnside's retirement from the competitive arena. He is a master in the art of growing and showing Tea Roses. His blooms will be missed, but not, we hope, his presence, from the leading tournaments.]

MR. MAWLEY'S ROSE ANALYSIS.

EVERYONE is interested in reading anything on Roses which comes from Mr. Mawley's pen, and his report on and analysis of the most recent meeting at the Crystal Palace of the National Rose Society held last July, will, as usual, attract general attention. It is well to bear in mind that this analysis only professes to be of certain Roses shown at a particular meeting this year, and at similar meetings held in previous years in or about the first week of July at the Crystal Palace and South Kensington by the N.R.S. since 1886—if this be not remembered a casual reader might think that the analysis (on which, I understand, an immense deal of labour is bestowed) was one which represented the general position of exhibition Roses during the past eight or nine years, whereas it is really the position Mr. Mawley considers certain Roses in winning boxes to merit by their achievements at the Crystal Palace and similar metropolitan meetings of the National Rose Society.

But to pass from the analytical to the more practical part of the article, which is acquired from knowledge open to all of us, everyone will agree with what is said about the past year—a miserable one from a horticultural and agricultural point of view. I notice two Roses in the analysis which I think are worth a passing comment. Mr. Mawley states that Victor Hugo has been more frequently staged than usual, and being a most brilliant Rose I am pleased that so many found it as valuable at the Crystal Palace this year as I have at all times, although in an opinion obtained by me this year from eighteen of the greatest rosarians in England, of the best twenty-five H.P. Roses, Victor Hugo did not appear in the first twenty-five in that list. I have found it one of the truest of perpetuals, as it also is one of the loveliest of the red Roses. Mr. Mawley does not mention Xavier Olibo, which has been unusually good, and shown at many Rose meetings in 1894. Mr. Lindsell won the N.R.S. medal with a fine specimen at Halifax. I am glad to see a tribute paid to the merit of Margaret Dickson, a lovely flower, over which much disappointment had been hitherto experienced by English growers, although its raisers have managed to show it superbly every year. While defending the N.R.S. Committee for their new section of Hybrid Teas, Mr. Mawley rather follows in the footsteps of your correspondent Mr. W. Paul, who originated the correspondence on "New Fashion in Roses;" and Mr. Mawley says that in respect to freedom of flowering the new section of H.T.'s stands out distinct "from all the so-called Perpetuals." Might I ask whether, in this general condemnation of Hybrid Perpetuals, A. K. Williams, Charles Lefebvre, Victor Hugo, and Susanne Rodocanachi are included? If so, I am not in agreement with the writer, and I would place Viscountess Folkestone as equal to La France and superior to the other H.T.s he selects for the special advantage he mentions.

To show one of the difficulties of an analysis of the kind under criticism, which only refers to the exhibits of one meeting, I will instance the reference made by Mr. Mawley to Cleopatra. As a matter of fact, and general knowledge, that Rose was certainly up to early in July the Tea Rose of the season, and at several meetings it was superbly exhibited; and in support of this statement I would especially instance the Roses staged by Mr. Benj. Cant at the Colchester meeting, and by Mr. Burnside at Windsor, which gained N.R.S. medals for those gentlemen; but at many other places this Rose was shown in superb form this year, and made a distinct advance in position.

Madame Isaac Pereire should be so spelt, and not Perière. In connection with this question of spelling foreign named Roses, and also their pronunciation, I purpose shortly to send you a communication.—CHARLES J. GRAHAME.

ANYTHING in the shape of analysis of the doings of a popular flower like our national emblem must prove interesting to many, other than rosarians and Rose lovers. In common, then, with many others I desire to thank "E. M." and his helpers for their labours, collected and given to us in last week's issue. But, interesting as it must prove, I have always considered this form a misleading guide to the beginner as to the best Roses. Our seasons are of such varied character, and certain Roses unmistakably prefer particular seasons, and so appear in higher or lower positions according as they have enjoyed their peculiar season or the reverse. It may be said that striking the average destroys much of this, and so it does when the Roses have appeared in every list, but it

tells on the newer varieties which have only been out some three or four years.

I confess I do not quite understand how the average is taken. I have fancied that the numbers noted in the several years are added together and divided by the number of years that it has been in evidence. Taken this way, I am exceedingly puzzled by the table. "E. M." has specially remarked on Margaret Dickson, and certainly it is extraordinary that a Rose that only came out four years ago should have reached the position No. 7 thus early. "E. M." then tells us that it was staged in 1893 only five times. Then, according to my ideas, twenty-five for this year and five are thirty; and in order to arrive at twenty-five as its present position by average, in 1891 and 1892 together it must have been staged seventy times, which, added to thirty, give us 100—divided by four, makes its average twenty-five. But is this possible? I know I am somewhat thick in the clear, but I fail wholly to see how this average is reached, and of course if there be any error here it makes the whole table very misleading.

It is well known that certain Roses come into bloom earlier than others. The date of the show and the character of the season combined must very materially influence the position of some of the candidates. With me, for instance, Gustave Piganeau and Victor Verdier are among the earliest to blossom, and if the same thing is found by other growers the position of a Rose, vastly superior possibly to many placed in the analysis higher than it, is very materially influenced. A. K. Williams again I have found precocious in this way. I do not know the opinion of other growers; but can it be possible that many, if asked which they considered the best Rose of these three—Madame G. Luizet, Ulrich Brünner, and A. K. Williams—would place the two former above the latter?

I think I have drawn attention once before to the numbering. For instance, there are two equal at No. 7—Her Majesty and Margaret Dickson—therefore, seeing that there are eight Roses already placed, Alfred Colomb (No. 8) should be No. 9. This mistake occurs frequently, and it makes the position of every Rose below No. 7 faulty.

The past season has undoubtedly been a dropping time for Roses, and numberless blooms have been utterly spoiled, but it looks to me—at least, by the analysis—that some Roses which I have found so averse to wet have suffered less than usual. Her Majesty I should have placed as one of these, yet its position is actually third in 1894. Of the older Roses, Charles Lefebvre, Etienne Levet, and Comtesse d'Oxford appear to have made a lamentable exhibition. I should imagine the former has never been exhibited in such sparse numbers since the date of the first analysis. Amongst the Teas, Ernest Metz and Niphetos have failed most; the former has scarcely once been presentable amongst my few plants. Whites do not generally like wet, but Souvenir de S. A. Prince seems to me to withstand its influence better than any other white Tea, and I am inclined to say even better than its parent. Honourable E. Gifford surpasses it, but it can hardly be called white, whilst its form is so different, being a more open flower, and hence far less likely to be bottled up.

In the name of everything rosey, what was our friend "E. M." about in giving a select list of varieties "strongly recommended for general cultivation" in omitting Catherine Mermet? to my mind the queen of Teas, always floriferous and always beautiful! Surely this was an accident. I once heard a fellow judge say, "Oh! you can't give an extra honour to Catherine Mermet; only give it fair treatment, and there is no trouble in growing it well."—Y. B. A. Z.

EXHIBITION AND GARDEN ROSES.

IN my latest article upon this subject, contributed to the *Journal of Horticulture*, there occurs in one of its passages, relating to Mr. Paul of Waltham, a regrettable mistake. The sentence in question (page 338), should have read as follows:—"That he (Mr. Paul) undervalues the great merits of such remarkable Roses as Comtesse de Nadaillac, Horace Vernet, and A. K. Williams, which are at the present moment among the fairest and brightest ornaments of my garden, I cannot believe." As the article was somewhat rapidly written, owing to the pressure of other work, I had unconsciously omitted the words underlined.

I am glad to learn from "E. M.'s" very careful and most interesting analysis (page 333), which justly occupies in your last issue the premier place, that Mrs. John Laing, that superb production of the late Mr. Bennett, now heads the long list of Hybrid Perpetuals. I have no Rose that I find more worthy of confidence. It is extremely beautiful, exquisitely fragrant, free-flowering, and floriferous.

I am somewhat surprised to find that Grace Darling does not appear in Mr. Mawley's classified list, but perhaps, notwithstanding its beauty and fulness, it is not regarded by the National Rose Society as an "exhibition" Rose. I like it much better than Lady Mary Fitzwilliam; it, Viscountess Folkestone, and Caroline Testout are Roses that should be in every garden. As autumnal bloomers they could not be surpassed. I am gratified by the opinion of Caroline Testout expressed in his analysis by the Secretary of the National Rose Society. It is undoubtedly superior in colour to La France, and not much inferior to its parent in other respects.

When speaking of valuable garden Roses in my recent contributions, I ought to have specially mentioned the Crimson Rambler, which, however, I have in former articles very highly eulogised. It has, undoubtedly, proved itself a unique and splendid acquisition.

A pure white sport from the beautiful Irish Tea Rose Mrs. J. Wilson has originated in my garden. I recently forwarded a flower of it to Mr. Alexander Dickson, jun., of Newtownards, the raiser of the parent

Rose, who says that if it remains perfectly fixed it will prove "a decided gain to the section." I have in the meantime named it Marguerite, to commemorate the heroines of Goëthe, Gounod, and Mr. Matthew Arnold.—DAVID R. WILLIAMSON.

ARENARIA HUTERI.

THIS attractive alpine rockery plant was discovered and described as late as 1872 by Kerner, who published it in the "*Botanische Zeitschrift*" for that year. As depicted in the illustration (fig. 57), it grows to only an inch in height, is of a close habit, the stems being thickly set, and furnished with opposite and decussate leaves of the simplest type. The flowers, of the purest white, are large for the minute size of the plant, and are terminal and axillary to the upper leaves. We are informed that it flowered for the first time at Kew this year in the herbaceous department. Nothing could be better as a clothing for the foreground portions of a rockery, and the close growth of the stems and the long succession of flowers adapt it to such a purpose. Its very floriferousness is somewhat of a hindrance to its increase.

Several other Sandworts are known to cultivators. *A. balearica* is



FIG. 57.—ARENARIA HUTERI.

almost as minute, *A. ciliata* and *A. montana* are larger plants, but all of them suitable for rockwork use. *A. purpurascens*, as its specific name indicates, departs from these in having purplish flowers. The spring Sandwort, *A. verna*, has awl-shaped leaves.

A FRUIT DAY IN COLORADO.

JUST below where the Arkansas River emerges eastward from the Rocky Mountains, through the famous Royal gorge, on to the plains, is situated Canon City, a small town of 4000 inhabitants. On Thursday, September 20th, Canon City had a "Fruit Day," and a special train on the Atchison, Topeka, and Santa Fé Railroad took thither from Denver the Mayor and City Council, and a number of representative business men and officials and their wives, including my wife and myself. Excursion trains from Denver, Pueblo, Cripple Creek, and other places also took large crowds of people. In a large tent considerably over two tons of fruit was distributed gratis to all comers, while in the Opera House was a free exhibition of 1200 plates of fruit, including Apples, Pears, Plums, Peaches, Grapes, and small fruits. There were Flemish Beauty Pears weighing 21 ozs. each, Pewaukee Apples, four of which weighed 5½ lbs., Peaches weighing 10 ozs. each, and all of superior quality and flavour. Although some years ago we were in Canon City for several days, the attractions of the place proved too much for our return the same day, and, accepting the kindly hospitality of a prominent Englishman, we again prolonged our stay and spent the time in driving round the neighbourhood and visiting orchards.

Canon City has an altitude of 5268 feet, is sheltered by nearly surrounding mountains; the mean temperature is 52°, the average maximum being 68°, and the average minimum 36°. The average annual precipitation is about 12 inches, and the consequent deficiency of moisture for horticulture is remedied by artificial irrigation, by means of canals and smaller ditches from the Arkansas River. In and around the town there are over 1000 acres in orchards and small fruits, two-thirds of it in bearing, and by the close of the present season this area will have produced and shipped this year at least £20,000 worth of fruit and vegetables, including at least £10,000 worth of keeping Apples, the markets being Pueblo, Denver, Leadville, among other places. With the exception of a few larger orchards, the various holdings range from five to ten acres each, but every one is provided with a good house and out-buildings, usually of brick, and, best of all, paid for, a mortgage being

the exception. No ordinary letter can pourtray the beauty of a drive along wide, straight roads lined with these ideal homes, which are best described in the words of Mrs. Hemans:—

"Through glowing orchards forth they peep,
Each from its nook of leaves."

But there are no such orchards (for luxuriance, quantity, and colour of fruit) in England, where the climatic conditions are infinitely inferior to those of Canon. The moral and social benefit on the community of these small freeholds is most marked, and five acres of fruit at Canon pay better than many a 160 acre farm in America. Here are a few instances taken at random, with the amounts in English money, and for the information of sceptical readers the names of the growers are also given. Mr. W. B. Felton, postmaster of Canon, has a fruit farm of nine acres planted in the spring of 1881, consisting of five acres of keeping Apples and four acres of early Apples, Pears, Grapes, Peaches, and other fruits. In 1889 over £1200 worth of fruit was sold from it. From the five acres of winter Apples his receipts in 1893 (when there was a failure of the Apple crop in the East) were £1156; from the four acres in other fruits, £153, making his total receipts £1309. His total expenses for labour and marketing were £307, leaving a net profit of over £1000. His prospects this year are similarly encouraging. In 1893 Mr. J. H. Harrison sold from seven acres £970, and from a single acre of his orchard over £200 was realised.

Mr. John Gravestock, the man at whose house we stayed, is a native of the Munden Estate, near Watford, Herts. Prior to coming to Colorado he was a jobbing gardener and a helper in Pickford's stables, London. He arrived in Canon years ago with a wife, five little children, and £2 of borrowed money, which naturally was expended in a few days. He subsequently had four other children, has raised the entire family of nine, has now sixteen grandchildren. Two years ago built his present home, a two-storey, ten-roomed brick house, costing £800, and has 10 acres of orchard, vineyard, and garden all paid for. This has been done out of fruit-growing. His sons have adjoining orchards. He says that had he remained in England he would by this time have been disabled with rheumatism, and possibly in the poor-house. The writer, however, by no means advises anyone else to arrive here with a wife and little children and without money.

Mr. W. J. Davis arrived in Canon City in 1887 with £140, and purchased 8 acres of bare land for £400, paying £100 down, leaving him with £40 as working capital. He has since built a beautiful £700 home on the land, an outbuilding costing £40, and this season has bought another 5 acres of unimproved land for £300. He does not now owe a dollar, and all this has come out of the products of his 8 acres, except that in 1891 he sold two acres of it for £250. On the remaining 6 acres of his original place he has 800 standard Apple, Pear, Plum, Cherry, and Peach trees, old and young, and by the close of this season will have sold £400 worth of fruit off it. Between and under the standards he grows small fruits, utilising every foot of space, and in this way has this season sold over £80 worth of Strawberries from half an acre, £40 worth of Blackberries. Some of his Apple trees (Willow Twig and Ben Davis) have this season five barrels of Apples each, worth from 12s. to 16s. per barrel. The whole place is as near perfection as possible. So other cases might be cited, where persistent industry, good management, and practical knowledge have achieved wonderful results. It may be mentioned also that one of the oldest fruit growers in the district, Mr. W. C. Catlin, who has a magnificent orchard of 14 acres, is from near Boston, Lincolnshire; Mr. Thomas Prescott, one of the leading Plum growers, is from Staleybridge, Cheshire; Mr. T. F. Wells, who has a 10-acre orchard, mostly Pears, is from Bedford; Mr. Thomas Pennington, the proprietor of one of the leading hotels, is from Holbeach, Lincolnshire; Mr. Curtis, who has the leading dairy farm, is from Nottingham, and so on.

To show that Canon, though only thirty years old, is not in the wilderness, it may be stated that it has churches, schools, friendly societies, local newspapers, telephones, telegraph, electric lights, water works, a sewage system, manufacturing enterprises, two railroads (the Denver and Rio Grande, and the Atchison, Topeka and Santa Fé), with other institutions. There are several mineral springs (hot and cold), bearing a marked resemblance to those of Vichy, in France, and in connection with the hot spring fine bath houses and good hotel. A few miles south of Canon are vast fields of semi-anthracite coal, and the colliery villages of Coal Creek and Rock Vale contain many Britishers. The coal of this district is so excellent in quality that it finds a ready market as far East as the Missouri River 600 miles distant. A few miles east of Canon is Florence, with its quota of British people, the centre of an important petroleum district, which yields 2000 barrels per day. About twenty-five miles north of Canon is the celebrated new gold-mining district of Cripple Creek, only three years old but having already a population of over 10,000, and up the river is Leadville, formerly a great silver producer, but now rapidly attaining equal celebrity for gold. With such surroundings and the rapidly growing cities of Denver and Pueblo the market for Colorado fruit seems likely to keep well ahead of the local supply.—THOMAS TONGE, *Denver, Colorado, U.S.A.*

GARDENING METHODS—"THEORY AND PRACTICE."

THE whole working organisation of this great universe can be briefly summed up in two words—namely, "theory and practice," and it is by these two powers working in unity with each other that all inventions have been wrought and great schemes accomplished. Theory teaches us

how a certain work must be done, or problem solved, and by way of proof why it should be done so. Practice is actually the carrying of theories into effect. The theories of Euclid tell the schoolboy that certain lines and angles will form a given figure; the practical part—namely, drawing the lines and forming the proper angles, proves that such is the case. One is totally indispensable to the other. Many theories have been placed before the world which practice has failed to carry into effect, therefore the thing has become useless, while many attempts have been made without the proper methods or theories to work on, and the result has been the same. It would be useless for a builder to commence erecting a structure without having the proper plans by which he has to work, because the whole thing would soon become a mass of confusion; at the same time it would be absurd for an architect to prepare elaborate plans and designs of a structure if he had not practical workmen at his command to carry the same into effect.

The same rule applies itself to both the agricultural and horticultural world, and a gardener should endeavour to thoroughly grasp the theories and methods connected with his profession, and at the same time be able to turn these to good account by making himself competent in the practical part of his business. Natural theory will tell him what compost a certain plant will grow and thrive in, and what temperature it requires, and other particulars connected with it, then practice has its part to perform—viz., careful mixing of the soil, properly potting, discretion in watering and ventilating. All this thoroughly carried out will not fail to produce good results.

Great credit is due to the County Councils for their commendable efforts in placing within the reach of all lectures and classes for technical instruction, by which all may receive the benefit of many scientific researches which have taken place during recent years. I regret to say that in some districts these efforts have not received the support and appreciation which they deserve. I remember some little time ago attending a C.C. lecture on butter-making and farming generally on methodical and scientific principles. Seated next to myself was a farmer, apparently of the old school, so I ventured to ask his opinion of the lecturer's arguments. He turned on me with a look of infinite scorn and disgust as he replied, "What is the use of this chap coming here and trying to teach us old hands how to farm? why, I farmed before he was born!" "Undoubtedly, my friend," I replied; "but you have not proved that your method of farming is as good as his." "Oh!" replies he; "he must not think that I am going to start with his new-fangled ideas; I shall do as my father did before me."

Doubtless it is owing to this tenacity of sticking to old methods and ideas that County Council efforts in some districts have not been thoroughly appreciated, and it is for the young and rising generation specially to take advantage of the facilities that are now available. Young gardeners will do well to pay attention to the many theories connected with the different branches of their calling, as they never know how soon it may be of service to them. For instance a man may have, say, a flower garden to design and lay out; he may be an expert hand with a spade and be able to do the manual labour, but if he has not learnt the theory or method by which he must lay out the ground and form the curves and angles required for his beds, it is extremely likely he will make a hash of it. Or again a gardener may be going to plant an orchard, but before doing so, natural theory tells him that he must first drain the land, and plant a block of trees on such a side to break the force of the east wind, then carefully choose the varieties of fruit trees that will be most serviceable to him. Then comes the actual planting, and supposing all points receive attention, success is sure to follow. The question of chemical manures too, for different crops and to suit the various kinds of land, is one that is well worthy of study. How many a good crop, too, might have been saved if its cultivator had only had some knowledge of the disease with which it was attacked and been acquainted with the best method of getting rid of it.

These instances are only a very few in the vast number that go to prove that to ensure success in horticulture as in everything else, all our work should be accomplished on theory and method, and at the same time to bear in mind that it is only by sound practice that our theories can be brought into good effect. When these two powers work together in perfect harmony, and each receives the attention due to it, many difficulties will soon be overcome, and good results are sure to follow.—G. HOLLINGWORTH.

PROGRESS IN FRUIT AT MAIDSTONE.

AFTER reading what "The Senior" had to say (page 277) about our visit to Bunyard's famous nurseries, the thought occurred to me that it needed a little of my enthusiasm added to Grant's Morello Cherry brandy to galvanise the "old 'un" into action. His memory has left but few openings for me. First let me ask if he is sure of his ground when he attributes the wonderful colour of the Apples in those nurseries to the action of "phosphatic and potassic elements in the soil, traces of sulphur and certainly of iron?" A rich colour adds considerably to the value of Apples, whether these be grown for home consumption or market, and if want of colour is largely due to a deficiency in the soil of one or more of the elements named we ought to be instructed how to make good these deficiencies. I am not prepared to dispute the point with such an old campaigner, and I will only add that it is my belief that the colouring of fruits is largely determined early in the season.

Bismarck Apple is undoubtedly an acquisition, and surely it is

worthy of note that long rows of dwarf trees budded last year are to be seen in the nurseries under notice, each with a single heavy fruit resting, in many cases, on the ground. A fruit bud must have accompanied the wood bud, and the productions of both buds have not apparently militated against each other. There is no mistake about Bismarck being everybody's Apple. I like Baumann's Red Winter Reinette even better, as it is crisp, juicy, and sweet already, and keeps good for cooking or dessert till January. Small trees of this remarkably showy variety were bearing heavily. Lady Sudeley, too, is a real beauty. The fruit is very freely produced, fairly large, and are most beautifully and heavily striped with crimson, while the quality is decidedly good. Gascoyne's Scarlet is also worthy of special mention, and if my advice is taken this will be largely planted by both market and private growers during the coming season. Mr. Bunyard has his own favourites, and one of these is Golden Spire. No mistake will be made in planting this variety. I should like Gold Medal better if the fruit were of the same conical form as Golden Spire. It is a grand Apple though, and evidently the tree has a fine constitution. Hambling's Seedling promises to be a great acquisition, and should be grown by exhibitors. Then there is Newton Wonder, that should be kept in mind by planters. I thought my friend looked as if taken by surprise when Mr. Bunyard asserted that Roundway Magnum Bonum surpassed such high-class varieties as Cox's and Ribston Pippins for flavour. Perhaps he is waiting to try it; he might as well also try Mabbott's Pearmain, Brownlee's and Egremont Russets, and Ross' Nonpareil. He should also try in his garden the "Amateur's Standard" Apple trees, the stems clothed with fruit, and the heads also productive.

"The Senior" seems to have remembered the names of some good Pears, but my note-book tells me that Duchesse de Bordeaux is a grand acquisition to the list of January Pears, and the crop was enormous. Directeur Hardy, again, is well worthy of inclusion in spite of its ripening in October with so many others. It is a fine Pear. I find my notes on Beurré Mortillet much underlined, an excellent companion for it being found in Madame André Leroy. Beurré Fouqueray may be briefly described as an early form of Beurré Bachelier, and considered superior to it in every way. Marie Benoist should be grown where fine Pears are wanted in quantity early in the winter, and Durondeau is of attractive appearance and good in every way. Quite large Pear trees move admirably out of the well-prepared Maidstone soil, as shown by a long avenue of twenty-five-year-old Pear trees transplanted last autumn. They had not been disturbed at the roots for twelve years, yet there were no failures, but most have borne good crops this season, also made good wood growth.

Yes, the Damsons and Plums were grand, and of the former Bradley's King certainly does "take my fancy." Large, freely grown standards of this variety were simply smothered with fruit, the quality of which is decidedly superior to Crittenden's. As a late ripening, attractive Plum Monarch is hard to surpass, but I should say it was more of a cooking than a dessert variety—at any rate, I did not eat the whole of the fruit I tasted, though it is only fair to state it was scarcely ripe. Peaches and Nectarines, in common with Cherries, Plums, and Apricots, are largely grown to meet the demand for trained trees. So well did the Peach wood ripen quite in the open last year, that some have actually ripened fruit this season without the assistance of wall shelter.

The trial of Filberts and Cob Nuts was most interesting to me, but we had to rush through the bushes owing to having doubts of "The Senior" much longer being content to perch on a packing case. It should be added that there are very large quarters, or something like 20,000 bushes grown, and quite young, or four-branched bushes, were bearing a few nuts. Mr. Bunyard believes Berry's Early Kent to be the best variety of Gooseberry for market growers, and has raised 100,000 bushes accordingly, and there is also a grand breadth of that very fine Raspberry Superlative. Visitors to the recent great fruit show at the Crystal Palace would be able to judge for themselves of the beauty of the Apples grown under glass at Maidstone. What about the contributory aids to high colouring in this case, Mr. Senior?—THE JUNIOR.

SPRING BANK, SEVERN STOKE.

SPRING BANK, the residence of Mrs. Hunter, is situated in the Severn Valley, about three miles north of Upton, in a most charming neighbourhood, some four or five miles from Malvern, and from the rising ground in the district we have fine views of the whole Malvern range. The mansion is located in the midst of tranquil scenery, charming pleasure grounds, furnished with well-grown Coniferae, and banks and borders of brilliant flowers. On a recent visit, when the leaves of the surrounding forest trees were tinged with autumn tints, and indications of the "sere and yellow leaf" were on every hand, there was much to charm and please anyone interested in horticulture.

Spring Bank is one of those places that has not degenerated in these days of agricultural depression, and we sincerely hope its popular and generous-hearted owner will long maintain it in its present high state of perfection. The gardens at Spring Bank are not renowned so much for their vast extent, or acres of glass houses and proportionate extensive flower gardens, as for general high keeping, and as regards the glass houses and other resources, there is everything that is essential for supplying the wants of a moderate-sized establishment. There are eight good houses, one large conservatory, two ranges of heated pits, one range of cold pits, a good supply of boxes and cold frames for the

propagating and nursing of plants in various stages of growth for the embellishment of the conservatory.

In the plant houses we noticed a large and varied assortment of Dracenas, Crotons, and similar plants used for dinner-table and room decoration, all in luxuriant health. In one house there were some fine Poinsettias. Mr. Wilson is specially successful with these winter decorative plants, the bracts being not unfrequently 19 inches across, with foliage down to the rim of the pot. Another house devoted to Cucumbers for winter use and Tomatoes in pots had been previously used for Melons, of which large crops had been gathered, Blenheim Orange being the favourite. Out of many sorts of Tomatoes grown, Challenger was the most popular. In another house we noticed excellent double Primulas, both white and coloured varieties, that would supply fine masses of flowers throughout the winter, also splendid plants of Euphorbia jacquiniæflora, that would soon be clothed with wreaths of brilliant flowers.

In the early vinery the Grapes were all cut, but in the second house there were fine bunches still hanging of Muscat of Alexandria, Black Hamburg, Gros Colman, Black Alicante, and Madresfield Court. We have rarely seen finer examples of the latter variety than we saw at Spring Bank; in fact, Mr. Wilson, although not a regular exhibitor, has already taken thirteen prizes for black Grapes in succession, in open competition, and never a second. Most of the Vines in the first and second house have been planted for more than fifty years, yet they are full of vigour, and by the appearance of the well ripened wood they gave promise of fine fruit for next year. The ripened wood has that firm mahogany appearance that characterises healthy, vigorous Vines. The three large vineries has recently been filled with Chrysanthemums, and contains about 300 plants in superb health and full of promise, which no doubt they would easily perform. We need not particularise the merits of the Chrysanthemums; suffice it to say the plants had been well cared for. Those intended for large flowers are in a highly satisfactory condition, while a fair proportion is grown for cut flowers and ordinary decorative purposes. In the ranges of cold and warm pits there are large reserves of decorative plants, and in cold frames ample supplies of Watercress and Violets for a winter supply.

The conservatory is a large and commodious structure, 60 feet long and 20 wide, and is filled with a choice and healthy assortment of plants. Down the centre we noticed some fine Tree Ferns, Palms, and other foliage plants, which imparts to the house quite a tropical appearance; while on the side benches down one side the house there is a large assortment of Zonal Pelargoniums just bursting into full bloom. These plants had been standing in the open air during the summer, and the more they are baked in the blazing sun the better they bloom when taken indoors towards the end of September, when they will continue to throw up their flower spikes right on into the new year. On the cross benches at the far end of the conservatory there are some good specimens of Cyripediums, such as *barbatum*, *insigne* *Maulei*; and along the other side an unusual collection of Tydæas, which had been raised from seed during last spring. These are intermixed with Ferns and other foliage and flowering plants, which all combined to produce a charming effect.

We now pass into the kitchen garden. It is one of those spots so dear to poets and writers of fiction, where we have a blending of hardy flowers, fruit, and vegetables, and where they revel in uninterrupted luxuriance. There are broad borders for flowers; Carnations in large numbers for cutting, Montbretias and other plants, Clematis suspended in festoons, and on the other quarters the usual complement of bush fruit and Strawberries. There is a feature which calls for special remark, namely, several rows of remarkable dwarf Celery. One variety is Sutton's Al Red Celery and the other White Gem. Although not more than half the height of other rows of Celery on the same ground, yet there would be more that would be eatable in the dwarf sort, and not require more than half the trouble in earthing and blanching.

Coming to the lawn the first object of attraction is a large bed of flowers 70 yards long and 9 feet wide, planted very largely with Dahlias, of which there was a fine assortment. As we passed along we noticed fine specimens of Coniferae, including *Juniperus excelsa*, *Juniperus chinensis*, *Picea nobilis*, *Wellingtonia gigantea*, *Biota elegantissima*, *Araucaria imbricata*, and many others; beds of Yuccas and fine Aloes which had no doubt seen many generations, standing on the terrace in large tubs. Entering a secluded walk we find our way through a winding path into a rocky dell. There there is a well arranged fernery and a choice collection of hardy Ferns. We would gladly linger in such a charming spot, for there is much to admire and please the eye, and gratify the imagination.

At some distance from the pleasure grounds there is another and larger kitchen garden, which is furnished with a good supply of luxuriant vegetables for winter and spring consumption; while on the walls we observed some well trained Plums that were carrying heavy crops of fruit of such sorts as the old Green Gage, Transparent Gage, Goliah, Diamond, Washington, and other varieties. The adjoining orchard is 16 acres, and contains a good selection of the best Apples and Pears. The crops of the latter were remarkably heavy, but the Apples were rather light. Some of the best Apples are Irish Peach, Devonshire Quarrenden, Flanders, Lord Derby, Blenheim Orange, Golden Pippin, King of the Pippins, and Sturmer Pippin. Many of the best and most popular Pears are also cultivated. The orchard is as clean and as trim as any other part of the garden, and during Mr. Wilson's twenty-six

years of service he has introduced many of the best sorts of Apples and Pears into their already large collection.

The last place we visited, and not the least, was the gardener's cottage, which for size, convenience, and accommodation cannot be surpassed by any similar residence in the country. Mrs. Hunter takes very great interest in the welfare of her servants, and in her gardener in particular, and we are sure that Mr. Wilson appreciates his employer's kindness, and gives his best services in return. My brief visit was most enjoyable, and my short stay at Spring Bank will long remain a red-letter day in my memory.—QUINTIN READ.



FRUIT FORCING.

Vines.—*Earliest Forced in Pots.*—To produce ripe fruit in late March or early April the Vines are best grown in pots, as stated in a former calendar, selecting early sorts, such as White Frontignan, Buckland Sweetwater, and Foster's Seedling in white Grapes; and in black Royal Ascot, Black Hamburgh, and Madresfield Court. They should now be in position preparatory to starting them early in next month.

Earliest Forced House.—Where late Grapes are not cultivated extensively to maintain a supply to May, or thin-skinned varieties are required by April, preparations must be made for early forcing. The Vines having been pruned in September, the loose bark stripped off, the house may be cleansed, the border top-dressed, and the Vines dressed with a solution of softsoap, 3 ozs. to a gallon of water, adding flowers of sulphur previously moistened with skim milk so as to form a cream, with a fluid ounce of petroleum added, which combined form a mixture effective against Vine pests, mildew, red spider, thrips, scale, and mealy bug. To have Grapes ripe in April the house must be started next month, as under favourable conditions five months are required to produce ripe Grapes (of even the early varieties) during the dullest part of the year. It can be done in much less time, but the strain on the Vines is so great that they are little good afterwards.

Midseason Houses.—When the leaves are all down the Vines should be pruned, any Grapes being cut with enough stem for inserting in bottles of water and placing in a cool rather dry room, where they will keep better than on the Vines. This will allow of the thorough cleansing of the house and Vines, upon which much of success or otherwise depends in the coming season. It is better to do this than leave the house and Vines in a dirty condition until a convenient time, which usually is badly performed later from the press of other matters, and the pests have time to hibernate in retreats where they cannot be reached by insecticides. Where Grapes are hanging air will need to be admitted on all favourable occasions, and a gentle warmth be maintained in the pipes, so as to promote a circulation of air in dull damp weather and prevent the deposition of moisture upon the berries. Bad leaves must be removed and the Grapes seen to occasionally for the removal of decaying berries.

Late Grapes.—There is little difficulty in keeping such thick-skinned Grapes as Alicante, West's St. Peter's, Gros Guillaume, Gros Colman, Mrs. Pince, Alnwick Seedling, and Lady Downe's, provided the roof be waterproof, drip avoided, and moisture prevented from deposition on the berries, which can be done by judicious ventilation and gentle warmth in the hot-water pipes. White Grapes, however, except Calabrian Raisin, which has a tough skin, do not keep nearly so well, both Syrian and Trebbiano being in degree only less liable to spot than Muscat of Alexandria, which when finished so as to hang in good condition till January is supreme among Grapes. Its great enemy is spot, and that of two kinds—one caused by moisture on the berries, and the other by a fungus—which cannot attack the berries successfully till their epidermises are suffused with moisture in a stagnant state—that is, resting (though imperceptible) on them. The means, therefore, of avoiding both is to prevent the atmosphere becoming stagnant, a temperature of about 50° being necessary, and air must be given early on fine mornings, with warmth in the pipes to expel moisture and allow of the berries being warmed equally with the surrounding air, moisture being kept from condensing on the berries. There must not be anything like a leak in the roof, no mouldy leaves or decayed berries, and moisture kept down as much as possible, that likely to arise from the border being prevented by covering it with dry material, than which nothing answers better than roughly cut, clean and dry Wheat straw.

Pines.—All young plants should now be arranged so as to obtain the fullest benefit of light and air. As the sun heat diminishes a corresponding diminution of temperature should take place at night until it reaches the winter standard of 55° to 60° at night, and 65° in the day time. Ventilate freely whenever the external conditions are favourable, paying particular attention to watering. An inspection of the plants should be made about once a week, and whenever a plant needs water supply it copiously at about the same temperature as that of the bed.

Plants on which fruits are now appearing will perfect them at a time when other fruits are scarce, and should therefore be afforded a

good position in the fruiting house. Continue 70° as the minimum temperature in the fruiting house, though on cold nights a decline of 5° may be allowed, and 5° more in mild weather, 75° artificially by day, and 80° to 90° from sun heat, closing the house at 80°, sprinkling as may be necessary the pathways when they become dry, and on sunny afternoons an occasional syringing will be advantageous, keeping the bottom heat regular at 85° to 90°.

THE FLOWER GARDEN.

Breaking up Flower Beds.—In some districts the beds have been completely disfigured by frosts, in others quite tender plants have escaped serious injury, and at the time of writing still present an ornamental appearance. The next visitation, however, may be extra severe, the consequence being the loss of many plants still left out unprotected that might have been lifted and stored with advantage. A good stock of old plants of the bronze, gold and silver variegated Zonal Pelargoniums is always of good service, as the young plants frequently winter badly, and abundance of spring-rooted cuttings are needed accordingly. When lifting and storing these or other varieties of Zonal Pelargoniums, pick off all the older leaves, shorten the roots, and pack thickly in 8-inch pots. Only give enough water to prevent shrivelling of the growths and keep in a dry warm house or pit. Tuberous rooted and other Begonias that are to be saved should be lifted, and the former thoroughly dried prior to storing in a cellar or boxes in a shed where frosts cannot reach the tubers. Dahlias cut down to within 9 inches of the ground, lift and lay on their side with a view to letting the sap run out of them before storing. They will keep in a cool cellar or in a shed covered with sand or dry soil, affording extra protection whenever severe frosts are imminent. Treat Gladioli very similarly. Cannas grown for the sake of their foliage only should be lifted with a little soil about the roots, and these must be kept rather warmer than the Dahlias. Flowering varieties should be placed in pots and placed in warm greenhouse or conservatory. All this and whatever other lifting and storing is necessary should be done as much as possible during dry weather.

Refilling Beds and Borders.—If the beds are to remain empty during the winter they ought yet to be edged and dug up neatly, while if they are to be refilled the same process should be gone through, the exceptions being in favour of those beds the soil of which would work best if merely cleaned and hoed. Masses of one kind of spring flowers are very effective, or far more so than dribbles of the different species in single lines or mixtures. Wallflowers should be planted rather thickly together, and beds of the improved strains of Polyanthus and Primroses are very attractive in the spring. So also are central masses of Forget-me-nots, Saponarias, Silenes, Limnanthes, and such like. Strong plants ought to have been prepared, and be put out rather thickly. Water before moving, especially if at all dry; save as much soil as possible about the roots, and replant firmly. Alyssums, Aubrietias, Arabises, Daisies, Hepaticas, Iberises, Saxifrages, Violas, and bedding Pansies are all admirably adapted for edging beds filled with shrubs and Conifers, and associate well with spring flowering bulbous-rooted plants. Golden Pyrethrum that has not been allowed to flower, small Beet, Dactylis glomerata, Festuca glauca, Euonymus radicans variegata, Sempervivum californicum, Ajuga reptans rubra, variegated Ivies and Periwinkles, and Cerastiums are all available for a similar purpose. Most of them will bear, being pulled to pieces prior to replanting, and in any case they must have the soil firmly fixed about the roots, or otherwise the first severe frost will upheave them.

Variegated Box, Hollies, Berberises, Euonymuses, Osmanthus, and berried plants of Pernettyas, Cotoneasters, and Skimmia japonica are all suitable for filling the beds during the winter; and Yuccas and Iris foetidissima variegata are even more elegant and effective. Handsome little Conifers suitable for either massing or dotting among other plants can always be procured, and these can be used repeatedly. Some of the best of these are Abies excelsa pumila, Cryptomeria elegans nana, Cupressus Lawsoniana alba spica, C. L. albo-variegata, C. L. argentea, C. L. aureo-variegata, C. L. erecta viridis, C. L. lutea and C. thuyoides variegata; Retinospora ericoides, R. obtusa aurea nana, R. plumosa, R. plumosa argentea and aurea, R. tetragona aurea, R. squarrosa; Biota orientalis aurea and B. elegantissima; Thuia occidentalis lutea, Thuiopsis dolabrata and T. variegata; Juniperus sabina variegata, J. chinensis aurea, J. japonica aurea variegata, Taxus baccata aurea, and T. baccata elegantissima. Either small or large plants of these Conifers will move well now and also in the spring, or when the beds are cleared, always provided they are in a thoroughly moist state at the roots.

Hyacinths.—These are among the gayest and most reliable of spring flowering bulbs, and there should be no delay in planting. The miniature forms are suitable for the front rows, and the ordinary varieties for massing or dotting in the centres of small beds. Plant the former 6 inches apart, or rather less, and 3 inches deep, and the latter from 6 inches to 8 inches asunder, and bury not less than 4 inches below the surface. Masses of one colour are most to be preferred, as they may be dotted thinly among dwarf or carpeting plants. Feather, Grape, and Musk Hyacinths are all suitable for the flower beds or borders, and the stock can be increased, and will be available for future years. These are all comparatively small flowering species, and should be planted somewhat thickly either in patches or lines accordingly.

Tulips.—These also should be planted now, and may safely be depended on to give a good display next spring. The Duc Van Thols are the dwarfiest, and the first to flower. These may be disposed 4 inches asunder each way, and should be buried 3 inches deep. The other bedding Tulips may either be massed together, disposing them 6 inches

apart each way and 4 inches deep, or dotted among dwarf bedding plants. Choicer varieties ought to have some fresh loam and sand given them to root in.

Other Bulbous-rooted Plants.—Narcissi should always be planted as early in the autumn as possible, but will flower if not put in before December. Treat the commoner forms as advised in the case of Hyacinths, but the choicer named varieties should be given the benefit of a well prepared border where they can be taken better care of both during and after flowering. Arrange them in groups or lines, and plant 4 inches deep. Snowdrops, Crocuses, and Scillas should be planted somewhat thickly, the two former 4 inches deep and the latter 3 inches deep. Winter Aconite is also best planted permanently in patches. Tuberous-rooted Anemones can also be planted now, a succession being had by planting again in December. The ground for these ought to have a dressing of decayed farmyard manure, and deeply dug. Open drills 6 inches asunder, and partially fill with fine sandy compost, then plant the tubers 4 inches apart, and cover with another 3 inches of fine compost. These again are best left undisturbed for several years. Keep the Ranunculi out of the ground till February.

THE KITCHEN GARDEN.

Asparagus.—When the tops are nearly brown cut them down to within a few inches of the ground. Select dry weather for this work, as it will also be necessary to clear the beds of weeds and rubbish generally. Unless quite dry no hoeing should be resorted to, but hand-weeding adopted, in order that little or no soil be taken away from the beds. Skimming over the surface and turning-in the weeds with a spade is too destructive of roots; nor should the old plan of heavily manuring the beds, cutting down the sides and digging soil out of the alleys, and spreading this on the manure be practised. This cannot be done without cutting into and exposing many roots at the sides, and the destruction of a large number in the alleys. The Asparagus is perfectly hardy, therefore requires no covering of manure, while the latter is liable to keep the heavier soils in such a cold saturated condition as to cause the loss of many crowns. Keep the surface of the beds free of weeds, and defer manuring till the spring, is the best advice that can be given generally. As usual there is abundance of Asparagus seed, and if properly harvested and not sown till next March and April it will germinate quickly and strongly. Cut a few growths with seed pods hanging on them, and suspend till the seed is wanted in a dry shed. It will clean readily enough after a thorough drying.

Forming Asparagus Beds.—In gardens where Asparagus is forced extensively, one or more of the oldest beds are broken up and a similar number of fresh ones formed and planted or sown every year. During the next few weeks the start should be made with the latter, especially if the soil happens to be of a heavy retentive nature. A clay subsoil is most unsuitable, and ought to be changed. Narrow raised beds are preferable for low lying cold districts, and these under more favourable circumstances are invariably the first to give strong young growths in the spring. A bed 42 inches wide at the base would hold two rows of plants, and 5 feet wide beds are suitable for three rows. Drive in stout permanent stakes into each corner, and line out the ends and sides. All the best of the surface soil must be thrown on each side, after which it should be decided what to do with the subsoil. If very clayey, wait for a dry time or a few frosty mornings, and then dig and wheel the clay away. Next collect all the road trimmings, mortar rubbish, decaying garden refuse, some of the ordinary garden soil, and a liberal addition of strawy manure, and mix all together in the trench. On this should be placed the surface soil, with which mix enough sand, leaf soil, decayed manure, and fine mortar rubbish to convert it into a light porous compost. In a bed prepared in this manner Asparagus could be grown to perfection.

Seakale for Forcing.—Not till they have been given a severe check by frosts can Seakale roots be depended on to start into growth quickly and strongly in heat. Where the breadths were planted early the crowns will be strong and well matured, the leafstalks soon parting freely from them. Directly they do part away readily clear them away, and weeds as well, and then partially bare the roots with a view to exposing them more to the action of frosts. A few dozen roots might be wholly dug up and more fully exposed, taking care, however, not to unduly expose them to sunshine or drying winds. The Lily White is the best for forcing, the colour and flavour of this form surpassing that of the ordinary Seakale. It should be remembered, however, that this variety is not so hardy as the purple-tipped Seakale, and the crowns ought, therefore, to be heavily moulded over by way of protection, or the bulk of roots, when fit, should be lifted and bedded in closely in moist soil where they can be protected if need be.

Rhubarb for Forcing.—Much that has been advanced concerning Seakale also applies to Rhubarb. In order to have an early supply the roots must be lifted and forced in some way, a warmer place than a Mushroom house being desirable. Give the preference to large old roots of Early Scarlet, Royal Albert, or Johnston's St. Martin's, and if these have been previously started somewhat early where they were planted they will force all the more quickly. Directly the leaves come freely away from the crowns dig up some of the roots, and leave them exposed to cold winds and frosts for a fortnight or so, after which they will force with ease.

Kidney Beans.—If the late sowings were made on a warm raised border, what little frosts we had in September would not have greatly injured them, and a few acceptable late dishes should be forthcoming, especially if the rows are well protected. Those in frames also should be protected, and a fairly brisk heat maintained for the benefit of any

in heated pits. If room can be spared, a few score of 8-inch pots should be stood on the walls and shelves in Pine stoves and other light well-heated structures. Fill the pots with good soil in the first instance, top-dressings not doing any good, and do not leave more than four plants in a pot. New seed of Sion House or other approved forcing variety should be sown.

Parsley.—This is abundant at present, but may be just as scarce before the winter is past. Seeing that it is in constant demand an attempt ought always to be made to keep up a regular supply all the year round. The superior strains of Parsley that have replaced the old forms do not prove so hardy as the latter and cannot be depended upon in the open. Fortunately Parsley transplants readily at this time of year, and a good number of roots should be wintered under glass. Give the preference to the older plants, and which have thick roots. Fork these up carefully, making no attempt to save much soil about them. Remove the older outside leaves, and then replant somewhat thickly in deep boxes or large pots filled with rich loamy soil. They can be kept in a light place in any house or pit where enough fire heat can be turned on to keep out the severest frosts, and will grow moderately strongly throughout the winter, good leaves being ready for gathering when the time the open air supplies fail.

Late-sown Lettuce.—Slugs have had matters very much their own way of late, and Lettuce plants have been cleared off wholesale. As it happens many of the plants would have been too large to pass uninjured through a severe winter, and later raised plants will perhaps more than compensate for the loss of those first sown. Quite small autumn-raised plants of All the Year Round, Commodore Nutt, Early Paris Market, or other favourite Cabbage Lettuce, would be preferable for planting out in frames or in the open next spring to any raised early in heat, and seed should therefore be sown either in boxes or broadcast in frames. The plants obtained in this way must not be coddled, but should have all the light and air possible whenever the weather is sufficiently mild. If there are many nearly or full-grown Lettuces unprotected lift a portion of them and place in cold pits or frames, surround the roots firmly with rich moist soil, and protect from severe frosts.

THE BEE-KEEPER.

APIARIAN NOTES.

THE WEATHER.

WE are now enjoying excellent weather, the night temperature being 43°, and that of the day 65°. After a mild rain during the night of the 10th and morning of 11th, the first rain we have had since early in September, the day brightened, and the bees wrought such as they had not done previously on any day this season. Many bees carried huge pellets of pollen, and what honey they could gather from late flowers. The whole scene appeared more like days we would expect during May rather than so far in October.

HINTS TO BEGINNERS.

The Punic bees are not only good honey gatherers collectively, but are so individually. They are, in my opinion, the most "shifty" bees introduced to this country, and are valuable owing to their great fertility, and were I a younger man I would not part with them, but have decided to have few other than Carniolans.

Taking the current year as a criterion the low yield of honey in many cases has, in my opinion, been due to keeping bees in too limited hives. Large hives at the moors have outstripped the smaller ones, some of which have neither supers nor surplus in the body of the hive. The honey being stored in the body of the hives is due to the low temperature during August stopping breeding; but where young queens were introduced at the beginning of that month not only are there supers, but two of the body divisions are completely sealed, with a good deal in the third one. A little feeding during unsettled weather will keep most of the hives in the best condition for storing surplus in supers instead of in the body of the hive, consequent of the cells being empty through stoppage of breeding. It is also worthy of being remembered that while breeding is going on the bees are more or less secreting wax, therefore are ready to commence comb-building immediately the honey flow commences.

In a future article I will deal with some of the modes of strengthening hives other than by introducing young queens before Heather time.—A LANARKSHIRE BEE-KEEPER.

FLOWERS FOR BEES.

THE fine weather of the past few weeks has enabled the bees to add to their winter stores. A thermometer placed in the shade to-day (October 12th), registered 62°, and Mignonette, of which we have some wide breadths, is just now at its best, as owing to the sunless weather, and our soil being very cold and heavy, it absolutely refused to grow early in the season, but by making successive sowings it is now better than it has been at

any time during the summer. The bees have worked freely on it, and have stored both honey and pollen.

Mignonette is one of the best bee plants in cultivation, and in ordinary seasons very easy to grow. Bee-keepers should bear this in mind, and sow a pinch of seed wherever there is a yard or two of vacant ground. Early spring to midsummer is a suitable time to sow the seed. One often hears the remark "that Mignonette will not grow in my garden," whereas the cause of failure may often be traced to the want of a little attention to the seed bed. New seed should always be sown. When the plants are very small snails are particularly fond of them, and if the weather is damp will clear off many of the seedlings before they are visible to an ordinary observer. It is a good plan to sprinkle a little lime over the bed during an evening, and should the colour be an objection a little soot mixed with the lime will be an advantage.

Ivy is another good bee plant, and it has the advantage of blooming when most other flowers are over, and will continue until the cold frosty nights check all vegetation. In some parts of the country high walls and old buildings are covered with old trees, and at this stage do not make much growth but flower freely. Travelling lately in the south of England I saw some immense masses of it that seemed much the same as it did when I knew them thirty years ago, although allowed to grow at will, and to all appearance had not been cut in any way. The Ivy was in full bloom, and thousands of bees were hard at work. A perfect hum of pleasure from the busy workers showed that for the time being their wants were well provided for. Evidently some lucky bee-keeper resided not far off. They were all our native black bees.

BRITISH *versus* FOREIGN BEES.

It is surprising how few foreign bees one sees in going through the country, although thousands of queens have been imported during the past twenty years, besides those that have been bred in this country, but which are usually hybrids. Still they show the bright yellow bands for several generations. One would have thought very few of the native bees would now be seen. As a close observer of bees at all times, and more particularly when walking through our country lanes and fields and noting the bees at work, the flowers they mostly frequent, and the different variety of bees, one comes to the conclusion that our native bee still predominates. No doubt in some districts the different breeds are very much mixed; but for storing a surplus and their non-swarming propensity, I think there is no breed to beat our English bee for this climate.

I can well remember the pleasure I derived from the first Italian or hybrid stock of bees that I possessed, although the commencement was anything but pleasant. After an eight-miles drive and a delay at a railway station for six hours, owing to the box of bees having gone astray, I finally reached home at ten o'clock at night, found the lid of box was securely nailed down, but after sundry attempts the lid was removed, though in the meantime the bees had been gradually working through the chink that was made with chisel, and were soon all over the operator, who had a lively quarter of an hour, and who thought how different it might have been if screws had been used instead of nails. The top could then have been taken off and the bees hived without a single one getting on wing. These bees I found good workers, filling their frames with brood from top to bottom, but they were inclined to swarm during the honey flow, just when one wanted them to store honey. No one else having them in this neighbourhood I was enabled to judge how far they would go for honey. I found them working on White Clover quite two miles from home, although there was abundance nearer. They were much admired by visitors, but as they became crossed with the blacks they were inclined to sting anyone who went near their hives.

After comparing the net result of my harvest of honey from the Italian and native stocks, I found my blacks did equally as well, and were not bad tempered, and not troubled with the swarming mania. As a proof of this I may mention that during the past season I had only one swarm from upwards of thirty stocks, and had a good average harvest of honey of the first quality. The mistake so many bee-keepers make is to let their bees swarm instead of getting them strong, so as to make the most of the honey flow. For breeding the best queens should be employed, and these will produce healthy bees that are good workers, and will store honey in a short season. They will, moreover, winter well, and come out strong in the spring without any extra protection during the winter. All this I claim for our native bee. Some of my hives face due west, others east and south; but I do not observe any difference in the quantity of honey they store from the various positions, though some bee-keepers are very particular that their hives should have a southern aspect.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

W. Clibran & Son, Oldfield Nurseries, Altrincham.—*Shrubs, Fruit Trees, and Spring-flowering Plants.*

J. R. Pearson & Sons, Chilwell Nurseries, Beeston, Notts.—*Hardy Fruits for the Midlands.*

T. Rivers & Son, Sawbridgeworth.—*Fruit Trees and Roses.*

W. Rumsey, Joyning's Nursery, Waltham Cross, N.—*Roses, Fruit Trees, and Shrubs.*

W. Wells, The Earlswood Nurseries, Redhill.—*Chrysanthemums.*



* * All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Heating Power of Coil in Stove (*Awees*).—A coil of 2-inch pipe placed in the stove as you propose would heat to boiling about 375 feet of 4-inch piping, or 500 feet for ordinary warming purposes. This is allowing for depreciation of heating surface through dust and fuel, also indirect surface exposed to the action of the furnace.

Muscat of Alexandria Vines Unsatisfactory (*Oxonian*).—The Vines are not infested with *Phylloxera devastatrix*, at least we cannot find any traces of the pest, but there is an abundance of mould, easily distinguishable with the naked eye. This is the cause of the unsatisfactory condition of the Vines. The mould or fungus attaches itself to the living tissues, and by its presence causes their slow but certain decay, so that the roots become distorted, corky and cankered, finally girdled and killed. The Vines are much weakened in consequence of such attacks. We also found a number of mites. These live directly on the living tissues, and are closely allied to the *Eucharis* mite. It, however, is *Rhizoglyphus echinopus*, and is frequently found on spongy barked roots, such as the Vine and Cucumber, and no doubt aids in the devastatory work. The fungus produces a number of oval bodies (*sclerotia*), beyond which stage it does affect the Vine. There are also the mycelial threads of a *Polyactis*. It is of small use trying to patch up such borders. Clear out the soil and char it, and burn the Vine roots. Use fresh soil, and procure Vines from a distance.

Lawn Tennis Ground (*Amateur*).—As you intend making a lawn tennis court during the winter we think the following will answer your questions:—"The regulation size of tennis courts is 78 feet by 36 feet. Outside this there should be at least a yard all round, but better if it is two—namely, 85 feet by 42 feet of level lawn. Tennis lawns are generally made quite level, which is a mistake, especially if the soil is of a stiff moist nature. It is much better if the ground is kept a little higher in the centre, say 4 or 5 inches, so that when a heavy rains occurs much of it passes off to the sides and ends, and the ground is quicker dry and fit to play upon sooner than when made perfectly level, and the greater part of the rain having sunk into the ground. It is very essential to have a firm surface; and for this reason, where the soil is clay or is wet, it is a good plan, after having levelled and consolidated the ground, to spread about an inch of clean coal ashes over it before laying down the turf. In addition to this it should be previously well drained. On light dry soils less trouble is necessary to have a fair tennis lawn; indeed, it may be played for 'home practice' on any lawn where there is a little less room than is required for full-sized courts, and although it is not quite level."

Questions on Mushrooms (*W. A. H.*).—You have not read the work with sufficient care and attention. On page 41 you will find the number of spawn bricks in a bushel, with their division and distances for insertion as adopted by successful growers. From this you can make all requisite calculations. Spawn is not inserted in the tops of the ridges. As to preparing the manure, from four to six turnings are sufficient, according to the size of the heaps, fermentation and condition. So long as the mass is sweet and properly moist the fewer turnings the better. See what Mr. Gilbert says on page 26. Read particularly the chapter on "Failures and Successes," commencing on page 95. You will see on page 97 the size the smallest ridges should be; also you will see on page 109 that it is prudent for beginners to have the ridges 3 feet wide at the base and the same in height. Note Mr. Dunn's practice and results on page 119. That is suggested on page 38 as

advisable for the north generally. You do not even say where you reside. Peruse the supplement very carefully (page 103), and generally underline what you note as particularly meeting your case. You must let the manure accumulate till you have at the least four loads, then prepare it as advised in page 28. What is meant by loads is stated on page 18. We think all the points in your letter are now met. If you write again and refer to matter in the book please quote the page in each instance, also send your address. The pages quoted in this reply have reference to the seventh edition of "Mushrooms for the Million," the largest, latest, and best, and not to previous issues of the work.

Leaf Soil from Oak Leaves (H. M.).—Some of the best leaf soil we ever used was that from Oak leaves, which formed where the leaves fell. In Oak woods and coppices we have always noticed that where the Oak leaves accumulated as top-dressings among the brake there the brake grew best, and there in time was formed a half peaty-like bed that was unsurpassed for general plant-growing, and more especially Ferns. There is tannic and also some gallic acid in Oak leaves, but it is so small as not to be harmful; and you may satisfy yourself of this by examining the roots of any vegetation near or among the leaves. Moreover, tannic acid is soluble, and when leaves have lain damp in the position, and for the length of time you name, very little tannic acid will be left, even supposing it not to be decomposed, which it readily does under conditions that turn leaves to soil. But a simple way of testing whether a sample of leaf soil is unwholesome or not is to sift some with loam and sand and to strike cuttings of some plants with fleshy roots and examine these. If they root freely and, on examination, are found healthy, all is right. But even if not, it is hardly likely that tannic acid will be the cause of the mischief.

Forming New Beds of Lily of the Valley (Aveces).—Select a piece of ground with an east or west aspect, but sheltered from winds. Lily of the Valley, however, prefers shade without being overhung by trees, or the soil prejudiced by their roots, or injuriously affected by the dryness of buildings, as moisture is essential. Good ground is necessary, being manured and well trenched. The crowns should be lifted when the foliage dies down, or from then to before they commence growing in spring. They should be divided into sizes: 1, Those of the current year's formation—small, pointed, and with buds at the base. 2, Two-years crowns—stouter than the preceding at the base, without prominent buds or few there, and not so tapering at the point. These may produce flowers of medium strength, or not any next year. 3, Three-years crowns—large, plump, especially at the base, rounded or bulged in the middle, and much blunter than the others at the apex. Such are flowering crowns, but many in old beds are found of even thickness, and with sharp points. These will not flower, but they are easily distinguished by their narrowness from the flowering crowns—conspicuous by their bulkiness and bulging in the middle, or blunt ends. In planting a shallow trench should be cut out so as to admit the roots straight down, or nearly so, each crown having all the roots issuing from its base intact, and 2 or 3 inches of root stem with its roots. Place the crowns upright in the trench, about 2 inches apart, so that their points are just below the surface, and fill in the soil firmly. Another trench should then be planted 9 inches from the first, and so on; and by leaving out every sixth row space will be afforded for cleaning the beds and gathering the flowers and watering. The three sizes should be put in separate beds or compartments, so that the small size will produce nothing beyond leaves, the second flowers of medium strength, if any, and the largest ones be certain to flower the following year. A light mulching of short manure or leaf soil will be of benefit, and water should be given freely in dry weather. The beds will last several years, and when the plants become too crowded they should be lifted and replanted in fresh ground. The row system is better than the even-planting method. Any good loamy soil will grow them well, but alluvial or vegetable soil containing plenty of sand is preferable.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (J. W.).—The Plum is Rivers' Late Red. (W. C.).—Apple Devonshire Queen. (H. P.).—The Pear is Black Worcester.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures,

it being often difficult to separate them when the paper is damp. (A. M. C.).—*Lilium tigrinum*. (Amateur).—1, *Helianthus rigidus*; 2, *Aster Amellus*. (J. W.).—*Cincaria maritima*. (H. D.).—1, *Cypripedium barbatum*; 2, *C. Lawrencianum*. (F. P.).—1, *Helianthus multiflorus* fl.-pl.; 2, *Aster Amellus bessarabicus*. (F. C.).—1, *Fuchsia procumbens*; 2, *Allamanda Hendersoni*. (X. Y. Z.).—*Eccecmocarpus scaber*. (P. M.).—*Catalpa syringæfolia*. (L. F.).—1, *Sedum carneum variegatum*; 2, *Adiantum macrophyllum*.

COVENT GARDEN MARKET.—OCTOBER 17TH.

Market quieting down, with prices more settled.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, per half sieve	1	6	to	3	6	Peaches, per doz.	1	0	to 10 0
Grapes, per lb.	0	6	1	6	Plums, half sieve	1	6	3	0
Cobs per 100 lbs.	22	6	25	0	St. Michael Pines, each ..	2	0	6	0
Lemons, case	10	0	15	0	Strawberries per lb.	0	0	0	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.	
Beans, Kidney, per half					Mushrooms, punnet	0	9	to	1	0
sieve	1	0	to	1	Mustard and Oress, punnet	0	2		0	0
Beet, Red, dozen	1	0		0	Onions, bushel	3	6		4	0
Carrots, bunch	0	3		0	Parsley, dozen bunches ..	2	0		3	0
Cauliflowers, dozen	1	6		3	Parsnips, dozen	1	0		0	6
Celery, bundle	1	0		1	Potatoes, per cwt.	2	0		3	6
Coleworts, dozen bunches	2	0		4	Salsafy, bundle	1	0		1	5
Cucumbers, dozen	1	0		2	Scorzouera, bundle	1	6		0	0
Endive, dozen	1	3		1	Shallots, per lb.	0	3		0	0
Herbs, bunch	0	3		0	Spinach, bushel	1	6		3	0
Leeks, bunch	0	2		0	Tomatoes, per lb.	0	2		0	5
Lettuce, dozen	0	9		1	Turnips, bunch	0	3		0	4

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arum Lilies, 12 blooms ..	4	0	to	6	0	Maidenhair Fern, dozen bunches	4	0	to	6	0
Asparagus Fern, per bunch	2	0	3	0	Mignonette, 12 bunches ..	1	0	3	0		
Asters (English) doz. bnchs.	3	0	6	0	Orchids, per dozen blooms	1	6	12	0		
Bouvardias, bunch	0	6	1	0	Pelargoniums, 12 bunches	6	0	9	0		
Caruations, 12 blooms ..	1	6	2	0	Primula (double), dozen sprays	0	6	0	9		
" doz. bunches..	9	0	12	0	Pyrethrum, dozen bunches	2	0	4	0		
Chrysanthemums	3	0	9	0	Roses (indoor), dozen ..	0	6	1	0		
" doz. blooms	2	0	6	0	" (outdoor), doz. bnchs.	6	0	12	0		
Cornflowers, doz. bunches	1	0	2	0	" Tea, white, dozen ..	0	6	1	6		
Dahlias	2	0	4	0	" Yellow, dozen	2	0	3	0		
Eucharis, dozen	2	0	4	0	" Safrano (English), doz.	1	0	2	0		
Gaillardia, dozen bunches	1	0	1	6	" Maréchal Niel, doz. ..	1	6	4	0		
Gardenias, per dozen ..	2	0	4	0	Smilax, per bunch	2	0	3	0		
Geranium, scarlet, doz. bunches	4	0	6	0	Stephanotis, dozen sprays	4	0	6	0		
Glaadiolus, dozen sprays ..	1	6	2	0	Tuberose, 12 blooms.. ..	0	4	0	6		
Lilium longiflorum, dozen	6	0	9	0							
Marguerites, 12 bunches ..	1	6	3	0							

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.	
Arbor Vitæ (golden) dozen	6	0	to	12	0	Ferus, in variety, dozen ..	4	0	to 18	0
Aspidistra, per dozen ..	18	0	36	0	„ (small) per hundred	4	0	6	0	
Aspidistra, specimen plant	5	0	10	6	Foliage plants, var., each	2	0	10	6	
Asters, dozen pots	3	0	4	0	Lilium Harrisii, per dozen	12	0	24	0	
Chrysanthemums, per doz.	3	0	6	0	Lycopodiums, per dozen ..	3	0	4	0	
„ large, per doz.	9	0	18	0	Marguerite Daisy, dozen ..	6	0	12	0	
Coleus, per dozen	2	0	4	0	„ yellow, doz. pots	6	0	10	0	
Dracæna, various, dozen ..	18	0	42	0	Mignonette, per doz... ..	6	0	0	0	
Dracæna viridis, dozen ..	9	0	24	0	Myrtles, dozen	6	0	9	0	
Erica, per dozen	12	0	15	0	Palms, in var.. each	1	0	15	0	
Euonymus, var., dozen ..	6	0	18	0	„ (specimens)	21	0	63	0	
Evergreens, in var., dozen	6	0	24	0	Primulas, per dozen	4	0	6	0	
Ficus elastica, each	1	0	7	0	Solanums, per dozen	10	0	12	0	



ROUGH PASTURE.

To break up old pasture in the manner described last week, or by paring and burning, is an extreme measure that applies only to extreme cases. There is no common rule for general application, each case must be treated precisely as previous inspection or knowledge of the pasture shows to be necessary. When pasture is not excessively foul there are all kinds of possibilities as to what may be done in the way of improvement. A scheme must be thought out, the manner and cost of improvement carefully elaborated in full detail, and the result in view grasped so clearly that an assurance may be given to the owner of the land that his outlay will prove a sound and profitable investment. No light matter this, and it is only the confidence resultant from wide and intimate experience of such work that enables one to advise an outlay of £8 to £10 an acre upon it. We did so in reference to some pasture in the midlands two years ago, and the result is so satisfactory that some more poor pasture on the same estate is to be taken in hand for improvement this winter at a similar cost.

The pasture already reclaimed had been laid down for about twelve years. It was thin in plant, poor in herbage, with hardly a trace of Clover, and always late and weak in growth. The tenant did practically nothing to improve or cultivate it; the only manure was just the excreta of stock grazing upon it; and so it had gone on, tenant, owner, and neighbouring farmers all regarding it as poor pasture quite incapable of improvement. When we were asked if it must always remain so, we replied "Certainly not, its improvement is simply a question of ways and means; there is no insuperable difficulty, nothing to prevent it becoming really excellent pasture, quite equal to that," pointing to an old meadow famous for its high grazing properties. Though this was received with a smile of incredulity, when we went on to explain details of improvement, and to quietly, but firmly, insist that it would prove a judicious, because profitable, investment, we were requested to go ahead. This is what was done.

The soil was about the worst form of heavy land—compact, tenacious, gravelly, clay. There had been an attempt at drainage which was as ridiculous as it was useless, and we resolved to have it done thoroughly, very much as we had done much similar heavy land in Suffolk, with this difference, that there we used the local bush drain, but here we used pipes. Our *pro forma* bill of costs was based upon figures taken from the table in Dr. Hogg's "Horticultural Directory and Year Book," which is reliable and comprehensive, embracing all kinds of soils—heavy, medium, and light. For our purpose it gave—Distance apart of drains, 15 feet; depth of drains, 30 inches; number of rods of drains per acre, 176. Cost of cutting and filling per rod, 5d.; per acre, £3 13s. 4d. Number of drain pipes of 12 inches long required per acre, 2905. Cost of drain tiles per acre at 30s. per 1000, £4 7s. 2d.; total cost per acre, £8 0s. 6d. To this there may be an addition for cartage of pipes (in our case it was rather heavy), also for spreading surplus soil, for seed, and manure. Such clay is the most costly of any soil to drain, but if done at all drainage must be thorough to answer, and without perfect under-drainage such pasture could not be reclaimed. The price given for the work is close, but perfectly fair, though it is certainly below certain local rates, framed carelessly or without full knowledge of the work. We had some grumbling, but the grumblers were able to earn 3s. a day, and they soon settled down to it when they found no notice taken of their complaints.

With such close draining there was enough surplus soil after the drains were filled in to spread over the whole of the surface. When this was done the sods were placed on the soil in the drain, and pressed down with a heavy roller. Then 20 lbs. per acre of permanent pasture grasses and Clover seeds was sown broadcast, and the soil crushed with a roller and well mixed with the seed with a bush harrow. Then came a dressing of basic slag and nitrogenous manure, and the work was complete.

All this, be it understood, was done by the landlord, who was desirous of seeing for himself how such pasture could be improved. The result has shown that the outlay was entirely worth while. The herbage is now thick, strong, and excellent. The character of the pasture is quite changed. Clover is abundant. Carnation Grass has disappeared before Perennial Rye Grasses, and some of the best other strong growing Grasses of the new seeds. With such thorough drainage there will follow too a gradual change in the soil. The accelerated filtration of rain water through it is bound to be followed by air circulating more and more freely in it. It has ceased to be cold and inert, and will gradually become more porous and open. Very much, however, depends upon its subsequent culture. If that is well done the pasture will prove highly profitable; if not, it will only be "passing fair," and nothing more.

WORK ON THE HOME FARM.

The abundance of herbage on pastures very generally keeps up the price of store beasts; an abundance of hay also tells in this matter. With an ample provision of fodder and roots for winter most graziers can well afford to feed stock well, and we hope this abundance may be an inducement to break up the abominable custom of keeping cows and store beasts out "to clear up the fog grass," which means that they are compelled by the pangs of hunger to consume all the half-dead innutritious "fog," rank grass tufts and all herbage left on pastures after summer growth is ended being included in that term. Many a valuable beast has succumbed to the strain which such treatment makes upon the health of them. Exposed to cold and wet, half starved, all of them suffer, but especially in-calf cows. How can well nourished sturdy calves be expected from the cows? How can condition of any sort be maintained under such reckless mismanagement? Much better is it to give them proper food and shelter, to mow strong tufts and any other rough growth, either for making silage or littering the yards.

Resolve now to enforce systematic care of all beasts in yards. Have the hovels kept clean—the walls by lime-washing, the floors by regular daily cleansing of all foul litter. Never suffer any accumulation of sodden litter for cows to lie down upon; have cowhouse, hovel, byre—all buildings used for them, well ventilated, yet free from cold cutting draughts—thorough roof ventilation answers best. For cows let the bulk of food consist of the best meadow hay, using as much as they can clear up, in addition to which there may be some crushed Oats or mixed corn, and sliced roots or Cabbage at milking time. Undersized or delicate cows must be kept apart from others, or they may not get enough to eat; they should also be shut in at night to be certain of shelter. More than once have we told here how we had given orders that a certain delicate Jersey in a mixed herd should always be shut in a loose box at night, and how, when we turned out in the middle of a rough snowy night to have a look at the lambing flock, we walked on to the home farm buildings and found that cow standing for shelter under the eaves of a barn on one side of a cowyard with the snow driven upon it by the high wind. The stronger cows had driven it out of the deep comfortable open hovel, and owing to the carelessness of the bailiff that night's exposure of the Jersey brought on a severe cold, to which it succumbed.

OUR LETTER BOX.

Rough Pasture (W. W. W.).—If you send your name and address we will forward a letter bearing on the subject of your note.

Pigs and Calves (T. J. W.).—"Animals of the Farm in Health and Disease," 1s., published by Murray, 50A, Albemarle St., London, W., gives much information such as you appear to require.

Sheep-folding (W. S.).—Your idea of folding sheep on Runner Bean haulm is novel, and like all novelties requires trying with caution. Any harm likely to happen to the sheep would be from hoove, or the distention of the stomach with gas, generated by the stomach being packed with a mass of such food—it also might induce diarrhoea. Having this risk clearly before you it would certainly be a rash proceeding to shut in the flock entirely upon the Beans. You might first of all turn the sheep in for an hour or two, watching them, and if they eat the leaves and green shoots greedily, taking care they do not go on to repletion by withdrawing them to ordinary pasture. Dry food would be a wholesome corrective, and should be given freely. You must understand clearly that there is some risk in such experiments, and that yours will not be taken on our advice.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1894. October.		Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday	7	30.000	53.1	52.5	N.E.	53.8	57.2	52.0	69.9	51.2	—
Monday	8	30.110	49.2	49.2	N.E.	52.9	59.3	43.0	86.4	40.2	—
Tuesday	9	30.191	48.3	48.3	N.	52.9	54.9	47.0	56.6	45.0	0.079
Wednesday	10	30.188	54.8	53.9	S.	52.3	59.7	48.0	64.2	49.7	0.316
Thursday	11	30.226	58.9	58.3	N.	53.8	62.1	54.1	68.9	53.9	—
Friday	12	30.341	53.0	52.2	N.E.	54.1	59.3	51.9	72.1	48.9	—
Saturday	13	30.248	47.4	47.4	N.	53.7	62.1	45.9	83.4	42.1	0.024
		30.186	52.1	51.7		53.4	59.2	48.8	70.4	47.3	0.418

REMARKS.

7th.—A little sunshine in morning, dull afternoon, misty evening.
8th.—White fog till 10 A.M., and more or less misty nearly all day; sunny from 10 A.M. to 3 P.M., cloudy later.
9th.—Overcast and misty all day; dark from noon to 1 P.M.
10th.—Rain from 6.30 A.M. to 9 A.M.; dull damp morning, almost continuous rain from 1 P.M. to 10 P.M.
11th.—Dull and humid all day.
12th.—Dull early, sunny from 11.30 to sunset, wet fog in evening.
13th.—Wet mist early, with sun shining through, and faint sun in morning; fine afternoon, cloudy evening, and showers between 10 and 11 P.M.
A dull cloudy week; temperature, pressure, and rain very similar to the two previous ones.—G. J. SYMONS.



KEEPING UP APPEARANCES

TO those interested in horticulture nothing can afford greater pleasure than a visit to those gardens in which high culture and good keeping are pronounced features in the various departments. Nor is it a gratification confined to any one season of the year, for though the glories of flower and foliage may have waxed and waned, an air of smartness prevails which the most superficial observer will not fail to note.

In the adjuncts of large establishments pertaining to the higher grades of society, not any department is more capable of adding to or maintaining its dignity than the garden, and the desire pervades those whom the subject directly concerns to keep up appearances. In these places, where there is a time for everything, energetic action is taken to cure or prevent some evil among the fruit bearers or other subjects, and all is being carried out in the most thorough manner to obtain the best possible results. Yet order prevails. A systematic approachment of laborious duties makes even hard work pleasant and easy. The casual visitor who knocks at the gates at what might be considered an inopportune time, will see no evidence that such is the case. On other occasions he will find much to admire. He may at this time derive some profitable lesson from his visit. It is instructive and interesting even to an old hand at his trade to note details of work and methods of performing it. Local customs are brought into play, and their comparative value will be noticed. The critical observer will, too, find points of interest in noting men and manners. Some of these old hands amongst the workmen become experts in some particular line of work. For years has the one man been called to the one task, till he becomes an adept in it, regarding it as his monopoly. And what pride those old hands take in their work, growing eloquent in expatiating on some engineering feat of bygone days. Such an one was old Geordie P—, who, amongst other special duties, concreted the Vine borders made from time to time in a large establishment. "T' gaffer wouldn't allow anyone t' consecrate that Vine border but me," he would say, when the spirit of mischief prompted a young worker to hint another man would usurp his office. Such workers as these contribute their share in keeping up appearances, for the man who takes pride in his work is never in a muddle, be that job never so muddlesome. Such gardens present the brighter side of the subject. There is a consciousness of power in reserve strength, placing the possessor of it on a pedestal above the many vexations harassing those whose efforts are handicapped by limited means.

"Appearances are not always what they seem," but under adverse conditions can they least of all afford to be despised. When untoward circumstances necessitate curtailment of expenditure, however reluctant employers may be in approaching the garden, it is here primary action is generally taken. The reason for this may probably be found in that, whilst not ignoring its utility, the garden is more regarded in the light of being a luxury. To whatever extent the reduction may affect the garden, there is generally a desire on the part of employers to keep up appearances, and there are more reasons than are apparent at first sight why the gardener should, as he invariably does, take the same line of thought. In the first place, it is of vital importance to the latter that he should endeavour to maintain the reputation built up in happier times. The wish to do so is a worthy one,

but there is a nobler motive which places self on one side, that is, the desire to keep up appearances for those who place a high value on them, and are the first to miss those little points they have been accustomed to derive pleasure from.

Taking for granted that these feelings of loyalty imbue the man at the wheel, and he endeavours to pilot his charge through the rough elements of hard times, from hence, not any opportunity is missed which may aid the object in view. To whatever extent the hand may be weakened in physical capacity, there is no diminution of mental strength, it is rather invigorated by the new call made upon it. Could the area of work be reduced to the measure of strength all would be different, but that seldom is the case; the boundary lines are not contracted, so relief must be sought where the shoe pinches most, and who better qualified than the wearer to diagnose the place? In most gardens the irritating spot will be found in that heavy labour entailed with the bedding—the annual or bi-annual filling of a large mass of flower beds, which, in our time, has been so heavy a task on all sorts and conditions of men and places. With all the admiration which has been accorded by visitors to this class of work, it has been more a marvel at man's ingenuity in reproducing intricate designs; his skill and energy in manufacturing so many thousands of plants for so brief a display than to any real love for the object. Evidence of this is noticeable in changed feelings now prevailing, a change which must be a welcome relief to many a worker. One may hope that the extreme will not set in, for there are many bright beauties which would be ill spared, but they have too long had the monopoly. In this department will be found facile means for economy, by which appearances may not only be maintained but considerably improved upon. Hardy plants, suitable to the position they are intended to occupy, form a valuable auxiliary from a labour-saving view, and serve as a foil to the more brilliant summer occupants. Sedums, Saxifragas, Sempervivums, with a host of low growing modest-toned plants, freely used as edgings or dividing lines, are by their permanency and neat habit of growth admirably adapted to those beds and borders where no loose habits are permitted. Where beds *en masse* are divided only by the narrowest form of gravelled alleys or walks the turfing over of alternate beds preserves the geometrical pattern—probably appropriate to its position by harmonising with surrounding outlines, and affords as much relief to the critical eye as it does to the hand of the worker. Under the pressure of altered circumstances there is hardly any part of the sphere of duty in which some means may not be found to the end of economy. In the shrubbery walks, made apparently for no other purpose than the labour of keeping and sweeping, may be swept away for good and all by planting up. The scrupulous removal of autumn leaves, entailing much scraping under shrubs and bushes, sweeping, and carting will be allowed to remain as food for the occupants, and by the nourishment afforded be a considerable help to them in keeping up their appearance.

A wise horticulturist of the old school, who in his long life had been a keen observer, was wont to impress a favourite maxim on the youthful mind—viz., "A clean walk covers a multitude of sins." Presumably these deflections from the path of duty partook more of the character of omission than commission; but few will deny the important bearing clean and good walks have on general appearance, and whatever shortcomings should prevail, if noticeable here, they do much to mar the whole. Some fourteen years since a band of gardeners met by invitation in the Phoenix Park, Dublin, to see and criticise a horse-power machine for hoeing and raking gravel walks. This had been invented by a practical gardener to meet the exigencies of hard times—such as I have endeavoured to depict. Taken up by a gentleman, and in some way improved upon, its trial trip on the gravelled plateau at the base of the Wellington obelisk was scanned with varying comments. The trial resulted in its being then and there christened the Phoenix, and something more, for some of those present who were

similarly circumstanced to the originator saw in it a valuable aid to the desirable object of a clean walk. I do not know if it is now in existence; if not, it may sooner or later, like the fabled bird, rise again. Only those who have experience of a damp season in Ireland can be aware of the labour and the difficulty in keeping extensive walks presentable with the endless scuffling and raking. Whatever may be the value of chemical weed killers from an economical point of view to some employers they regard their use as objectionable, and to their wishes due consideration must be paid.

In the course of a year's work there are times of pressure which appear to overwhelm the man in charge. Work awaits on every side. The question is then how to economise the forces at his command, whether by distribution or concentration of his hands, can he best attain the object. The combined attack, where possible, with the chief at the head, has by force of example special advantages. Appearances in this case go a long way. When workmen see him—who in times of yore kept the coat on his back, doff the coat, bend the back, as he cheerfully falls into line with them, it means much more than the physical help and master's eye. Hard times they may be, and are felt to be, but "Those who cannot have what they like, must learn to like what they have." There is but little time for vain regrets. Employer and employé are brought into sympathetic touch in the desire of the one and endeavour of the other to keep up appearances.—E. K., *Dublin*.

CYCAS REVOLUTA FLOWERING.

In the *Journal of Horticulture* for September 6th reference was made to a fruiting plant of *Cycas revoluta*, and an illustration of the seeds was published. We have since received from Mr. Thomas Hardcastle Sykes, Cringle House, Cheadle, a photograph of his male plant as reproduced in the accompanying illustration (fig. 58), with the following note—"Referring to the very interesting account of the seeding of the *Cycas revoluta* in your issue of 6th September (page 230), sent by Mr. Mackellar, of Abney Hall Gardens, I now enclose you a photograph of the male plant showing the cone, which was 2 feet 5 inches high, and very handsome, of a rich old golden colour; it has now died down. The plant is 9 feet through."

THE FLORISTS' TULIP.

[By JAMES W. BENTLEY, Hon. Secretary to the Royal National Tulip Society.]

INTRODUCTORY.

THE florists', or as it has recently been called, the English Tulip, is a flower that is to most flower lovers of the present day practically unknown. Everybody knows the early Dutch Tulips as being bulbs that may be imported by the million, in order to produce, by forcing, untimely puny blooms to adorn the tables of restaurants, where they shrivel up in a few days, and are consigned to the dustbin. Everybody knows *this* Tulip, but the gorgeous flower that the Tulip grower means when he thinks of his favourite is a far different daughter of Flora. At the same time I do not wish it to be thought that the Dutch Early is a flower to be despised; properly grown it is a brilliant addition to our gardens in the spring, and welcome on that account, but seldom indeed has it fair treatment after its arrival in this country.

The Dutch Early is as a household drudge in the temple, but our Tulip queens it with the fairest there. With a wealth of colouring equal to any other flower she blends them with a purity, brilliance, richness, and grace that is surpassed by none. And yet it must be admitted that the culture of the Tulip has fallen into comparative obscurity, although it is not easy to find reasons for this sad state of things. Perhaps, as suggested by Mr. Douglas in his little work "Hardy Florists' Flowers," the system of bedding-out tender plants such as Zonal Pelargoniums and Calceolarias having become popular, the taste for the Tulip along with many another florists' flower declined.

It may be that Tulip growers have themselves much to answer for. Until recently they have for many years done nothing to attract attention to themselves beyond holding the annual exhibition of the Royal National Tulip Society, and as death is busy with them as with other men, it at one time seemed probable that in a few years they and the flowers they loved would be gone, and the results of their patient work of seedling-raising for ever

lost. Such a fate seems to have actually overtaken the *Ranunculus*. Where now are grown *Ranunculi*, such as Tyso and Lightbody raised, flowers exquisite in their delicate perfection of shape and colourings? I fear the answer must be, Nowhere, and were it not for the portraits of a few of these beautiful flowers in the pages of the old "Florist," and possibly other similar publications, many of us would never have known to what a state of perfection the flower had been brought.

What has happened to the *Ranunculus* might easily have been the fate of the Tulip; but thanks to those who have, through many lean and hungry years, kept the Royal National Tulip Society alive, more prosperous days seem to be in store—at least there is apparent "a streaky dawn of better things," and it is with the hope of hastening the welcome time that I presume to write on the subject, and to compile the descriptive catalogue of varieties that is intended to follow. I use the word presume, because I am well aware there are other growers of the Tulip more experienced than myself who would probably have done the work better. I am encouraged, however, to proceed by the assurance that I shall have the kindly assistance of most of our best cultivators, and the sympathy of one and all. Besides, the help I shall get from my contemporaries I shall also make free use of the writings of the famous Tulip growers of the past, and I freely own my indebtedness to the late George Glenney, Dr. Hardy (of Warrington), C. L. Crook (London), John Slater (Manchester), J. F. Wood, Thos. Allestree, and many another whose contributions to the pages of those delightful old-time journals, "The Midland Florist," "The Florist," "The Gardeners' Record," and "The Horticultural Cabinet," I have found most useful and interesting.

CHAP. I.—HISTORY OF THE TULIP.

The Tulip was introduced into Western Europe from Turkey about the year 1550. It is supposed to be a native of Persia, from whence it had been introduced into Turkey, and was cultivated in the gardens of Constantinople. It quickly became popular, and in the year 1577 made its appearance into England, where it was extensively grown in the neighbourhood of London for thirty or forty years, and a great number of new varieties were raised from seed. Parkinson, writing in 1629, enumerates 140 varieties, and goes on to say:—

"But to tell you of all the sorts which are the pride of delight there are so many, and, as I may say, almost infinite, doth pass my ability, and, as I believe, the skill of any other. There is such a wonderful variety and mixtures of colours in them that it is almost impossible for the wit of man to decipher them thoroughly and to give names that may be true, and several distinctions to every flower. Three score several sorts of colour, simple and mixed, I can reckon up that I have, and of especial note; and yet I doubt not that for every one of them there are ten others differing from them. But besides this glory of variety in colours that these flowers have they carry so stately and delightful a form, and do abide so long in their bravery, that there is no lady or gentleman of any worth that is not caught with this delight."

In a work by John Rea published in 1665, entitled "Flora, Ceres, and Pomona," a catalogue of 184 varieties of Tulips is given; in a second edition of the work published in 1676 the list is increased to 300 varieties. Although the Tulip is considered to be a descendant of *Tulipa Gesneriana*, it is most probable that the first Tulips introduced into Europe were already varied much from the wild type, for otherwise it could not have been possible in the comparatively short time to have raised the numerous varieties mentioned by Parkinson with their "wonderful variety and mixtures of colours." I doubt, moreover, whether the bright red self with its inky base, known now as *Tulipa Gesneriana*, is the type. My opinion is that the original Tulip must have had some yellow about it, that colour being the most persistent in the modern Tulip.

That the Turks had already differing varieties before any Tulips were introduced into Europe is almost certain, for in "Richard Hackluyt's Voyages," published in 1599, is an instruction to a factor (or what we should now call a supercargo) about to proceed to Turkey, from which the following is an extract:—"And now, within these four years, there have been brought into England from Vienna, in Austria, *divers kinds* of flowers called Tulipas, and those and others procured thither a little before from Constantinople by an excellent man called M. Carolus Clusius."

I will not inflict upon my readers the well-worn tale of the Tulipomania in Holland. It is indeed difficult to conceive how such a mania could seize upon a steady-going people like the Dutch; still, we must remember that this madness was indulged in, not from any appreciation of the beauties of the flower, but from the hope of growing suddenly rich by speculation, and after all there was as much sense, or as little, in buying a "Semper Augustus" Tulip at £500 per bulb as we moderns display when we send a similar amount for shares in the Wheel Gambler Mine,

Limited, or some other kindred swindle, dear to a confiding investor's heart—and to his pocket.

We English are an imitative people, and might probably have followed the Dutch fashion had not the quarrel which broke out between Charles I. and his Parliament, and the civil war which followed, filled men's minds with sterner thoughts than the growth of and traffic in Tulips.

These troubles, and the revolutionary changes which followed, having passed away, Tulip growing, along with other peaceful pursuits, began to revive, for we find in "The Tatler" of August 31st, 1710, an amusing paper written by Steele, ridiculing the magnificent names given by florists to their Tulips, many of which he enumerates as "Alexander the Great," the "Black Prince," the "Duke of Marlborough," and others. Such names are common among Tulips even now, and Steele, if he could revisit us, would find in such names as "King of the Universe" and "Queen of England" plenty of material for the exercise of his power of witty ridicule.

High prices were evidently given for Tulips at the time Steele wrote, for he makes his Tulip grower say that he valued his bed, which was not more than 20 yards in length, more than the best 100 acres of land in England, and that his cook had nearly ruined him by boiling, in mistake for Onions, a handful of Tulip roots, which had cost him £1000.

There is every reason to believe that from the period when the fondness for the Tulip revived in this country, until the middle of the eighteenth century, it was a considerable favourite in the gardens of the wealthy and the tasteful; but from 1750 other plants, chiefly American, began to come into fashion, and the Tulip gradually disappeared from the gardens of the upper, and their imitators in the middle classes. Still to the Tulips were left loving servants, who worked quietly and faithfully. No matter for how long the general public has neglected the flower, Tulip growers have up to the present never been wanting.

Until the beginning of this century, the most esteemed Tulips were of Dutch or Flemish origin, but English growers were at work raising seedlings as early as 1740, as is apparent from Philip Miller's "Gardeners' Dictionary," published 1747. Under the heading "Tulipa," amongst other very interesting reading, occurs the following:—

"The late-blowing Tulips are so numerous that it would be to no purpose to attempt to make a catalogue of them. These are generally obtained from breeders, which is a term applied to all such flowers as are produced from seeds which are of one self colour, and have good bottoms and chives. These do, in time, break into various beautiful stripes according to the ground of their former self colour. Of these breeders there hath been a great variety brought into England from Flanders of late years; but there are some curious persons who have lately obtained many valuable breeders from seeds sown in England, and doubtless were we as industrious to sow the seeds of these flowers as the people of France and Flanders, we might in a few years have as great a variety as is to be found in any part of Europe."

Miller, unfortunately, does not give us the names of the "curious persons" he refers to. In James Maddock's "Florists' Directory," of which I have an edition, published in 1810, full directions are given for raising seedlings, and on plate 3 is a portrait of a Tulip, which for form and marking would pass muster very well at the present day. Maddock, however, gives no list either of the names or of the raisers of Tulips, but when we come to refer to Thomas Hogg's "Treatise on the Growth and Culture of the Carnation, Pink, Auricula, Polyanthus, Ranunculus Tulip, &c.," published 1822, we find the following interesting remarks on seedling-raising:—

"The fresh spirit that has been infused into the cultivators of flowers since our return to peace and to peaceful pursuits has induced many to try to raise a fresh set of breeders, and to sow seed annually that has been saved from fine flowers. The enthusiastic florist overlooks every difficulty; eager with hope, and ardent in the pursuit he anticipates success, and his perseverance effects it. The most gratifying and complete success has attended the labours of Mr. Carter of Foxgrove, Wilts, of a Mr. Austen, a Mr. Strong, a Mr. Lawrence, and a Mr. Goldham, who have raised from seed and matured and broke into colour perhaps some of the finest Tulips in the country. Mr. Clarke of Croydon, a scientific and experienced florist, has the best breeders in the country, raised from the seed of Louis, Charbonnier, Davey's Trafalgar, &c., with finely formed cups and clear bottoms; they are in very high repute among florists."

With these men, who may be called the fathers of the English Tulip, began our independence. Up to that time all the best Tulips came from the Continent, but ever since we have continued to improve the flower, and now Holland is not resorted to for supplies, except as one might visit for curiosity a museum of antiquities, for the Dutchmen still continue to grow the "shabby, foul, and misshapen" kinds that our grandfathers were glad to banish from their collections. Tulip growers were now at work

all over the country; and in the midlands, Lancashire, Yorkshire, Northumberland, and in Scotland the flower was grown, shows held, seedlings raised, and much enthusiasm displayed. In those days, however, communication was costly and infrequent, and the consequence was that different districts formed different ideas as to what constituted perfection in the florist Tulip.

The London growers, who deemed themselves the aristocrats of the cult, thought the chief requisites in a Tulip were shortness of cup and perfect purity of base and stamens. Any Tulip possessing these properties was considered fine, even if the marking of the petals was uneven, broken, or defective.

The Midland and North of England growers considered correct marking the vital property of the Tulip, and according to them a



FIG. 58.—CYCAS REVOLUTA FLOWERING.

correctly marked Tulip was fine even if the shape was bad and the base was foul.

I cannot make out what was the Scotch standard. From reports of their shows it would seem that they leaned rather to the London ideas as to marking, but they evidently did not insist on the purity that the London men considered essential.

The floricultural publications published from 1830 to 1860 contain much controversy about the properties of a fine Tulip. Mr. George Glenny was one of the first to lay down a standard, about the year 1832. Mr. Groom, Mr. Slater, and others, more or less famous, gave their ideas on the subject, but it was reserved for Dr. Hardy of Warrington to settle the matter, which he did effectually by writing two luminous articles to the "Midland Florist" in 1847 on the form of the Tulip, and another in 1855 on marking and the other properties necessary for a fine flower.

The southern growers, amongst whom may be named Mr. Groom of Clapham, Sanders of Staines, Macefield of Hoxton, Betteridge of Abingdon, Lawrence of Hampton, Goldham of Sydenham, and Norman of Woolwich, kept up the reputation of being the best growers and seedling raisers until about 1845, but after that time seedlings of great merit were produced in ever-increasing numbers in the north and the midlands, and most of the famous southern flowers were in a comparatively short time superseded by the productions of such raisers as Gibbons of

Chellaston, Slater of Manchester, Headly of Cambridge, Willison of Whitby, and many others, whose successes stimulated cultivators to still further efforts, and produced the splendid varieties raised by Martin of Whalley, Lanc, Storer of Derby, Dr. Hardy of Warrington, Hepworth, Parker and Hardwick of, or near, Wakefield, Battersby of Mansfield, Ashmole and Jackson of Middleton, Lanc., and Dymock of Stockport, whose flowers, together with the survival of the fittest of older times, practically form our modern collections.

From the year 1855 Tulip growing began rapidly to decay in the south, and the reason is not far to seek. Situated as the southern growers were, almost entirely in the vicinity of London, the spread of bricks and mortar spoiled and destroyed the gardens of the florists, and although some removed their favourites further afield, yet the general effect was disastrous, old ties were loosened, growers disappeared, and the fancy became practically extinct.

Of late years a similar decline has been witnessed in the midlands, and now Nottinghamshire and Derbyshire, counties which once contained the collections of numerous famous growers, have scarcely a Tulip fancier left in them. In Lancashire and Yorkshire, however, there are still ardent and successful growers, and to these counties the Royal National Society has to look for the bulk of its support. Still a few are faithful in other places, and there are signs of a revival of interest in the south, not the least being a Tulip show in London last May, which attracted much attention and greatly encouraged the growers who promoted it to hope that the old flower might grow into wider notice once again.

(To be continued.)

RIPENED WOOD.

"SCEPTIC" first defies the consensus of opinion resultant from the world-wide experience of the general body of practical gardeners, and then in attempting to defend his anomalous position he relies on being allowed to substitute in the place of sound reasoning a mixture of burlesque, with here and there a surface-scratching of the subject, which as mere details in no way affect the main question. When under the impression that he is conveying to us valuable information, or it may be that whilst attempting a *reductio ad absurdum* as when referring to ripened wood as something to eat or to be distinguished by the sense of smell, under the impression that he is poking fun at us, he unconsciously time after time supplies the rod for his own punishment. "Ripened wood" in the sense as generally understood in millions of cases not only gratifies the senses of smell and taste, but it also sustains life; in fact no life would be possible were it not for the connection of "solar influences," which "Sceptic" is so ready to ridicule with the processes of ripening.

Last week "E. K." (page 359) gave "Sceptic" a very good definition of "ripened wood," but as he shows so little tolerance to the opinions of others I propose to take the matter still further, so far as space will allow, and show how the process of ripening is brought about. Although used as a figure of speech, it carries with it a tangible and definite meaning, known as maturation, combined with the storing of reserve material by a series of physiological processes which obtain all through Nature, giving vital force to and leading up to reproduction. For the sake of illustration we will call the reserve force here alluded to a supplementary one, or a surplus one beyond that required to maintain life and ordinary growth. Consequently wood fully ripened should have in its store reservoirs, not only in the current year's growth, but also in the branches, stems, and roots, a large reserve of materials to meet the requirements of ordinary growth, as well as those required in the production of fruit buds and blossom, of which more by-and-by.

The first thing to realise is that about one-half of the dried substance of plants is carbon. Previous to it being used up to build up the plant's structural skeleton carbon plays an important part as being of necessity a proportion of the physical basis of the plant life—viz., the protoplasm; it also enters largely into the composition of the carbohydrate series of formative materials, the vegetable acids, and the albuminoids. Yet as plants do not take up carbon in solution by the roots the question arises, How do they obtain it? It is here where the importance of "solar influences" comes in, in conjunction the physiological process of the assimilation of carbon, followed by the metabolic changes, and subsequent translocation of the constituent elements.

Carbon is obtained from the carbon dioxide present in the atmosphere, in the proportion of about four parts in 10,000. Its chemical formula CO_2 shows it to be composed of one part carbon and two parts oxygen. The power of breaking up this compound of two gases is vested in the chlorophyll in the leaves of deciduous fruit trees, but a suitable temperature, which varies in different plants, and sunlight are the necessary conditions for this process.

During the process of the splitting up the CO_2 the oxygen is returned to the atmosphere, and the carbon combines with the cell sap. This combination of the carbon with the watery sap gives the formula CH_2O the first ternary compound leading up to the formation of starch. Although it may appear a simple process by adding the symbol C for carbon to that of H_2O for water, with the sum standing at CH_2O , it requires a great amount of energy being expended on it by the vital forces of the plant. It may be interesting to "Sceptic" to know that the light and heat of the sun supplies this energy, the chlorophyll seizing on and absorbing some of the light rays, and turning them into chemical work.

After the formation of the first ternary compound CH_2O several complex changes occur by the re-arrangement of the molecules of the carbon, hydrogen, and oxygen, resulting in the formation of the carbohydrate series of formative materials having the same physiological value as the substance of which the cell walls are built—viz., cellulose. As one of this series "starch" holds an important significance; it is the first solid substance formed in the leaf, and no starch can be formed except the sun shines. According to Sachs's experiments starch was proved to have been formed after two minutes' exposure to bright sunshine, but when the sun was obscured by clouds two hours elapsed before any starch could be detected, consequently the longer plants are exposed to sunlight the greater the amount of starch formation takes place. The starch formed under these conditions is rendered soluble in the dark by the process of hydrolysis, and takes up the formula of glucose; as such it is passed on to where growth is taking place, and is here used in conjunction with the nitrogenous and mineral elements brought up by the roots in the formation and furnishing of the growing cells.

During long continued sunshine the formation of starch is greatly in excess of the plants' requirement for ordinary growth; this excess is passed to the store reservoirs and reconverted into starch as a reserve to be drawn on when conditions are unfavourable for its elaboration in the leaf. On the other hand, a comparatively sunless summer means a limited reserve being formed of the carbohydrates series of formative materials; but we shall also be able to show that the same conditions apply with equal force to the supply of mineral food being taken into the plant system. The amount of mineral elements taken up is dependent on the amount of water carried off by transpiration. During cloudy weather little transpiration takes place, during wet weather scarcely any, but during sunshine the amount is immense. As plants can only take in an exceedingly dilute form of mineral elements, the more continuous the current set up by sunshine the greater must be the supply coming in contact with the products of assimilation in course of manufacture, where they play their part in the elaboration of the nutritive materials of growth and reserve store, while the water is carried off by the stoma of the leaf.

After defoliation in the autumn, were it not for this reserve store, it would be impossible for the plant to meet the requirements of growth going on under the scaly covering of the buds, where all through the winter, according to temperature, an immense amount of growth is taking place in the development of leaves and shoots for the succeeding summer; but the requirements for this purpose would be a small fraction of that required for the development of such a crop of fruit blossom as was the outcome this spring of last summer's ripening influences.

In a discussion of this character it is impossible to compress so wide a subject within the limited space at command. These remarks, although only touching the fringe of the matter, cover all "Sceptic's" scepticism, as being embodied from the advanced teachings of the day by the best authorities. It is for "Sceptic" to accept or reject them as he pleases. This could only be a matter of indifference so far as he is individually concerned, but we cannot allow to pass unchallenged the mischievous effect which his self-confident and somewhat plausible style may have on the unformed opinions of young gardeners and the employers of gardeners generally.

In conclusion, for "Sceptic's" satisfaction, I may inform him that if he requires further proof, or evidence—Firstly, bearing on the ripening of the Vines in what he is pleased to elegantly dub as the South Wales Vine muddle; secondly, on his meteorology for the years 1893 and 1894; thirdly, on the question of fruit colouring being higher this year than last—if he will explicitly state his case on these three questions without so much sound and fury, one question at a time, and allow the Editor to pare down rigidly all extraneous matter, "all wordless generalities, meaningless vapourisation, and similar nonsense," I shall have much pleasure in joining issue with him on those grounds.—AZOTO.

THE use of the word "ripened" in this discussion, in which both sides apply it to two totally different and distinct conditions of plant life, must inevitably tend to confusion of thought. It is a convenient phrase to use when referring to the annual change which takes place in perennials of temperate climates prior to and preparatory for the

winter's rest, when the energy of the plant is stored up in resting buds, stems, scales of bulbs, corms, tubers and roots, or those lignifications of wood and bark which give the tree rigidity and stability. This ripening of the stem is a widely different thing to the changes which take place in the coatings surrounding the seed in edible fruit. The very elements which are drawn from the leaves on the approach of the autumn, to be used in the maturation of the buds, or conserved in the cambium layer till the rise of the sap in spring, and are the essence of its ripeness, are absent from the fruit, referring of course to the more succulent parts as distinct from the embryo. Here the protoplasmic substances are withdrawn and the cells are filled with glucose, sugar, fruit salts, oils, and other carbonaceous compounds which in their decay may or may not foster the life of the embryos, or may have served their purpose in assisting in the dispersal of the seed. The chlorophyll and the chloroplastids, in which, by the aid of light and heat, the energy of the life processes have been carried on, have disappeared, or become absorbed, and all further changes (decay) must be so many steps towards the inorganic. This is the very reverse of what takes place in the stem, which in maturation acquires a greater intensity of energy, quiescent, it is true, but yet there for the time that spring calls, by the increase of heat and the rising of the sap, for renewed activity.

If the writers on this question hold that there is an analogy between the two, as "E. K., *Dublin*," appears to do on page 358, "Sceptic" may well be sceptical in the matter, for the processes are the very opposites of each other, one being the formation of a series of compounds from which the power of organic change (or growth) has been withdrawn, and the other in which the proteid compounds are stored up in their most concentrated forms, associated with the infiltration of lignin into the cellulose of cells and vessels, by which firmness and bulk is given to the stem, and not as "E. K." asserts, by the use of organic salts, excepting, of course, the silicates of grasses and plants of that nature. These salts, while necessary to the processes of life, become the waste products, and are largely passed into the leaves as they get old, to be removed by the fall of the leaf, just as other waste products are removed from the plant by the roots by the process of exomose.

Most readers will agree with Mr. J. G. Pettinger, page 359, that it is idle to deny the annual maturation of stems, called "ripening" in this discussion. That this is of different degrees in different seasons, experience shows. The activity of what scientists know as the chloroplastids of the protoplasm in the leaf cells depend upon the direct action of the rays of light at the violet end of the spectrum. If these are restrained out during their progress through the atmosphere by the excess of vapour or other obstructions, as tinted glass, textures, smoke, or fog, there is by so much a reduced life in the protoplasm of the leaves. Usually the lessened actinic power is associated with an excess of moisture poured into the leaves by the root action, which has, of course, to be got rid of at the expense of the vitality of the leaves.

If an insufficient actinic power reaches the leaves at the close of the vegetative period, when the axillary and terminal resting buds are being formed, with an excess of watery sap, then there is a lessened volume of proteid and glucose and ligneous compounds returned to the stem. An addition is made by the plant to the vegetative organs (leaves) in the buds instead of reproductive organs (flowers) until such time (which may be another season) that a balance is struck, and the vegetative gives place to the reproductive effort, when flower buds are formed in place of leaf buds. The plant endeavours by the production of greater leaf surface to dispose of the excess of crude sap; when this is overcome the chloroplastids under pure light, heat, and lessened moisture are active in producing those compounds which drawn into the stem stiffen the vessels with lignin, store the cambium region with proteids, and are used in the buds for flower production in the spring.

The presence of chlorophyll granules in the cells of leaves is usually accompanied with the production of starch by the aid of light. As starch grains cannot pass through the cell walls, under the action of the actinic rays certain ferments are formed in the cell sap which change this material into glucose. This compound is transmitted from cell to vessel till it reaches the part of the organism where it can be either used to build up the structure, or can be changed again by the action of leucoplastids to starch and stored for future use.

The answer to the query, What is the ripening of wood? is—1, The transmission into the leaf of waste products; 2, The return into the stem of compounds produced under the action of light in the cells of the leaf, which can be used as lignin in the wood and bark; and 3, the elaboration of material in leaves under the same conditions, to be used in the formation of buds (flower and leaf) for the ensuing season.—J. A.

I REGRET that owing to other matters claiming my attention during the past week I am unable to do more than acknowledge the two communications appearing in your last issue, reserving to myself the right to deal with them in detail upon another occasion.

"E. K., *Dublin*" (page 358) suspects that your "verdant corre-

spondent is more anxious to arrive at the truth than to wash out the subject in a wave of scepticism." Whatever these last nine words may be supposed to mean, he could not have paid me a greater compliment than accuse me of being a persistent seeker after truth. I hope always to remain so.

As, however, this controversy has now become rather protracted, I think a brief recapitulation of its leading features may not be out of place. In July you printed over the initials of your Irish contributor an article describing in glowing terms the benefits which had accrued to horticulture generally from the heat and drought of 1893. This article was headed "Ripened Wood." Disgusted at what I regarded as an ebullition of hysterical gush, I penned a short paragraph, which, however, was merely an amplification of one word—Fudge! "E. K." remained quite silent then, but Mr. Raillem came forward to do battle for the ripe-wood men, he attempting to prove that the disasters of this season were due to the May frosts instead of, as I contend, the ripening and roasting of the wood last year.

After two or three rounds Mr. Raillem retired, and "E. K." for the first time took up the running, since when others have joined in the fray. As three months have now elapsed since his first article appeared, I think I may fairly ask if your correspondent still adheres to the opinion he then expressed—viz., that the heat and drought of 1893 was beneficial to vegetation throughout the length and breadth of the land? This is the gist of the whole question, and aught else is but beating about the bush.

Again, will "E. K." undertake to assert that wood this year is not efficiently ripened? Comparison between two utterly different—but each in their way extraordinary—seasons is the only possible means of arriving at a solution of this difficult problem. But that is just what the ripe-wood advocates have carefully evaded, knowing full well the risk their pet theory runs of being found wanting when submitted to so practical a test.

"Azoto's" letter (page 321) which appeared between the writing and publishing of mine requires no answer; his attempt to confuse the issues being too palpable to impose upon anyone.—A SCEPTIC.

[We know that "Azoto" is, equally with "A Sceptic," an earnest "seeker after truth," and we suspect our readers will consider his article this week worthy of their respectful attention.]



THE PICKERING LODGE ORCHIDS.

ON Tuesday, Wednesday, and Thursday in last week the remainder of this noted collection of Orchids were sold by auction under the direction of Messrs. Protheroe & Morris. We are informed that the chief prices realised included 100 guineas for *Cattleya Massaiana*, 70 guineas for a plant of *Cattleya Hardyana*, 50 guineas for *Laelio-Cattleya calistoglossa*, 75 guineas for small pieces of *Laelio-Cattleya bella* and the original *Cattleya Reineckiana*. A small healthy plant of *Cypripedium insigne* *Sanderæ*, in a 4-inch pot, went to the son of the late owner at 260 guineas. A fine piece of *Laelio-Cattleya bella* fetched 150 guineas, and *Cattleya Schröderi alba* 160 guineas.

EPIDENDRUM GODSEFFIANUM.

THIS is the newest addition to the genus *Epidendrum* which has been brought into cultivation. It is stated in the "Garden and Forest" that the plant came in with large importations of *Cattleya labiata*, and from this it is safe to assume the treatment adapted to this *Cattleya* should also suit the *Epidendrum*, and so it has proved with us here. *Epidendrums* are the oldest of known epiphytes, and at the beginning all such were called *Epidendrums* by Linnæus; but as material came in it soon became evident that a division was necessary, for even *Dendrobiums* were included, until at least nine species were known to science at the time the name was given by Swartz, himself a pupil of Linnæus.

Epidendrums, as a class, are not much in favour with cultivators, there being but few that are showy enough to meet the popular demand at the present time, and it is to be feared that *E. Godseffianum* will not be much sought after unless the fashion changes. The flowers, about an inch in diameter, are produced sparingly on long branching stems, and all their plants are of a pale olive green, except the lip, which is white, faintly lined with purple. This *Epidendrum* is a very free grower when placed on blocks, with a little moss to hold the moisture about the roots. It is not easy to place the plants in pots, as they have a habit of ascending as they grow each year one above another.

ROYAL HORTICULTURAL SOCIETY.

OCTOBER 23RD.

CONSIDERING the time of year there was a fair display of flowers in the Drill Hall, Westminster, on this occasion. Chrysanthemums were shown in good condition, but Orchids were only moderately represented. Fruit was very extensively shown, the same remarks applying to vegetables.

FRUIT COMMITTEE.—Present: Philip Crowley, Esq. (in the chair), and Rev. W. Wilks, Dr. Hogg, with Messrs. T. F. Rivers, G. Bunyard, J. Cheal, T. J. Saltmarsh, H. J. Veitch, J. T. Miles, C. Ross, C. Herrin, G. Wythes, H. Balderson, W. Iggulden, S. T. Wright, G. Norman, F. Q. Lane, A. Dean, J. Hudson, A. J. Laing, and J. Wright.

C. Lee Campbell, Esq., Glewston Court, Ross, sent six bunches of Gros Colman Grapes from a rod bearing twenty-seven bunches; estimated weight of crop 56 lbs., width of house 15 feet; berries very fine. A silver Banksian medal was unanimously awarded.

Mr. A. Harding, gardener to the Marquis of Huntly, Orton Hall, Peterborough, showed fruits of the old Orange Bergamot Pear, also handsome fruits of Orton Favourite Apple, as large and well coloured as Bismarck. A vote of thanks was accorded for the Pear, and a request that the Apple be sent in August or early September, as the fruits had evidently passed their best condition.

Mr. H. W. Ward sent from Longford Castle a handsome fruit of the *Earl's Favourite Melon*—a pale green flesh, remarkably good so late in the season. An award of merit was unanimously awarded, and a desire was expressed to see it again in the summer, when its quality would be better developed. It is the result of a cross between Hero of Lockinge and the Bouverie. From Chiswick came a dish of *Rivers' Late Plum*—a dark, small to medium sized fruit, brisk yet sweet, and valuable for late use; tree a free bearer, and worthy of the position it occupies on the wall at Chiswick.

Mr. C. Ross, gardener to Colonel Howblon, Welford Park, exhibited specimens of a large Pear named Popham, but the texture was coarse, and no award was made.

Mr. J. Watkins, Pomona Farm, Hereford, sent a dish of Apples, Pickering's Seedling, attractively coloured fruit, but the quality not equal to appearance, and passed. Mr. J. Godfrey, Edmunds Nursery, Hillingdon, showed a dish of Burdon's Eclipse Plum, late, resembling Coe's Late Red.

Mrs. D. H. Scott, Old Palace, Richmond, staged a "new vegetable," *Oxalis crenata*—a plant in a pot. The tubers are known in Peru as Oca, but samples were not shown. Tubers were recommended to be sent to Chiswick.

Mr. G. Wythes sent a seedling Potato and a new White Milan Turnip. The latter should be seen in May. Recommended to be tried at Chiswick, also the Potato.

Mr. C. Herrin, Dropmore Gardens, sent a dish of Dutch Mignonne Apples and bearing branches from an old tree. A productive and useful Apple (vote of thanks).

Sir Trevor Lawrence, Bart., Burford Lodge, sent blanched specimens of the Chinese Cabbage, Chou de Shangton, more like a salad than a cooking vegetable, said to be very good when cooked (vote of thanks).

Several splendid collections of fruit were exhibited, also a remarkable collection of vegetables, and these won deservedly high honours. For Mr. G. Wythes' eighty varieties of vegetables a gold Banksian medal was awarded. At least equally striking in its way and meritorious was the collection of Apples from Messrs. J. Laing & Sons, 250 dishes and baskets in 150 varieties, also several heavily bearing trees of Bismarck (gold Banksian medal).

To Messrs. J. Cheal & Sons and Messrs. J. Veitch & Sons, silver-gilt medals were unanimously awarded for fine representative collections of Apples and Pears, the first 113, the latter 150 dishes. For fifty uniformly excellent dishes of Pears, a silver Banksian medal was granted to Mr. John Watkins, Pomona Farm, Hereford.

Mr. E. Beckett, gardener to H. H. Gibbs, Esq., Aldenham Park, was awarded a silver Knightian medal for a magnificent exhibit of twelve varieties of Celery. Mr. Pope, The Gardens, Highclere Castle, was awarded a silver Banksian medal for eighty varieties of Potatoes. Mr. Baring, gardener to Rev. Mr. Terrence, Weybridge, was granted a bronze medal for vegetables.

Votes of thanks were awarded to Mr. R. Fenn for fine clean samples of his Potatoes, free from disease by the use of anti-blight powder; also to Sir Trevor Lawrence for Turnips and other vegetables; and to Mr. E. Palmer for splendid Onions, grown in the experimental grounds of the Hants County Council.

A resolution, proposed by Mr. Rivers was carried unanimously, to the effect that the Council consider the advisability of limiting exhibits of fruit to fifty dishes of any kind, no duplicates allowed, with the object of placing growers more on an equality than at present, also with the view of having the very best varieties only placed before the public for educational purposes, on the ground that this is in strict accordance with the established principles of the Royal Horticultural Society.

Competitive Classes.—These were not numerous, neither were they largely patronised, two exhibitors only competing in the class for seven dishes of Apples, three dessert and four cooking. Mr. S. T. Wright, gardener to C. Lee Campbell, Esq., Ross, Hereford, was first with handsome examples of Warner's King, Ecklinville Seedling, Peasgood's Nonesuch, Stirling Castle, King of the Pippins, Ribston Pippin, and American

Mother. Mr. G. Wythes, Syon House Gardens, Brentford, was second with a very creditable display. His best fruits were Blenheim Orange, Cellini, and Alfriston.

In the class for five dishes of dessert Pears, Mr. T. Osman, The Gardens, Ottershaw Park, Chertsey, was first with Marie Louise, Beurré Superfin, Beurré Clairgeau, Pitmaston Duchess, and an unnamed variety. Each sample was excellent. Mr. Wythes was second with Beurré Diel, Soldat Laboureur, Beurré Bachelier, and Duchesse d'Angoulême. For eight dishes of dessert Pears no first prize was apparently accorded, Mr. Osman taking second prize with General Todtleben, Durondeau, Marie Louise, Pitmaston Duchess, Beurré Bosc, Beurré Superfin, and two other varieties. There was only one class for Grapes, this being for six bunches, and two competitors exhibited. Mr. W. Howe, gardener to H. Tate, Esq., Streatham Common, was first with well finished examples of Gros Maroc, Alicante, and Muscat of Alexandria. Mr. T. Osman was second.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); Messrs. Owen Thomas, J. Laing, H. Herbst, R. Dean, H. B. May, C. T. Druery, G. Stevens, P. Barr, C. F. Bause, C. Jeffries, W. Bain, G. Nicholson, G. Gordon, T. Godfrey, C. E. Shea, H. J. Jones, E. Beckett, C. E. Pearson, J. D. Pawle, G. Paul, and J. Fraser.

Messrs. Jas. Veitch & Sons, Royal Exotic Nursery, Chelsea, showing a box of hybrids of *Rhododendron javanico-jasminiflorum* and some handsome forms, such as Lord Wolseley, multicolor Ruby, Princess Frederica, multicolor Mrs. Heal, and Empress, were very prominent. An award of merit was accorded to the same firm for *Begonia margaritacea*, which is described below. Flowers of *Nemesia strumosa* Suttoni from the open ground were also shown by Messrs. Veitch. Mr. Moore, Botanic Gardens, Glasnevin, sent handsome fruiting specimens of *Coprosma lucida*, which had been cut from a wall in the open air. A vote of thanks was awarded.

A group of foliage plants and Chrysanthemum blooms was arranged by Mr. W. Davies, gardener to F. Darnell, Esq., Devonshire House, Stamford Hill. The plants comprising Ferns, Crotons, and others were healthy, well grown specimens; while the Chrysanthemums were highly creditable (bronze Banksian medal). Mr. W. Wells, Earlswood Nurseries, Redhill, showed Chrysanthemum flowers and plants, including Albani, Golden Beauty, Duchess of York's Favourite, President Armand, Flossie, Louise (award of merit, see below), Vice-President Calvat, Mr. B. Spaulding, and the novel green coloured Ethel Amsden. Almost the whole of these were superb examples of good culture.

A charming collection of Chrysanthemums in variety came from Mr. W. J. Godfrey, Exmouth. Some of the best were Wilfred H. Godfrey, Mrs. W. J. Godfrey, Mrs. Forbes, Madame Ernest Frere, Préfet Robert, Mons. Chas. Molin (see below), President Borel, Miss Ethel Addison, Mrs. E. G. Hill, and Van Den Heede. Mr. Godfrey also showed Carnations Reginald Godfrey and Miss Mary Godfrey, both good varieties. Mr. Robt. Owen, Maidenhead, exhibited Cannas Madame Camille Duyas, F. Wood, Alphonse Bouvier, J. Metrial, and others, all in good form (bronze Banksian medal).

Messrs. B. S. Williams & Son, Upper Holloway, showed an interesting collection of Cannas, all the plants carrying fine flowers. Plants of *Begonia Couronne Lorraine* were staged by Mr. Bain, gardener to Sir Trevor Lawrence, Bart., Dorking; it is a large-blooming floriferous variety. A first-class certificate was accorded to Mr. Bain for *Saintpaulia ionantha*, which is described below. *Salvia angustifolia* and *splendens grandiflora* also came from the same source.

Two boxes of Chrysanthemums were shown by Messrs. H. Cannell and Sons, Swanley, including W. H. Lincoln, Miss Sturgess, International, Madame Zurich, Fen Follet, Madame Edouard Rey, Souvenir de Jambon, L'Isere, and Mons. Auguste de Lacviver (award of merit, see below). The blooms were most of them very good, and displayed high culture. Messrs. R. Pearson & Sons, Chilwell Nurseries, Nottingham, showed two varieties of Chrysanthemums, Sarah Hill and M. G. Montigny, both apparently fine forms. Dwarf plants of *Hypericum Moserianum* tricolor in a basket, were shown by Messrs. T. Cripps & Son, The Nurseries, Tunbridge Wells.

One of the most showy exhibits in the hall was the group of Chrysanthemums shown by Messrs. J. Veitch & Sons, and which included many very fine varieties. Mdlle. Thérèse Rey, Louise (award of merit), Wilfred Marshall, Mdlle. Marie Hoste, Vivian Morel (very fine), and Viscountess Hambledon being amongst numerous others (silver Flora medal).

Mr. H. J. Jones, Hither Green Nurseries, Lewisham, exhibited some very fine Chrysanthemum flowers, such as Hairy Wonder (see below), Madame C. Capitant, Alice M. Love, Miss Ethel Addison, Mons. Aug. de Lacviver, W. G. Newett, and Mrs. E. G. Hill. Mr. G. Stevens, Putney, showed Chrysanthemum Préfet Robert (award of merit, see below).

Mr. W. Howe, gardener to H. Tate, Esq., Streatham Common, showed some extremely handsome Dracenas, the varieties numbering twenty-one. The plants were clean, well grown, and the colours exceptionally bright. Lord Wolseley, Lindeni, Robinsoniana, Barroni, Hybrida, and Goldiana were particularly prominent (silver Flora medal).

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); Dr. Masters, Messrs. J. O'Brien, H. M. Pollett, H. J. Chapman, G. Hill, C. Pitcher, T. B. Haywood, T. Statter, C. J. Lucas, W. Cobb, and H. Williams.

Messrs. J. Veitch & Sons, Royal Exotic Nurseries, Chelsea, sent, with other plants that are mentioned elsewhere, *Lælio-Cattleya* Pallas,

Cattleya Clonia (award of merit), and *Wendlandiana*. R. J. Measures, Esq., Cambridge Lodge, Camberwell (gardener, Mr. Henry Chapman), contributed a small group, including *Cypripediums*, *Cattleyas*, and others (silver Banksian medal). Botanical certificates were awarded for *Masdevallia Lauchiana* and *M. attenuata*, shown by the same exhibitor, who also secured a first-class certificate and a cultural commendation for a grand plant of *Oncidium ornithorhynchum album*.

Messrs. W. L. Lewis & Co., Southgate, sent a small group, amongst which were *Vanda Sanderiana*, *Cattleya labiata*, *Miltonia spectabilis* *Moreliana*, and *Oncidium Forbesi* (silver Banksian medal). Gurney Fowler, Esq., Woodford, also contributed a group of Orchids, chiefly *Cattleyas* and *Lælias*, arranged with Palms and Ferns (silver Flora medal). Messrs. Hugh Low & Co., Clapton, sent a charming group of *Cattleyas*, *Odontoglossums*, and the blue *Vanda cœrulea* (silver Banksian medal). A botanical certificate was awarded for *Dendrobium Cœlogyne* sent by the same firm.

Messrs. B. S. Williams & Son, Upper Holloway, had a small group of Orchids, comprising *Dendrobium album*, *Cypripedium Pitcherianum* Williams' var. and *Lælia Perrini nivea*. Mr. W. Cobb, Tunbridge Wells, secured an award of merit for *Odontoglossum aspersum fulvum*. A plant of *Odontoglossum grande* was also shown. Messrs. F. Sander & Co., St. Albans, had a small collection of *Dendrobium Phalaenopsis Schröderianum* and *Cattleyas* (silver Banksian medal). An award of merit was adjudged for *Odontoglossum Wattianum superbum*, shown by Messrs. Sander & Co. Mons. Jules Hye Lysen sent a plant of *Miltoniopsis Bleuiana rosea*, for which a first-class certificate was awarded. This is described below. T. Statter, Esq., Stand Hall, Manchester (gardener, Mr. R. Johnson), had cut blooms of *Cattleyas*, and F. Hardy, Esq., Ashton-on-Mersey (gardener, Mr. Thomas Stafford), staged a plant of *Cypripedium insigne Hardyana*. S. G. Lutwyche, Esq., Eden Park, Beckenham, had a few plants of *Cypripedium* and other Orchids, but no award was made. Mr. R. Hinds, Broomfield, Sale, exhibited dried flowers of Orchids mounted on cardboard (silver Flora medal).

CERTIFICATES AND AWARDS OF MERIT.

Cattleya × *Clonia* (J. Veitch & Sons).—This is the result of a cross between *Lælia elegans Turneri* and *Cattleya Warscewiczii*, the former being the pollen parent. The sepals and petals are blush, the lip being a rich purplish crimson, with a faint white margin (award of merit).

Begonia margaritacea (J. Veitch & Sons).—A distinct and very ornamental foliaged *Begonia*. The leaves are bronzy red, veined dark green (award of merit).

Chrysanthemum Mons. Chas. Molin (W. J. Godfrey).—This is one of Mons. Calvat's Japanese seedlings. The colour is old gold, tinted reddish brown (award of merit).

Chrysanthemum Louise (W. Wells).—This is a magnificent incurved Japanese variety. The flowers are massive and white tinted blush (award of merit).

Chrysanthemum Préfet Robert (J. Stevens).—An incurved Japanese variety of a maroon colour with silvery reverse (award of merit).

Chrysanthemum M. Aug. de Lacriver (H. Cannell & Sons).—An incurved Japanese of a brick red shade, yellowish reverse (award of merit).

Chrysanthemum Hairy Wonder (H. J. Jones).—This is one of the best hirsute-floret *Chrysanthemums* extant. The flower is of a good size, cinnamon buff colour, and very hairy (award of merit).

Miltoniopsis Bleuiana rosea (Jules Hye Lysen).—This is a magnificent Orchid, with flowers nearly 4 inches in diameter. The blooms are white tinted rosy pink (first-class certificate).

Odontoglossum Wattianum superbum (F. Sander & Co.).—This is a charming form, the sepals and petals being yellow, blotched reddish brown. The lip is creamy white, spotted violet (award of merit).

Odontoglossum aspersum fulvum (W. Cobb).—A good form of *O. aspersum*. The sepals and petals are yellowish green, thickly spotted with reddish brown, the lip being buff coloured (award of merit).

Oncidium ornithorhynchum album (R. J. Measures).—This is a small-flowered though graceful Orchid, the miniature creamy white blooms being borne in long drooping racemes (first-class certificate).

Saintpaulia ionantha (Sir Trevor Lawrence).—A useful dwarf-growing plant for winter flowering. The blooms are blue, and produced in large numbers (first-class certificate).

ORIGIN OF VEGETABLES AND THEIR VALUE AS FOOD.

At the afternoon meeting held on the 23rd inst. in the Drill Hall, Westminster, and under the auspices of the Royal Horticultural Society, the Rev. Professor G. Henslow, M.A., F.L.S., gave a lecture on the "Origin of Common Vegetables and their Value as Food." Mr. G. Bunyard presided, and there was a moderate attendance. Illustrations of the various types of vegetables were shown, and many dried specimens were displayed, these making the lecture doubly interesting.

The Rev. G. Henslow in opening his subject said it was impossible to deal with the matter at length in a limited time, but he would refer briefly to the origin of the various common vegetables and their value as food. Dealing first with what are known as roots, reference was made to the Turnip. This vegetable, he said, was doubtless known to the ancients well enough, but in Pliny's time other things were called

Turnips. As they all knew, when a Turnip is cultivated it produces a bulb which it would not do in a wild state. The Radish came originally from the East, and was very common in the fields at Malta. An old botanist had grown it, and proved that when the seeds were sown in a heavy clayey soil, the wild form had a tendency to produce round tubers or roots, whereas in sandy light ground they were inclined to be elongated. That, remarked the lecturer, gave a clue as to how the present kinds should be cultivated. The same thing may be said of Carrots. In Malta and Gibraltar Radishes grew to a large size. There is no doubt, he said, but that the Radish is of very great antiquity, and it was reported that an ancient writer saw a notice in the East referring to the number of Radishes and Onions that were consumed on an occasion 500 years B.C.

Parsnips, the lecturer observed, were more or less cultivated forms of the wild one. In support of this assertion he gave an interesting account of the origin of The Student variety. It seems that in the year 1847 Professor Buckland made some experiments in his garden with the wild Parsnip. The first year the roots commenced to improve, and selections were made annually, until what is widely known as The Student Parsnip was in 1850 sent to Messrs. Sutton & Sons. Judging by a figure of this variety published at that date, and the one issued by the above mentioned firm in 1891, it was obvious that further improvements have been effected. The lecturer also had a sample of a Parsnip to show what state of perfection had been reached in the present year. Carrots, he said, were derived from the wild form in much the same way as Parsnips, and they had long been cultivated. Pliny remarked that long roots could be grown by making holes six "fingers" deep and filling these with a light soil, sowing the seeds on the top. Beet (*Beta maritima*) was supposed to be a variety of *B. vulgaris*, and there were several forms, including the Sugar Beet. Regarding the value of above mentioned roots as food, they were, it was said, practically useless as flesh formers, containing but a small per-centage of nitrogenous matter. Turnips contain a very large amount of water, the same applying to Parsnips, and they should therefore be used only as adjuncts to food of a more sustaining character.

As to the Potato, that tuber was brought from Peru by Spaniards, and was grown in Italy for many years before Gerard received some samples. This occurred just previous to publishing an edition of his book in 1597, in which he described the Potato as a very valuable root. Darwin found *Solanum Maglia*, which Messrs. Sutton & Sons have been crossing with *S. tuberosum* in the hope of preventing the disease. Apart from water, sugar and starch formed the principal ingredients of the Potato. The Jerusalem Artichokes, like Potatoes, do not, it was said, contain much nourishment. This plant had been found growing in the Northern States of America, and was a comparatively modern vegetable. Asparagus was known very many years ago, and in Poland and South Asia it grew so abundantly that horses were fed on it. It was similar to the Seakale, as in neither case did the cultivated forms differ much from the wild kinds. Cabbages, on the other hand, were much improved by cultivation, and varied considerably. The wild type, said the lecturer, was to be found growing on the coast of England, and he showed a specimen that had been gathered on the shore at Walmer. About 300 years B.C. there were reported to be three varieties of Cabbage, and a first century writer said he knew a dozen sorts. Pliny alluded to shoots or sprouts on Cabbages, though whether he meant Brussels Sprouts or the inflorescence of Cauliflower was not quite clear. Broccoli came from Italy, where it was usually ready to cut in March and April. The history of the common Onion was not known, though it was recorded to have been used extensively by the ancients in Egypt. Leeks he had found growing wild in Malta, the plants usually having a small bulb.

What might be termed fruits—that is, Peas, Haricots, and Lentils, remarked the reverend gentleman, were highly nutritious and valuable as flesh formers. This fact, he thought, was well worth knowing, and if these vegetables were used in conjunction with Potatoes by the Irish labourers it would be better for the consumers. Mr. Henslow referred to the so-called mummy Peas and Wheat, and repudiated the idea that any of the seeds taken from the tombs would germinate. A very handsome Pea, he said, was grown in Egypt, and this was known as the "Mummy" Pea. This appeared to be between the field Pea and the ordinary white culinary variety, and produces fasciated stems. It was issued as the "Mummy" variety in 1840 by a Mr. Grimston. The story then invented seemed to keep with it. The lecturer concluded his admirable and interesting discourse by alluding to the advantages derived from the consumption of certain vegetables, and his remarks were apparently appreciated by the audience.

Dr. Masters, in opening a brief discussion, said it occurred to him that we did not make sufficient use of the vegetables which were provided by Nature. There were many more succulent plants that could be thus utilised. He wondered why native plants as the Cabbage varied so much and the Seakale not. It also seemed curious that most of the common vegetables were originally seaside plants. He would like to ask why the cultivated Carrots were red and the wild one white?

Rev. G. Henslow, in reply to a question, recommended the consumption of Mushrooms and similar edible fungi as food. It would, he remarked, be a difficult matter to say why the Cabbage varied so much, and Seakale not; and as to the colour of Carrots, he had asked a similar question of a young Maltese, who said that a streak of red could occasionally be seen in the root of the wild Carrot. This was possibly the origin of the present characteristic colour.

A vote of thanks to Professor Henslow concluded the proceedings.



EVENTS OF THE WEEK.—As will be seen by referring to the list of advertised shows, which appears in another column, the Chrysanthemum exhibition season opens to-day (Thursday) at Hertford. This show will be continued on Friday. The Kent County Chrysanthemum Society's exhibition opens on the 31st inst., at the Rink, Blackheath; and the Crystal Palace show on November 2nd and 3rd.

THE WEATHER IN LONDON.—The weather in the metropolis has been of a changeable character since publishing our last issue. Dry weather prevailed towards the end of the week, and Sunday, Monday, and Tuesday proved fine, but rain fell in the evening of the last named day. It was much milder on Wednesday morning, and rained heavily during the day.

THE WEATHER IN THE NORTH.—The weather of September and October thus far has been unusually dry and fine, but winter is early upon us. On the morning of the 19th inst. we had 10° of frost, on that of the 22nd 12°, and on the 23rd 13°, with dense hoar frost, while the southern and western Grampians have been whitened with snow. Snow is also reported in the south of Scotland.—B. D., *South Perthshire*.

THE GRAND YORKSHIRE GALA—DONATIONS TO CHARITIES.—At a meeting of the Council of the Grand Yorkshire Gala, held at Harker's Hotel, York, on October 2nd, Alderman Sir Joseph Terry presiding over a large attendance, it was resolved to recommend to the general meeting of life members and guarantors grants amounting in the aggregate to £306 to charitable institutions out of the surplus in hand. At the general meeting, held on the 19th inst., it was decided to give the sum mentioned to various charities. Since the formation of the Society in 1859 no less than £2000 has been distributed among the York charities.

THE PROPOSED NATIONAL VEGETABLE SHOW.—A meeting of the provisional Committee that was appointed to take steps for carrying out the above project was held on Tuesday last, H. Balderson, Esq., in the chair. With the object of testing public feeling on the subject Mr. Alex. Dean (Secretary pro tem.) had, as agreed on at a previous meeting, sent circulars to a very large number of persons interested in or identified with the cultivation of vegetables in various parts of the country, and was able to announce that nearly in every instance the project was hailed with great satisfaction. Offers of co-operation were general, and in view of this it was decided to take such further steps as it was thought likely to advance the movement, in the hope that a scheme will be formulated to meet with public confidence and result in the establishment of a National Vegetable Society or show on a wide, firm, representative basis. A more substantially useful project than this has not for a long time been promulgated, and now that there is a greater disposition than ever to recognise the value of crops of everyday use in practically every family in the land, the time seems opportune for carrying out the object of the promoters in the interests of growers of Potatoes with other vegetables, and of consumers.

WAKEFIELD PAXTON SOCIETY.—At a recent meeting of the members of the above Society, Mr. Campbell, gardener to Mrs. Micklethwaite of Painthorpe, read an excellent paper on "Hardy Fruits." Mr. Campbell devotes special attention to fruit-growing, and during the past twenty years he has read several papers on the subject before the members. His paper on this occasion was of a thoroughly practical character, and contained much valuable information for professional and amateur gardeners. Mr. Campbell clearly and fully explained how to drain and plant an orchard, and mentioned the varieties of different kinds of Apples, Pears, and Plums which he had proved by experience can be successfully and profitably grown in this district. He contended that if the proper sorts of fruit were grown, if as much attention was given to fruit-growing as used to be the case, and the fruit was sent to market in a marketable condition, fruit-growing can be profitably carried on in this locality notwithstanding the keen foreign competition. He referred to some of the pests which infest fruit trees, showed the mischief they do, and pointed out how to get rid of them.

GROWING NARCISSI IN THE SCILLY ISLES.—The favourable weather experienced during the last six weeks at the Islands of Scilly has had a marked effect on the Narcissi. They already make rows in the beds.

GARDENING APPOINTMENT.—Mr. D. J. Smith informs us that he has left his situation as head gardener to B. Beer, Esq., Elm Wood, Bickley, Kent, and is now acting in a similar capacity at the General Infirmary, Northampton.

METROPOLITAN PUBLIC GARDENS ASSOCIATION.—At the recent meeting of this Association it was announced that His Royal Highness the Duke of York, after opening to the public the Victoria Park Cemetery, now known as the Meath Gardens, had consented to become a patron of the Association, and had subscribed £10 to its funds.

CERTIFICATED CARNATIONS.—Mr. W. J. Godfrey, Exmouth, exhibited blooms of Reginald Godfrey and Miss Mary Godfrey at the Royal Aquarium, Westminster, yesterday (Wednesday), and for which certificates were awarded by the Floral Committee of the National Chrysanthemum Society. The first named variety is salmon pink in colour, and the latter is white; both useful for winter flowering.

DEATH OF MR. EDWARD SPIVEY.—The death of Mr. Edward Spivey is announced to have taken place at Sawbridgeworth recently. Mr. Spivey, who was eighty years of age, was for nearly half a century head gardener to the late J. A. Houlton, Esq., Great Hallingbury Place, Bishop's Stortford, and was well known as a gardener of the old school. Many years ago he was a large exhibitor of fruit at the metropolitan shows.

A BOOK ON FERNS.—We have received a new and cheap edition of "A Manual of Exotic Ferns and Selaginellas," by Mr. E. Sandford, and published by Mr. Elliot Stock, 62, Paternoster Row, E.C. The book is well printed and contains much useful information on the subjects with which the author deals, but it appears to be merely a reproduction of the previous issue. A curious point in connection with this is the fact that the errors observed in the earlier edition are in the one under notice, a fac-simile "errata" list being printed.

THE APPLE CROP OF 1894.—I am surprised to learn from page 356 of your last issue that Mr. Molyneux classes the Queen with Apples which have failed to yield a crop this season. With us Lord Grosvenor, Beauty of Kent, Mère de Ménage and the Queen are the only kinds yielding good crops. Trees of the latter variety planted in gardens six or seven years ago were this year loaded with splendid fruit—perfect pictures. I have found the variety to be unfailing as a bearer, and the fruit commands the most ready sale of any culinary variety. The original tree, which stands in my orchard, has purchased its ground many times over with its fruit, the crop making in one year £6, and approaching that sum repeatedly.—WILLIAM W. BULL, *Ramsden, Billericay, Essex*.

WOOLTON SHOW.—Seeing a paragraph in the *Journal of Horticulture* (page 361) taking exception to the report of the Woolton show published the previous week, I beg leave to lay before you the true facts of the case. The show was certainly a competitive one, although the exhibits were not classified in the ordinary way. Each exhibitor could stage what he pleased, provided he kept to the rules. It was also perfectly well known to exhibitors that judges were appointed, and that awards in kind of different value were to be given in the order of merit, so that the best exhibit in the show received the best prize, which is certainly equivalent to being first. The report of the show on page 349, October 11th, was perfectly correct in every sense.—WM. DISLEY, *Hon. Sec. Woolton G.M.I. Society*.

AUTUMN-SOWN ONIONS.—Mr. J. Taylor, of 22, Camp Hill Lane, Wednesbury, writes to the "Rural World":—"The ordinary practice of sowing Onions during August (and in some northern parts earlier) is well understood, but it is not a general method to transplant them during the early part of October. I have only done it twice, and observe this season as well as last the crop is in much better condition than those left to be planted during March or April in the usual way; and what is more, bolting to seed is far less common. The ground is well prepared by manuring with decayed manure and digging deeply. The Onions are then planted in rows 1 foot apart and about 6 inches from plant to plant. Fine ashes mixed with soot are dusted along the rows once or twice during the season to ward off the evils caused by worms and the raising of the roots by frost."

— "BOTANICAL MAGAZINE."—The "Botanical Magazine" for the current month contains the subjects mentioned in the following five paragraphs, with accompanying notes and illustrations.

— *URARIA CRINITA* (LEGUMINOSÆ).—This is one of a genus numbering some ten species. It extends over India, Burmah, China, and the Asiatic Archipelago. It is a shrubby plant, sending up annual herbaceous branches and spikes of pink purple flowers. The leaves are markedly reticulated on the under side, and the plant generally covered with hooked hairs, except on the leaflets and perianth.

— *SENECIO LAXIFOLIUS* (COMPOSITÆ).—This is a native of the Southern Island of New Zealand, and is so nearly related to *S. Greyi* of the Northern Island as to be accounted its representative. It differs chiefly in its glandular involucre and almost smooth achenes. The flowers are golden yellow in loose but erect panicles, and the branches are clothed with a thick tomentum.

— *IRIS ATROPURPUREA* (IRIDÆ).—One of the sub-genus *Onocylus*, a native of Asia Minor and Palestine. The flower is of a dark purple colour, and the outer segments of the perianth are distinguished by a velvety cushion of hairs spread all over the claw.

— *TRICHOCENTRUM TIGRINUM* (ORCHIDÆ).—This is one of twenty-four species of the genus, and was discovered by Mr. Pfau in Central America a quarter of a century ago. The leaves are dull green speckled with red, and very leathery in texture. The peduncles are long and flexuous, bearing dull red membranous bracts. The sepals and petals are yellow sprinkled with red, and the lip white streaked with rose towards the base.

— *IMPATIENS AURICOMA* (BALSAMINÆ).—A perennial Balsam, coming from the Comoro Islands to the north of Madagascar. It is a handsome plant, the leaves being half a foot in length, with short red bristles. The flowers are almost an inch long, golden yellow, and streaked with red inside.

— SPRING—SUMMER—WINTER.—On October 17th, in a wood on the borders of Essex, I saw many fine plants of Primroses with numbers of fully developed flowers; a very large bunch could have been gathered—spring. A little further, on a sunny bank, I gathered a dozen or so of ripe and delicious wild Strawberries—summer. Close by the first woodcock of the season was flushed—winter.—W. R. RAILLEM.

— BOURNEMOUTH GARDENERS' ASSOCIATION.—Technical instruction in horticulture is taken advantage of in the Bournemouth district. By arrangement with the Director of Technical Instruction for Hants C.C. and the above Association Mr. D. T. Fish, F.R.H.S., gave two lectures on Diseases of Fruit Trees in the Tregonwell Assembly Rooms, Bournemouth, on the 2nd and 16th inst. At both lectures Dr. Hitchcock, President of the Association, occupied the chair, and there was a good attendance of members and others, as on such occasions the lectures are open to the general public. The first lecture was principally devoted to the causes of various diseases in fruit trees, and the second to its prevention and cure. The tap root came in for a strong share of condemnation, and also the immoderate use of the pruning knife. Cut off the tap root and put the pruning knife in your pocket, was given with such force and energy that left no doubt in the mind of those who heard of it of what was meant by it. And, as if in contradiction to his statement, a pruning knife was presented to one of the members for staging a collection of Apples. The Chairman, in presenting it, said that he felt a difficulty, in the face of such remarks and in the presence of Mr. Fish, in asking the member's acceptance of the pruning knife, but he did it on one condition—viz, that he only used it to cut off the tap root. Much valuable information was given as to the various causes and cure of diseases, and in addition to his own practical experience, quoting the authority of other well-known horticulturists. At the close of the lectures hearty votes of thanks were accorded to Mr. Fish, and also to Dr. Hitchcock. Some excellent exhibits were staged at both lectures, which included a fine basket of ripe Strawberries from the open ground (third crop), also Strawberries in pots, two bunches black Grapes (perfect in finish), a collection of fifteen dishes of Apples, and a collection of vegetables by Mr. J. Kettle, Pears and Apples and Ailsa Craig Onions by Mr. Chaffey, Pears and Apples by Mr. G. Ridout, Apples by Mr. W. Cripps, Apples by Mr. C. W. H. Greaves, Pears and Apples by Dr. Hitchcock, seedling Nectarines by Mr. H. Elliott, Stourvale Nurseries, Christchurch; and Celosias by Mr. J. B. Stevenson.

— MESSRS. LAING & MATHER.—We are requested to state that Messrs. Laing & Mather, Kelso, have had the distinguished honour of being, by sealed warrant, appointed seed merchants and nurserymen to His Royal Highness the Prince of Wales.

— *EUONYMUS EUROPEUS*.—This shrub bore a very heavy crop of fruit two years since in many parts of the kingdom, last year I noticed very few, and this year I have not seen any fruit on it; it would be interesting to know if the failure is general this season, and if the plants flowered this spring.—W. H. DIVERS, *Belvoir Castle Gardens, Grantham*.

— POLYGLOT DICTIONARY OF BOTANICAL TERMS.—Many persons who are in the habit of consulting foreign catalogues frequently find themselves perplexed as to the exact meaning of certain words, although the general meaning of the context is sufficiently clear. In assisting them in such difficulties they will find very useful a dictionary in six languages, compiled by Herr Jongkindt Coninck of Amsterdam, and which can be obtained in London at Nilsson's book mart.

— THE NATURAL HISTORY OF PLANTS.—This publication of Messrs. Blackie & Co. has now reached the sixth number. We have already spoken highly of the scope and execution of this work, and the latest number serves but to confirm the expectations we have entertained of it. The contents of the present volume relate almost wholly to the consideration of the leaf in its various aspects in vegetation, such as cotyledon, scale leaves, foliage leaves, and floral leaves, and towards the close the question of the stem is entered upon.

— HOLLY BERRIES.—If abundance of berries presages a severe winter—as we are sometimes told—I fear we are liable to something extraordinary this season. I never remember seeing Holly berries so numerous before, and *Crataegus pyracantha* is also bearing a full crop. I have no faith in the above prophecy, however, and consider this unusual fruitfulness to be due to the well ripened wood of 1893, which also caused an enormous wealth of flower on Portugal Laurel, White-thorn, *Olearia Haasti*, *O. dentata*, and one might almost add, flowering shrubs in general.—W. H. DIVERS.

— WEATHER IN THE ISLE OF WIGHT.—Mr. C. Orchard, Bembridge, writes:—"The first frost of the season to affect vegetation occurred here on Wednesday morning, October 17th, when we had about 5°, cutting up Vegetable Marrows, Beans, and other tender vegetables; and blackening Dahlias and other delicate occupants of the flower garden. Up to that time we had enjoyed a month's fine dry weather, which was of great benefit to all the crops generally. The flower gardens especially have been more gay than at any time during this season."

— WOOLTON GARDENERS' MUTUAL IMPROVEMENT SOCIETY.—The second meeting of the session was held in the Mechanics' Institute on Thursday evening in last week, the subject being "Pruning." Mr. R. Todd, gardener to Holbrook Gaskell, Esq., Woolton Wood, took the "Extension," and Mr. R. G. Waterman the "Restriction" side of the question. As may be imagined, there was a great deal of discussion. Mr. Todd maintained that the extension system was best for Apples, Pears, Red and White Currants; Mr. Waterman and the majority of the speakers declaring for restriction. There will be a balance of about £10 from the recent exhibition.—R. P. R.

— BLENDWORTH PERFECTION CUCUMBER—CLERICAL ERRORS.—Mr. J. Busby wrote to us last week, pointing out a mistake in publishing his name and that of his Cucumber. We indicated that such accidents were liable to arise in consequence of the illegibility of the writing on cards attached to exhibits. That names have been often very obscurely written by the officiating clerks at the Westminster Drill Hall meetings is well known to all Press reporters; but in this particular case the entry in the official book was quite clear, and if all the cards were equally so no one would have cause to complain. The Cucumber is there entered as "Buxley's Seedling," and was so placed before the Fruit Committee, copied from Mr. Busby's first letter on the subject, so that he does not appear to have written in "copper plate." In this respect he is not singular, as not a few of the best gardeners and greatest scholars do not write their names as plain as a pikestaff. Undoubtedly, however, it is desirable the writing on cards attached to exhibits at shows should be as clear as possible, both for the convenience of visitors and accuracy in publication. At the meeting held on Tuesday last several of the cards were both illegible and incomplete.



CHRYSANTHEMUM SHOWS.

As is usual at this time of the year we have received numerous intimations of Chrysanthemum shows which are to be held during the ensuing season. Space, however, can only be found for mentioning those that have been advertised in our columns up to date, of which the following is a list. We append the names and addresses of the respective secretaries.

- Oct. 25th and 26th.—**HERTFORD**.—J. Fears, Tamworth Street, Hertford.
 „ 31st and Nov. 1st.—**KENT COUNTY**.—J. Garwood, 37, Turner Road, Lee, S.E.
 Nov. 2nd and 3rd.—**CRYSTAL PALACE**.—W. G. Head, Crystal Palace, S.E.
 „ 6th, 7th, and 8th, Dec. 4th, 5th, and 6th.—**NATIONAL CHRYSANTHEMUM SOCIETY** (Royal Aquarium, Westminster).—R. Dean, Ranelagh Road, Ealing.
 „ 6th and 7th.—**LEEDS PAXTON**.—J. Campbell, The Gardens, Methley Park, Leeds.
 „ 6th and 7th.—**BRIGHTON AND SUSSEX (New)**.—M. Longhurst, 18, Church Road, Hove.
 „ 6th and 7th.—**WATFORD**.—Chas. R. Humbert, Watford.
 „ 7th and 8th.—**ASCOT, SUNNINGHILL AND SUNNINGDALE**.—F. J. Patton, The Links, Ascot.
 „ 7th and 8th.—**BOURNEMOUTH AND DISTRICT**.—J. Speng, The Gardens, Lindisfarne, Bournemouth.
 „ 7th and 8th.—**WOLVERHAMPTON**.—J. H. Wheeler, The Gardens, Glen Bank, Tettenhall.
 „ 7th and 8th.—**LIVERPOOL**.—W. Dickson, 7, Victoria Street, Liverpool.
 „ 13th and 14th.—**KINGSTON AND SURBITON**.—F. J. Hayward, High Street, Kingston.
 „ 13th and 14th.—**KIDDERMINSTER** (St. George's Institute).—H. Turley.
 „ 13th and 14th.—**PLYMOUTH (West of England)**.—C. Wilson, 4, North Hill.
 „ 13th and 14th.—**FARNEHAM**.—F. Weller-Poley, Waverley Abbey, Farnham.
 „ 14th and 15th.—**HULL AND EAST RIDING**.—E. Harland and J. Dixon, Manor Street, Hull.
 „ 14th and 15th.—**BIRMINGHAM**.—J. Hughes, High Street, Harborne, Birmingham.
 „ 14th and 15th.—**SOUTH SHIELDS AND NORTHERN COUNTIES**.—B. Cowan, Harton, South Shields.
 „ 14th and 15th.—**HEREFORDSHIRE**.—J. Ough, 7, Clifford Street, Hereford.
 „ 14th and 15th.—**BRISTOL**.—E. G. Cooper.
 „ 14th and 15th.—**RUGBY**.—William Bryant, 8, Barby Road, Rugby.
 „ 15th.—**BIRKENHEAD AND WIRRAL**.—W. Bassett, 23, Grove Road, Rock Ferry.
 „ 15th and 16th.—**WINCHESTER**.—Chaloner Shenton, Westgate Chambers, Winchester.
 „ 16th and 17th.—**CHESTERFIELD**.—A. H. Johnson, New Square, Chesterfield.
 „ 16th and 17th.—**ECCLES, PATRICROFT, PENDLETON AND DISTRICT**.—H. Huber, Hazeldene, Winton, Patricroft.
 „ 16th and 17th.—**BRADFORD AND DISTRICT**.—H. R. Barraclough, 383, Bowling Old Lane, Bradford.
 „ 16th and 17th.—**SHEFFIELD**.—W. Houseley, 177, Cemetery Road.

CHRYSANTHEMUM DUCHESS OF YORK.

Up to the present time this year this Japanese Chrysanthemum stands far and away at the head as a new variety. In the Duchess of York we not only find size but quality also; there is not a semblance of anything approaching to coarseness, although the blooms seen of it measure close upon 9 inches in diameter, and of corresponding depth. The florets are narrow, twisted, and the point, many of them forked, which gives distinctness of character. The colour is a rich yellow, although early blossoms will be inclined to be rather pale. Those who remember *Le Sceptre Toulousaine* when at its best, about ten years since, will see an extremely close resemblance in the Duchess of York to that variety in all points except colour. The average growth is 6 feet, plants produce exhibition blooms from both early and late crown buds. I strongly advise all lovers of Chrysanthemums to make themselves acquainted with this novelty, and especially exhibitors.

This Chrysanthemum was raised by Mr. Carruthers (to whom a first-class certificate was awarded by the National Chrysanthemum Society at the recent October show), from seed received direct from Japan through a missionary at Tokio. Mr. Carruthers speaks highly of its habit of growth, producing exhibition blooms freely. Plants raised

from cuttings in January give crown buds in time for the November shows.—E. MOLYNEUX.

[The illustration, reduced from a photograph (fig. 59), has been prepared from a bloom kindly sent us by Mr. J. Carruthers, Hillwood, Corstorphine, Midlothian. We understand that this beautiful variety will be distributed by Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham, next spring.]

HINTS TO EXHIBITORS AND OFFICIALS.

In the present article I purpose making a few suggestions to intending exhibitors, judges, and officials connected with Chrysanthemum exhibitions. Exhibitors are deserving of the first attention, as they are really those who make a show what it is—good or bad. I am afraid, however, that some societies do not recognise them in this way; be that as it may, without them little could be done to satisfy their patrons. Exhibitors, in my opinion, are in many instances far too grasping. They endeavour to compete in more classes than they reasonably can with a fair chance of success, and thus lower the standard of excellence of an exhibition, and their own reputation also. There are many who prefer several third prizes to one first, even in minor classes, if the amount in prize money for the thirds exceeds that of the single premier award by even a few shillings. Such exhibitors lower the status of a show as regards the quality of its exhibits, and not unfrequently displease employers. To the latter it cannot be but annoying to find their name placed behind that of another exhibitor, whose opportunities for prizewinning are nothing compared with the facilities afforded to the larger exhibitor. My practice has been to aim strenuously and reasonably for first prizes, restricting the number of entries at one show to gain that object. I have seen many men adopt the shifting tactics at an exhibition when they saw their opponents' blooms staged in such a manner as to spread their chance of winning prizes over a larger area, until they have had to be content with the winning of one single first, and acknowledging themselves content with numerous inferior awards.

Exhibitors are solely responsible for the class of blooms that are exhibited. I fear there is a strong tendency towards mere size in preference to those possessing more points of quality. Especially is this noticeable in the Japanese section. To obtain the largest blooms early formed buds are retained, and if these are unduly early they develop coarse and poorly coloured examples. These too early selected buds as a rule do not produce the right class of floret as later blooms exhibit. Take *Etoile de Lyon* as an illustration of my meaning. In early formed buds the florets are fluted, especially pale in colour, and altogether unlike the blooms obtained from buds formed after the 15th of August. Mrs. C. H. Payne is another instance of coarseness of floret and want of colour, caused purely by too early a selection of buds. Exhibitors would do well to consider other requirements in a flower than that of great width to enable them to cover the stands. Depth is very important, and evenness of contour with brilliancy of colour, combined as this latter is with freshness, are all superior features to mere size. Varieties like Mrs. W. E. Clarke, which is not considered of high quality in the best of condition, can be made very much more objectionable by presentation without a single floret of the right shape or colour. Exhibitors seem to forget that where blooms of this kind obtain but a minimum of points, others possessing the real character of individuality in its best form are likely to score the maximum number of points, which enables any stand to gain a substantial advantage in competition, and where this is close every point tells seriously against such misrepresentations of individual varieties.

In the case of incurved kinds I note in some districts there is too strong a tendency to favour large flat blooms, even if they have broad florets, in preference to those more globose. The true typical incurved bloom is likened to a globe, and as such should be borne in mind when staging. Cross-eyed flowers and others more akin to reflexed specimens than incurved will always be rejected by myself. A bloom half the size, if it be typical of its section, will always find more favour, because such a specimen lacks but one point—size, whereas others contain only the same one feature. To the merest tyro in Chrysanthemum culture it must be obvious that quality should rank foremost.

I observe a growing tendency amongst exhibitors of staging blooms but partly opened, many indeed requiring quite a week to give them the necessary finish. In the Japanese section this is especially the case. Now it is obviously the duty of a judge to take into consideration what are the state of the exhibits upon the day appointed. He has nothing to do with what they will be or in what condition such exhibits were. The appointed date is in his mind, or ought to be. If due weight were not given to an exhibitor that conforms to this rule what would be the

encouragement to an exhibitor who "times" his blooms to a day?—not the least simple phase of exhibiting Chrysanthemums. Fully developed blooms will always add a point or two over those not so if they, of course, are in other points perfect examples.

HOW TO STAGE BLOOMS.

A few suggestions as to staging the blooms may be useful to beginners, and they certainly would be beneficial to some exhibitors who

are competing, whether it be light or dark, such trifles are below their ken. Blooms placed too low upon the stands lose much of their appearance, and when arranged opposite to this are made to look smaller.

Some exhibitors place two large blooms side by side because the colour harmonises the better, but this latter point does not receive the consideration from judges that some imagine it ought. Of course where two competing stands are close in point of merit then harmony of colour



FIG. 59.—CHRYSANTHEMUM DUCHESS OF YORK.

have spent many years in the exhibition tent if they would only open their eyes to personal faults. It is surprising to see how some persons have kept on the simple "flopping" down upon the stands of their blooms for years, apparently taking no notice of their previous non-success. At the present day I could point to individuals who are noted for their "let alone" plan after cutting the blooms and arranging them upon the stands at home. They do not study the building in which they

scores a point. In arranging the blooms it is better to mix the large and small, always placing an extra good specimen at the outside corner at each end. Some exhibitors place all their small blooms in the back row, with the absurd idea that the judges are so much taken up with the larger specimens at the front do not notice the inferior ones. What is known as an even stand should be the desideratum of an exhibitor. Evenness in such matters as size, colour, arrangement, and freshness is

very important in winning prizes, even if the verdict is arrived at by the point method of adjudication.

Naming the blooms correctly is very important to all concerned; exhibitors, in the interest of nurserymen, should be particular in this, as it saves much annoyance to the cultivator the next season, and a loss of trade to the vendor also. Visitors to the autumn exhibitions see and admire certain kinds, they order them from some specialist who supplies the sorts ordered, and when they bloom the following season are found different to those seen at the show in question, because the exhibitor had not them properly named. Instances of wrong naming cannot disqualify an exhibitor, but they prove very annoying to those whose experience is not superior in judgment or knowledge. The manner in which the blooms are named in many instances nowadays needs strong condemnation; so badly are the names spelt and illegibly written that with difficulty can they be read at all. In the crush which often prevails this is anything but pleasant for the visitors. Exhibitors should bear in mind that they—as important as they are—are not the only persons whom the management has to cater for.

The best example of naming that I have seen is that adopted by Mr. W. H. Fowler, Taunton, with his Japanese blooms. A rack-like arrangement made of stout wire to hold three cards, each about 4 inches long and 2 inches wide, is fastened to the stand in front of the blooms. The names are printed on the cards in bold type, the three cards denoting the names of the blooms opposite. This is really an improvement upon the "Jameson" card holder. The names written distinctly upon an ordinary square envelope, the flap being used for sticking it to the stand in front of the blooms, is a cheap, easy, and a much superior plan to that of writing all the names closely upon one piece of paper and laying it in front of the stand, to be pushed on to the ground by the first crush of visitors.

One more suggestion, and I have done with the exhibitor for awhile. It is an important one, though. Avoid being late in staging. Not only does this limit the opportunity of the exhibitor himself to put properly the finishing touches to his blooms, but it is a source of serious importance to the judges to be prevented commencing their labours in reasonable time, and to the officials also in making the room presentable for their visitors. Several mistakes in judging have been traceable to a want of time; and no wonder if a few are made when the judges have to examine the blooms from behind visitors two deep. This is not mere fancy, but a serious fact. At one autumn show I was requested to be in the room to commence judging at eleven o'clock, but did not begin until 12.45 owing to the tardiness of exhibitors to stage their exhibits, and to the inexperience of the officials. Visitors at this particular show were admitted at 1.30. I was quickly condemned in my awards at that show for awarding the third prize to a particular exhibit of table plants by an aggrieved exhibitor who was left outside of the charmed circle!

SUGGESTIONS TO SECRETARIES.

Too often the best methods of management are not adopted, what are apparently small details being overlooked, which, combined with other defects, go to make the exhibition a success or the reverse. Some secretaries are too easy with exhibitors; instead of making it a rule to clear the room at a stated time they are far too lax in this respect. Exhibitors know this and act accordingly; some can never be ready to clear out until they are compelled to do so, almost by sheer force. It is a good plan to ring a bell, say ten minutes before the appointed time, as a warning to exhibitors, and again punctually at the time stated. Judges have ample time then to make their awards, and the clerical staff also opportunity to have the awards placed ready by the time the visitors are admitted. If some of these lax secretaries could pay a visit to such exhibitions as those at Hull, Birmingham and Southampton for example, they would return impressed with the result of adopting certain methods.

It is very annoying to secretaries to find that at the last moment several entries in large classes remain unfilled, no notice having been given to the contrary. Such instances of gross neglect on the part of exhibitors need strong condemnation, and should be accompanied with a fine, deducted from any prize money gained in other classes. Some exhibitors make a practice of entering in more classes than they know they can fill, purely for the chance of altering their exhibits to obtain the greatest advantage to themselves.

Some secretaries, too, are much too lax in completing their arrangement of the show in time for exhibitors. Space should be marked out for all classes, a card denoting the exhibit to be placed there should accompany the space. Some exhibitors appear not able to decipher numbers, therefore it is better to write distinctly what the class is. For instance "twelve Japanese blooms," or some such example. No opportunity is provided for an exhibitor to find an excuse for the wrong disposal of his exhibit.

The method of denoting the winning stand of blooms varies with individuals. As fast as the awards are made they should be denoted on the exhibit, and by the time all are adjudicated upon the visitors can ascertain which are the winning stands. At an important exhibition where I was present last year the awards in but few classes were made public at 2.45. This is annoying to visitors with limited time at command. A system of numbering the stands to correspond with the names and numbers in the secretary's entry book was adopted with the result noted. In no way is the awards easier made known than by giving to each competitor a full sized prize card for every exhibit that he enters, he being responsible for the proper placing of such cards upside down in front of his exhibit. Upon the card is written the name

and address of the exhibitor and the name of his gardener, denoting also what the class represents, and not merely giving the schedule number, as in some instances, which to an ordinary visitor is complicated. A space is left near the top of the card for denoting the value of the prize—first, second, and third. When the award is made and noted on the back of the card in pencil by the judge first, second, or third, all that is required to complete the plan is for an attendant to follow the judges, and with adhesive printed slips fasten on to the space left on purpose the class of prize gained. Different coloured slips are adopted by most societies to denote the grades of prizes—viz., red, blue, and black for instance. At Liverpool, where all details of management are well carried out, instead of employing these adhesive slips an ink rubber stamp is used, which answers the purpose admirably. On the back of the cards a class number should be printed to indicate to the judges the number of exhibitors there are in certain classes. If these details are carried out in a similar manner to this indicated there is not the slightest reason for a judge to turn up a card previous to making the award. Not that such an act would influence a man of integrity in making his award; still, no such action should be placed in his power. When a card is given to all exhibitors as indicated, those not receiving a prize are generally turned up after the judging by an official. Visitors like to know who are competing unsuccessfully as well as those who do win prizes. I must postpone my remarks on judging until the next issue.—E. MOLYNEUX.

MANCHESTER CHRYSANTHEMUM SHOW.

It has been reported that this annual exhibition will take place in the Manchester Town Hall on Friday and Saturday, November 23rd and 24th, instead of on the 20th and 21st.

NATIONAL CHRYSANTHEMUM SOCIETY.

We understand that the annual dinner of the National Chrysanthemum Society will take place at Anderton's Hotel, Fleet Street, on Thursday, November 29th, the President (Sir Edwin Saunders) in the chair. The musical arrangements will be carried out by Mr. J. Mortimer Dudman, musical director and organist at the Royal Aquarium, Westminster.

FLORAL COMMITTEE MEETING—CERTIFICATED CHRYSANTHEMUMS.

A MEETING of the Floral Committee of the National Chrysanthemum Society was held yesterday (Wednesday) at the Royal Aquarium, Mr. W. Herbert Fowler occupying the chair. There was a full attendance of members, and a large number of novelties submitted. First-class certificates were awarded for the following varieties:—

Mr. R. Ballantine.—A large Japanese reflexed flower of a deep purple magenta; broad flat florets. Shown by Mr. Ernest Calvat.

Mrs. H. J. Jones.—An incurved Japanese bloom with florets of medium width, slightly grooved, colour white tinted light yellow. Shown by Mr. Calvat.

Reine d'Angleterre.—This is a large Japanese of a deep rosy mauve colour, a solid-looking flower with rather short florets; reverse silvery. Exhibited by Mr. Calvat.

Amiral Avellan.—A deep rich golden yellow, short broad petals; a closely built flower. Staged by Mr. Calvat.

Sarah Hill.—A globular incurved Japanese with very fine grooved florets; colour rich canary yellow. Exhibited by Messrs. J. R. Pearson and Sons of Chilwell.

Hairy Wonder.—A Japanese variety of the hairy type, with that peculiarity strongly marked. Colour, cinnamon buff. Sent by Mr. H. J. Jones.

Descartes.—A richly coloured Anemone, with guard florets of good length and an excellent disc. Colour, rich crimson; a few of the centre tubes pointed gold. Mr. Jones also staged this variety.

Miss Florence Lunn.—A medium sized reflexed flower of the old type, short regular petals and perfect form, colour bright rosy amaranth. A seedling raised and exhibited by Mr. H. Briscoe Ironside.

Miss E. T. Trafford.—A large, solid Japanese incurved, a sport from W. Tricker, colour inside rosy bronze, with salmon reverse. Staged by Mr. W. H. Lees.

Miss Goschen.—Another Japanese of good size and substance, with curly florets of medium width, colour pale lemon yellow. Shown by Mr. E. Beckett.

There were several varieties the Committee wished to see again, and the following were commended:—M. C. Molin, a yellow Japanese; Préfet Robert, an incurved Japanese, amaranth and silver; Pallanza, a large Japanese, in the style of Sunflower; and M. Aug. de Lacvivier, a richly coloured Japanese, of medium size, gold and salmon rose.

A GREEN CHRYSANTHEMUM.

In the *Journal of Horticulture* for the 7th June I referred to a variety obtained by Mr. W. Wells, as a sport from Vivian Morel, with green florets, which he had named Ethel Amsden, and which may perhaps be seen some time during the present season. As it seems to me to be important to record any such curious variation as may come to one's knowledge, I take the opportunity of quoting from a letter just received from my friend Mr. Fatzer, of Quessy, France, who was in England quite recently, and to whom, as a very large cultivator of Chrysanthemums, the subject was mentioned, as being one likely to interest him. He says, "I have some news to send you. I have seven plants of Chrysanthemums with green flowers. If I remember aright, you mentioned that an English nurseryman had a green variety, which

was a sport from Vivian Morel. If that be so it is a very curious fact, for mine also have sported from it. On Saturday, the 13th, I noticed a bud opening on a plant of that variety, to which I paid but little attention; but to-day, the petals being a little more expanded, I observe that they are green. Looking at the label I see it is marked Vivian Morel, of which I have seven plants, all of which are showing green flowers." Up to the present the colour is pure green without the slightest tinge of rose, and my friend inquires what he had best do with his novelty, and promises to send a bloom over to England for inspection. The phenomenon of a Chrysanthemum giving forth the same sport in different localities has been remarked before in several cases—Prince Alfred, Golden George Glenny, and Mrs. Hawkins being perhaps the chief. It may be serviceable to mention that this new French green variety will not be put into commerce unless it appears to be a better variety than the one obtained by Mr. Wells.—C. H. P.

CHRYSANTHEMUM GOLDEN WEDDING.

SINCE sending my last note respecting the doings of this variety circumstances have been brought to my notice which I think will dispel the "over-stimulating, sappy growth" idea. A neighbour planted an old stool of this variety at the foot of a Cupressus macrocarpa. The soil was naturally poor, and the Cupressus prevented anything like excessive moisture. The plant made only moderate growth, and faced due south. It was not stimulated in any way, and yet it has gone off the same as those grown in pots. Again, out of a number of plants housed about three weeks ago in an apparently healthy condition many are already showing the disease, and will shortly be cleared out as useless.—W. J. GODFREY, *Exmouth, October 23rd.*

I HAVE been much interested in reading the accounts on the above named Chrysanthemum, but I do not find it quite so bad as it is said to be. With me it has done very well, but like your many correspondents I find it rather subject to mildew, still not worse than some others this year. This is probably due to the wet weather in July and August. I have four plants of Golden Wedding which have been treated the same in every respect as the others. The first two cuttings were inserted on December 8th; one has one bud taken, the other has four. From one of them I obtained a cutting on February 16th, and from that I have one good bud. Two cuttings were also inserted on May 2nd; one of them has two buds and the other has one, which is the best. This leads me to think that late-rooted cuttings with one bud for this variety is the plan to adopt. The plants are all in 7-inch pots, and are all about 5 feet in height.—W. JONES, *Wimborne.*

FINSBURY PARK.

AS on former occasions, a large collection of Chrysanthemums has been grown at Finsbury Park this year for the benefit of the residents of that part of the metropolis. Judging by the enormous number of visitors who daily view this display the efforts of the London County Council are much appreciated by the general public, and it would appear that the interest increases annually. While many of the older and useful varieties of Chrysanthemums still find a place in these municipal collections, not a few of the most striking novelties are frequently added. These combined, of course, make a very fine effect, equal to what may be seen in any private garden, special care being apparently devoted to the production of splendid blooms.

Last year a commodious conservatory was erected in Finsbury Park, and this building is situated near the Manor House entrance. It is admirably adapted for showing the Chrysanthemums to perfection, but when a visit was made a few days since these plants had not yet been arranged there. They were for the most part in a long, low span-roof structure with a walk on each side. We were informed, however, that a display will shortly be made in the conservatory, the Chrysanthemums being arranged with large Palms and other foliage plants. Many good blooms could be seen on the plants in the first-named house, the Japanese varieties predominating. Some grand flowers of Vivian Morel were noticeable, the graceful blooms being much admired. Avalanche still holds its own here as a white variety, some large blooms of remarkable depth showing up amongst the rest. Lady Selborne is another old white variety that appears to find favour, and this variety is in striking contrast to the dark flowers of W. Seward and the charming W. Tricker. W. H. Lincoln, as a yellow, is good, and so is Mr. C. E. Shea.

As may be expected at such an early date, the incurved varieties were not open, with few exceptions. Among these were some huge flowers of Baron Hirsch, this grand variety being unusually well grown. Mons. R. Bahuant, too, is in excellent condition, the same applying to Madame Darier. Of the large flowered Anemone kinds, Deleware and Mons. Charles Leboz were carrying beautiful blooms, and many of the Pompon varieties are also admirably grown. In addition to those named there are numerous other Chrysanthemums on view, and, on the whole, the exhibition is a credit to Mr. Melville, the Superintendent, and his assistants. The plants are healthy, bearing evidence of skilful cultivation, and for some weeks the houses will be thronged with visitors.

SOUTHWARK PARK.

THE display of Chrysanthemums at this Park is one of the most extensive that has been given, numbering close on 4000 plants, which comprise all the best varieties extant. Unfortunately the structure, though greatly improved a year or so, is not exactly suitable for

arranging the plants to produce the best effect, the entrance being too narrow and the whole house too low. No doubt the County Council, ever ready to meet the wishes of the people, will in due course remove these obstacles to success, and a greatly enhanced exhibition will be the ultimate result, especially with the park in such able hands as those of Mr. R. Curle.

On the occasion of former shows the entrance has been different to the one now in use, but not sufficiently far apart as to cause the visitor any inconvenience in finding his way. Since last year, too, a great improvement in the form of a rockwork extending to the entrance of the house is very noticeable, particularly now that it is bright with flowers of the summer-blooming Chrysanthemums. They tend to brighten up the place very considerably, and come as it were as a foretaste of what is coming when the show itself is reached.

Having looked at the outside, we will now see what the inner view affords. On entering the number of flowers on view is very great, and as care has evidently been exercised in so placing the plants as to prevent the colours clashing the effect is, on the whole, an excellent one. Closer inspection discloses the fact that the fogs and damp weather before and after the housing of the plants have made their mark, for evidences of damping are apparent, but happily not to a sufficient extent as to spoil the collection. As has been said, the varieties are extremely numerous; some might say there are too many, but as they afford admirable opportunities for comparing one with another this is hardly the case. Amongst the best of the varieties at present in flower, none of which, it may be mentioned, is characterised with particularly heavy blooms, were Hairy Wonder, which promises well; Mrs. Alphews Hardy, in fine form; Louis Boehmer, still one of the best hirsute varieties, these comprising the best of this popular and interesting section.

The Japanese section, exclusive of the hairy varieties, render the most pronounced assistance in the embellishment of the collection, and with such kinds as Wm. Seward, Mons. W. Holmes, Vivian Morel, Edwin Molyneux, Elaine, Stanstead Surprise, Beauty of Exmouth, Duke of York, Gloire du Rocher, Etoile de Lyon, and numerous others, each carrying creditable flowers, one may readily imagine the display to be a very striking one indeed.

The incurved section is not by any means so largely represented, but these will be seen at their best some days hence, and it must suffice to say that here, as in those previously mentioned, the health of the plants is such as to be a credit both to Mr. Curle and to the County Council, to whom the public is indebted for this annual and highly popular display.

VICTORIA PARK.

ALTHOUGH situated in by no means the most salubrious district of the metropolis, Victoria Park has during the past summer been noted for its attractive flower beds, and it is now equally as famous for its display of Chrysanthemums. About 3000 of these are grown, and 2000 plants are at present arranged in a span-roofed house, 100 feet in length and proportionately broad. There is a walk through the centre of the building, and the plants are placed in a bank on each side, an undulating surface enhancing their appearance considerably. It is obvious that Mr. J. W. Moorman, the able and courteous Superintendent, is as much at home among the Chrysanthemums as he is with the bedding arrangements, and the display of blooms now to be seen at this eastern park is a credit to him and his assistants. The plants are noteworthy for their healthy appearance and general dwarfness, while wonderful freshness characterises the flowers. The latter, too, are admirably arranged as to colour, this being a marked feature of the display, which can be favourably compared with any other within the metropolitan area.

Many new varieties are included in this excellent collection, and these, with the older sorts, are much admired by the thousands of visitors who daily pass through the house. Among the Japanese Julian Hillpert is conspicuous for fine blooms of a creamy primrose shade. J. Agate also appears to be a massive white Japanese variety, and Beauty of Exmouth seems to be developing some good flowers. Mrs. A. G. Hubbuck is of recent introduction, and is here seen in grand condition, the same applying to Mrs. A. G. Hill and Miss Dorothea Shea. For brilliancy of colour G. W. Childs, Gloire du Rocher, and Mons. W. Holmes are difficult to surpass, and Beauty of Castlewood is developing some grand flowers. The green-tinted Florence Davis generally attracts attention, as do Mrs. Dr. Ward, J. W. Moorman, and Duke of York. Most of the older standard varieties are grown, these including Avalanche, Elaine, Col. W. B. Smith, Amy Furze, Novelty, Bouquet des Dames, Edouard Audiguier, W. Tricker, E. G. Hill, Lady Selborne, Jean Délaux, and Mdlle. Marie Hoste, all of which are in fine condition.

Many incurved blooms are also to be observed in the collection, but these, of course, are not so popular with the general public, and consequently are not cultivated in such large numbers as the more graceful Japanese kinds. There are, however, many tastes to cater for, and a few of the best of the incurved sorts receive attention, among these being Mons. R. Bahuant. Some grand flowers of this variety are developing, and the comparatively new Lord Rosebery will soon be at its best. Richard Parker has fine deep blooms, and of the Golden George Glenny some superb flowers are noticeable. The blush white Jeanne d'Arc and the popular Alfred Salter are also carrying some good blooms. At each end of the building some Pompon varieties make a feature which is likewise worthy of mention, and of these were many plants that will be utilised with others to prolong the display.

THE PRIORY, HORNSEY.

It is generally considered that growers of Chrysanthemums in and near the metropolis have to contend with atmospheric and other difficulties which do not affect cultivators in the country. This may be correct, but it would appear that enthusiasm in conjunction with skilful management can overcome these obstacles, for some of the finest collections extant may be seen within the smoky area. Among these may be instanced that at The Priory, Hornsey, the residence of H. R. Williams, Esq., whose interest in horticulture is well known. As on previous years Mr. E. Rowbottom, the able and genial gardener, has this season brought together a splendid collection, and on making a visit last week it could be observed that this excellent grower will again give a good account of himself at some of the forthcoming exhibitions. Mr. Rowbottom, although comparatively young in years, is a veteran exhibitor. Apart from the numerous silver cups, medals, and certificates which he has been awarded during the past few years, his first and second prizes may be counted by the score, he being particularly successful at many of the metropolitan and other leading shows. At the Royal Aquarium recently the Hornsey grower secured first prizes in open competition for twelve Japanese and the same number of incurved blooms, not to mention other smaller awards.

This year the Chrysanthemums at The Priory are looking remarkably well. The plants of the Japanese varieties are for the most part arranged in a long vinery, and include most of the latest novelties. Considering the past one naturally expects to find something unusually fine here, but this skilful grower has apparently eclipsed himself this season. Many blooms of gigantic proportions are already opened, and the later kinds are expanding splendid huds. Louise is considered one of the best novelties of recent introduction, and we have never seen such fine blooms as those in this collection. The flower is large, white, tinted soft lilac, the florets being incurving, broad, and of stout substance. Another advantage in this variety is the dwarfness of habit, the plants under notice hardly reaching 4 feet in height. Golden Wedding is promising wonderful flowers here, the plants being in excellent health. Mr. Rowbottom is of the opinion that over-potting and over-watering have much to do with the mysterious "going off" that has affected Golden Wedding this year. His plants are in comparatively small pots, and as indicated, are likely to produce fine blooms. Colonel Chase is a new variety of merit, the blooms being large in size, and the long drooping florets a pale blush colour. Violetta is apparently another good Japanese variety that will in due course find its way in many prize stands. The flower is of deep build, with rosy violet drooping florets. Good Gracious is a delicate pink flower, and Golden Gate, which is well represented, has large tawny-yellow blooms. Some grand examples of Viscountess Hambledon are noticeable, the same applying to such as Excelsior, G. C. Schwabe, Mrs. W. H. Fowler, Avalanche, Mdle. Marie Hoste, Mdle. Thérèse Rey, and Col. W. B. Smith. It may here be mentioned that last year Mr. Rowbottom exhibited some magnificent blooms of this latter variety securing a silver medal for one stand. Primrose League has some unusually large buds, while Charles Davis, Sunflower, Eda Prass, Madame Camhon, President Borel, The Tribune, Charles Blick and Miss Anna Hartshorn are carrying blooms of gigantic proportions, the last-named being particularly good.

As regards the incurved varieties, these also are well grown at this establishment, and some grand blooms will doubtless emanate therefrom during the next few weeks. All the Queen family are promising well, and Mr. Rowbottom says he has never had these and others of a similar type in better condition. Some fine blooms of the new Pery Surman were to be seen, these being very large and of a rosy lilac colour. Mr. J. Kearn, too, is of recent introduction, the flower deep, well formed, and creamy white. The popular Baron Hirsch is to the fore, as also is Mons. R. Bahuant, both these varieties carrying excellent flowers. Mrs. G. Rundle and Mr. G. Glenny are likewise well represented, and such varieties as Lucy Kendall, Madame Darier, Miss M. A. Haggas, Lord Alcester, Mr. Bunn, H. Shoesmith, Empress of India, Violet Tomlin, John Lambert, and Jeanne d'Arc are developing some grand buds. The Pompon and other types are also extensively grown, chiefly for decorative purposes. Altogether the Priory collection well maintains the good reputation it has so long held, and is a credit to Mr. Rowbottom, who attends closely to the requirements of these popular plants.

CHRYSANTHEMUMS AT BARFORD HILL.

MR. R. JONES at Barford Hill, Warwick, has this year an immense number of Chrysanthemums; 1000 plants are grown solely for decorative purposes. The bulk of these are in bush form, the remainder being late rooted plants in small pots ranging in height from 1 to 2 feet; all are in a most promising condition and will shortly be a striking feast of floral beauty. The chief interest, however, centres in the great number of plants grown to supply large blooms. The collection is very strong in new varieties, as both Mr. and Mrs. Smith-Ryland are enthusiastic admirers of the "Autumn Queen," and furnished the means for obtaining the very best of the numerous varieties sent out last year. In the Japanese section many of the flowers are somewhat early, and as the majority of them are now rapidly unfolding their petals, the daily progress of the many new varieties is watched with great interest.

Madame Edouard Rey promises to give grand flowers, and fully merits the high anticipation formed of it. G. W. Childs must prove a strong rival to William Seward, as it opens a little later than that well known variety which it resembles in colour. Beauty of Exmouth is this year showing its true form, and will, I predict, gain an increased

share of public favour. Rose Wynne and Richard Dean are also in good condition. Other conspicuous varieties are Silver Cloud, Duke of York, Eda Prass, Primrose League, The Tribune, Duchess of Devonshire, Excelsior, and Princess May. Among the hairy varieties, Esau, Hairy Wonder, and Mr. W. A. Caldwell are a trio of sterling merit. The incurved sections are considerably later Baron Hirsch and Mons. R. Bahuant, being the most advanced; Brookleigh Gem and Lord Rosebery from terminal huds promise to be very fine. The collection will be at its best in about a fortnight. Many of the plants are arranged in a house having iron sashbars, and Mr. Jones finds that thin tiffany stretched above the flowers entirely prevents damping.—H. D.

CHRYSANTHEMUMS IN CHESHIRE.

THE Chrysanthemums with Mr. Williams, Boscobel, are very promising, especially the Japanese. Of newer varieties Charles Davis, Van der Heed, Mrs. C. H. Payne, G. W. Childs, Beauty of Exmouth, Rose Wynne, M. Pearson, Mdle. Thérèse Rey, Miss Dorothea Shea, Pearl Beauty, and W. Seward are good. All the incurved are looking well. Mr. Williams has been fortunate with Golden Wedding, having good stout foliage, with clean buds, but rather on the late side. His exhibits are always of a high order of merit.

A thorough good grower is Mr. Ranson, The Oaklands, Spital; his plants, although a trifle later, are unfolding some very fine flowers. Jno. Shrimpton, which he showed so well last season, is coming good; and Charles Shrimpton, coarse last year, is this time opening clean. Mrs. C. H. Payne, Charles Davis, and Le Verseau are excellent. The new ones are Louise, which cannot well be overrated. With the first season it has come a little early, a plant not much over 2 feet from rim of pot, carrying three fine flowers, 5 inches deep and 18 inches in circumference. Madame Charles Molin is another grand white of the Vivand Morel type, with Madame Ada Chatin, a very fine white incurved Japanese. The white Louis Boehmer and Vaucans, a deeper colour and a better grower than the latter, are excellent amongst the hirsutes. New incurved are Lord Rosebery, Vice-President, Jules Barigny (very tall), and Mrs. R. Craig (a little coarse from early buds, later ones being much better). This would be incomplete without a notice of Golden Wedding, plants of which were procured last year from America. They grew, having strong shoots and fine leaves, which did well until the buds were taken, when the shoots died, one only being left. Those in 6-inch pots were healthy to the last, and he thinks small pots will suit it best. This year two plants have gone in the same way.

Mr. Burden, Longdale Lodge, Birkenhead, needs little introducing; his exploits at Leeds, Bradford, Edinburgh, Liverpool, Birkenhead, and elsewhere commend themselves. The Queens, Princesses, Baron Hirsch, Jeanne d'Arc, Mr. Bunn, and Prince Alfred are developing well. Lord Rosebery has fine buds on early crown, but seems narrow in petal. The finest Japanese are E. Molyneux, Excelsior, Mrs. C. H. Payne, Col. W. B. Smith, Beauty of Exmouth, Miss Dorothea Shea, Mdle. Thérèse Rey, and Charles Davis. One plant out of three of Golden Wedding is living; the others grew fasciated, and went blind. It was tried last season, made a broad flower, but thin in substance. Madame Edouard Rey is here a perfect incurved, the same colour as Alfred Salter.

CHRYSANTHEMUMS AROUND LIVERPOOL.

WITH the advent of a second season Mr. C. Osborne at Aigburth Hall has increased his stock to 250 for large blooms, which for strength are much the same as last year, but the buds of the incurved are opening much freer. All the Queens and Princesses, Baron Hirsch, and Madame Darrier are excellent, as is Lord Rosebery of the newer varieties. The Japanese ought to be very good; Charles Davis, Mrs. C. H. Payne, Princess May, Beauty of Castlewood, Robert Owen, Charles Blick, Viscountess Hambledon, Eda Prass, Duke of York, Mdle. Thérèse Rey, and Mrs. Hubback are the best. President Borel is considered one of the finest, and it is a gem when well grown. Cecil Wray will have to be grown again before faith can be placed in it, and five plants out of six of Golden Wedding have succumbed to what Mr. Osborne has no doubt is a disease. A speciality are fifty plants rooted at the end of June and let run on to the first bud, this only being allowed to develop. They are now in 6-inch pots, and prove of much value for dotting amongst other plants.

Mr. Carling, Dove Park, Woolton, who at present holds the Eccles cup, will take some beating, if one may judge from present prospects. His incurved varieties are very fine, more particularly the Princess type, which are developing grand flowers. Of newer ones Lord Rosebery is coming good, so is Baron Hirsch. The best amongst the newer Japanese are Eda Prass, Mdle. Thérèse Rey, J. P. Kendall, Miss Dorothea Shea, Mrs. Camhon, which does not appear very striking in colour, neither does Van der Heed. Madame Octavie Mirabeau has excellent buds, but a very washy colour; Vice-President Calvat is a fine deep colour; W. H. Atkinson, Mrs. E. D. Adams, Princess May, and Lizzie Cartledge are good, which, with Mrs. Isaacs, a charming white, the counterpart of Etoile de Lyon in form, President Borel, and the beautiful Louise, make up an attractive collection. Golden Wedding has gone. About 350 are grown. Madame Edouard Rey is a perfect incurved, and also an incurved Japanese from two different buds.

H. G. Schultz, Esq., late of Mossley House, having removed to Child-wall Hall, Mr. Heany, the well known grower and exhibitor, has been somewhat handicapped by having to move his plants about, consequently they are not so good collectively as in former years. Still, he will have some good blooms of Duke of York, Mrs. C. H. Payne, Edith Rowbottom, Princess May, Waban, La Verseau, Vice-President Calvat, Primrose League, Le Prince du Bois, and other standard sorts. Incurred varieties are promising, but a trifle late; Golden Wedding has done badly. Growers will be pleased to hear that Mr. Heany has almost recovered the serious illness which prostrated him for many weeks at the beginning of the year.

Mr. Forbes, Crofton, Aigburth, an old Edinburgh and Liverpool champion, has a stock of 300 older sorts and twenty new ones, his Japonic being strong, healthy, and certain to give the highest possible results. The most promising of the newer sorts are G. C. Schwabe, President Borel, Louise, Mdle. Thérèse Rey, The Tribune, Rose Wynne, and Madame Charles Molin, all grand. W. H. Atkinson, M. Panckoucke, Charles Shrimpton, Miss Dorothea Shea, Viscountess Hambledon, Lizzie Cartledge, Mons. Giroud, and other standard varieties are in fine form. Golden Wedding is here a success, all the five plants being in perfect health. Mr. Forbes cannot account for the shoots dying. All the Queens are on the terminal buds, but will make good flowers. Lord Rosebery is promising amongst new varieties. Medium ripened wood he considers best for producing good flowers. Mr. Forbes will show well, although having 100 plants less than last year.

A hurried visit paid to Mr. Tunnington at Calderstones, Aigburth, found him with 200 plants. He does not exhibit, and has not covered them with tiffany, or he firmly believes that all the damping which they at present are suffering from would be quite prevented. The best of his Japanese are President Borel, Mrs. C. H. Payne, Robert Owen, Viscountess Hambledon, Rose Wynne, Vivian Morel, and Wilfred Marshall, a great acquisition midway between W. H. Lincoln and Golden Dragon, but better than either. All the Queen types are coming fine and clean, as are other incurred. Wood too well ripened he finds produces hard scaly buds, and what he terms the ripening process commences when the buds are taken. Golden Wedding, he thinks, is constitutionally bad.

The collection of 800 plants grown this year by Mr. Jellicoe, Camp Hill, Woolton, is in grand condition. He is not behind in Japanese, and those of the Queen family are certainly an advance on former seasons. To see thirty plants each of Baron Hirsch and Mons. R. Bahuant leaves a lasting impression. The best new Japanese are Madame Amy Chantler, Louise, President Borel, handsome; Eda Prass, Mrs. P. Blair, Duke of York, but Col. Chase is not thought a great deal of at present; Mdle. Thérèse Rey and all good older sorts are in the best possible condition. The Princesses and Tecks are rightly timed, and reflexed and Anemones very promising. I predict a successful run for Mr. Jellicoe. The roof of every house is closely veiled with tiffany, and I defy anyone to find a decayed petal. Eve and Wm. Seward, so subject to scorching and damping, are perfect under shade.—R. P. R.

NUTRITION OF ROOTS.

IN reply to Mr. Gilmour (page 360) it appears that nothing will satisfy him but an open admission that everything previously stated by me is wrong, and that his arguments are the only correct ones. I am unable to concur with the proposition.

All through the controversy I have maintained that "the roots of plants absorb water in the process of evaporation"—namely, by condensing it.

I can assure Mr. Gilmour that I do not believe that condensation and evaporation mean one and the same thing.

If Mr. Gilmour is not satisfied with the authorities I have already quoted please let him read "Johnston and Cameron," pages 229 and 230; "Warrington's Chemistry of the Farm," pages 8 and 22; Edmond's "Botany," page 38; Johnson's "How Crops Grow," pages 26, 366, 7, 8.

Mr. Gilmour states "that roots only absorb actual water." That clouds, mists, and steam are all actual water, therefore they contain all the elements of plant food, such as potash, calcium, iron, phosphorus, and others which make up the plant.

Fogs, clouds, mists are water (but in the intermediate condition), as is even steam itself; but in using the word water all along I have meant actual liquid water, as anyone who has read the correspondence would comprehend.

I am able scientifically and practically to test and prove every argument before I submit it for print, and can not only see the film of water (condensed) on every particle of soil, but can estimate the quantity, and the amount of plant food in vapour and in liquid water.

In respect to Mr. Gilmour's statement that "one gas cannot dissolve another, and a gas cannot hold anything in solution," my reply is that simple gases cannot dissolve, they can only diffuse and combine; but it is different with compound gases, such as watery

vapour, ammonium, and carbonic dioxide. Let Mr. Gilmour produce free ammonia and watery vapour in two flasks, connect them, and test the result; he will then prove that vapours can dissolve and hold in solution inorganic compounds.—G. A. BISHOP.

HANDY SPRAY DISTRIBUTORS.

MESSRS. W. F. CHARLES & Co., Loughborough, have sent us samples of their spray and powder distributors (figs. 60 and 61), also of what they describe as their deadly (to insects) but non-poisonous preparations for use. The majority of spray distributors, however excellent, though meeting the requirements of many, and still many more might advantageously use them, do not of necessity meet the wants of the million, either as amateurs with very small gardens and a little greenhouse in the suburbs of towns and cities, or cottage gardeners and allotment holders in rural districts. By the timely use of insecticides in the form of spray or of powder many pests, such as red spider

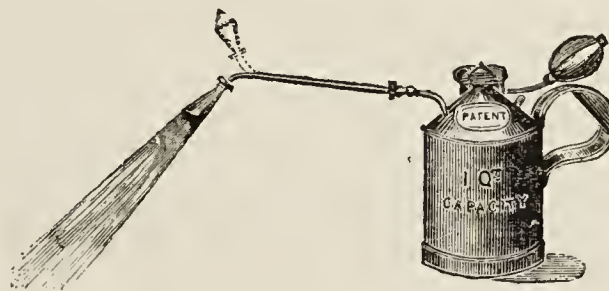


FIG. 60.

attacking Gooseberry bushes, aphides attacking Roses, mildew infesting Vines or Chrysanthemums, and flies, with their issue of maggots, ruining Onion crops, might either be prevented or injury from them greatly minimised. The small aids (figured) to small but earnest cultivators are within the means of the greatest number, and are capable of conquering garden pests innumerable by early and systematic use. We have been happy in neither having insects nor mildew to combat for some time, but we do not hesitate saying that, as a rule, scientifically compounded and properly made insecticides and fungicides, advertised from time to time by firms of repute, are safer and better than the many roughly home-made concoctions which have often done more

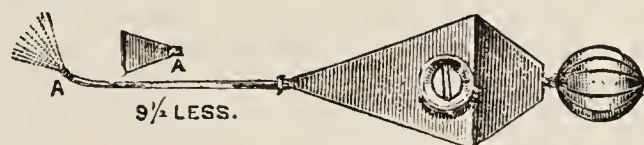


FIG. 61.

harm than good as used with a syringe; and they are more costly than insecticides applied in the medium of mist-like spray. Mr. S. T. Wright, of Glewston Court, who is an admitted authority, speaks highly of the preparations in question.

A POINT WORTH CONSIDERING.

THE season of the year has arrived at which the watering of pot plants requires to be conducted with great care, and sound advice in the matter is, err rather on the side of dryness than in the opposite direction. The point, however, to which I want to draw especial attention relates to the temperature at which the water should be used. This is a matter which has not been very fully discussed in the Journal during recent years, though I remember in years gone by it formed a matter for wordy warfare. The advice usually given frequently runs in this way, "Use water at about the same temperature as that of the house in which the plants are growing, or apply water at a slightly higher temperature than the plants are growing in." This is no doubt safe advice, but I have come to the conclusion that better results are obtained by using water at a temperature of at least 10° warmer than that in which the plants are located.

Take for instance an ordinary greenhouse kept at a night temperature of from 40° to 45°, and a few degrees higher by fire heat during the daytime; water at a temperature of 50° would in such a house feel comparatively cold to the hand, and I find that when the object is to keep the inmates of the house steadily growing water given at a temperature of 60° is more generally satisfactory. Of course, in the case of plants such as Azaleas, Camellias, Hydrangeas, and Acacias, which remain almost dormant during the midwinter months, it would not be desirable to apply water at so high a temperature, unless the object be to induce them to flower somewhat early. In the case of quickly growing plants (which are cultivated for winter and spring flowering, and yet must perforce be kept in cool houses), such as Callas, Primulas, Cyclamens, and Cinerarias, the practice of giving water at this relatively high temperature has much to commend it, as the plants so treated grow much more rapidly, and are generally maintained in a healthier condition than are others growing under similar conditions in other respects, but which in the matter of watering are treated in the ordinary way.—H. D.



NATIONAL ROSE SOCIETY.—TROPHY QUESTION.

"W. R. RAILLEM" (page 368) misquotes me. He says that I state "E. M. and I will not say what we want;" and then goes on with an argument based on these words. This I consider such an unfair way of putting it, that I repeat what I did say—i.e., "Neither says what he is for." I do not profess to write with the lucidity and correctness of either Thomas de Quincey or Matthew Arnold, but if your readers can twist my words into those of "W. R. Raillem" they are fit to compete with the best masters of sophistry. However, as under shelter of such an evasion, "W. R. Raillem" declines to give any decided opinion, I must, and I believe your readers will, in preference accept as more reliable the views of those who are usual competitors. Their views have been published in the *Journal of Horticulture*, and I have already summed them up in my letter (page 338). Those competitors call for a reduction in the number, and they are entitled to be heard. I will now only add that whatever number be fixed by the Committee for the trophy that number should be the maximum for any amateur class; also that the trophy should be the chief class in value, and not, as in the provincial competition, be made subsidiary in value and inferentially in position.

MR. MAWLEY'S ANALYSIS.

I had intended, as last year, criticising this analysis (which I do not understand), but thought that probably others might accept the position of critic on this occasion. I am glad to see that "Y. B. A. Z." (page 368) has taken up the subject. I asked Mr. Mawley last year to clearly define and defend his method, but he by silence rather gave me the impression that, although his system might from a scientific point of view bear inspection and criticism, it would not stand a searching practical examination. I hope, however, that as others from whom I have this week heard besides "Y. B. A. Z." think that Mr. Mawley's method of placing Roses is misleading, he will now clearly give us an exposition of his method. I would ask him in order to make it clear to select certain Roses as they are in his table, and if he has no objection I will name La France, Madame Gabriel Luizet, Charles Lefebvre, Margaret Dickson, Ernest Metz, Hon. Edith Gifford, and Ethel Brownlow. This list gives the names of old and new Roses, and covers the varied phases the analysis has passed through. Without this information I confess that criticism is useless, as I do not think any of us know what we are criticising in the table as an analysis.

I have always understood that any conclusions arrived at from scientific data are, or should be, incontrovertible, and I look forward with pleasure to the possibility of seeing Mr. Mawley's explanation, which I am certain will be a lucid statement.

A SOUTHERN MEETING AT PORTSMOUTH.

I have just heard that the Mayor and Town Council of Portsmouth have resolved to invite the National Rose Society to hold its southern meeting in their town in 1896. I advocated this place of meeting in one of your contemporaries early this year, and I wish to say that the present satisfactory announcement is due to the good offices of the Rev. J. Spittal, vicar of Havenstreet, Isle of Wight, and of Alderman Scott Fortes of Portsmouth.—CHARLES J. GRAHAME.

ROYAL GARDENS, WINDSOR.

I WAS privileged a short time since in walking round the Royal Gardens and pleasure grounds in company of the genial chief of the establishment, Mr. Owen Thomas. I visited the Gardens frequently years ago, in Mr. Ingram's time, and thought I knew them well; but I must say I never had the pleasure of thoroughly inspecting them and the magnificent park and pleasure grounds before. The kitchen garden is, as one would naturally expect, the largest and best kept garden in England if not in the world. The surface is almost perfectly level, the site lies open to the sun, and receives the full benefit of its rays from morning till night. The area of the garden is some 50 acres, and there are about two lineal miles of walls, 12 feet high, for training fruit trees on. The southern exposure of the north wall is covered with a range of lean-to fruit houses 340 feet long. In the centre of the range is a comfortable and picturesque two-storey dwelling house for the gardener, which commands a good view of the surroundings. On the north side of the wall, immediately behind the forcing houses, are bothies and bath rooms for the men, potting and other sheds, seed room, fruit rooms, packing and store rooms; and the space between this and the outer wall is occupied with Pine pits, Melon, Cucumber, Tomato, and plant houses and frame ground, and a large piece of ground in this department is set apart for standing Strawberries, Chrysanthemums, and other plants in pots during the summer. It is needless to say that there were fine crops of Grapes, Melons, and Pine Apples in each division in the best condition possible. But what struck me most was a house of Tomatoes in full bearing. The fruits were medium sized, round and smooth, bright

red in colour, and borne in great clusters. On inquiry I was informed it was "Frogmore Selected." The plant has a strong constitution, is a great bearer, and fruits well on walls in the open. Even in a season like the present, when most varieties outside are a failure, I saw great quantities of it ripening its fruits on the open walls at Frogmore.

The garden has been laid out with care and judgment as to the requirements of the establishment, and is in itself a lasting memorial of the master mind that planned and carried out the work. It is in the form of a parallelogram, with broad gravel walks wide enough for a horse and cart to do all the hauling of manure, on to the different quarters and cart the crops off. The interior is divided in equal parts by several brick walls running east and west, and the slip on the south side for growing the coarser kinds of vegetables corresponds with the north side of the garden, where all the pits, frames, and plant houses are. The walls on both sides are covered with the choicest kinds of Pears, Plums, Peaches, Cherries, and Apricots, and the trees are all in different stages of growth; some in full bearing and others partially covering their allotted space, and trained in different forms. But the fan-shape seems to be the one most in favour at Frogmore.

The borders by the sides of the principal walks are planted with pyramidal Apple and Pear trees, most of them young and in robust health. The Pear trees were carrying a heavy crop, almost fit to gather, at the time of my visit; but Apples were scarce, as is the case in most places this year. The different quarters of the garden were thoroughly cropped with the best kinds of vegetables, and in such abundance as to astonish a visitor who had seen the Royal Gardens that morning for the first time.

The grounds round the castle were in fine condition, and looked well. The massive beds in the geometrical design in the terrace gardens are planted with some of the choicest bedding plants. The colours are finely blended, and it has an imposing effect when seen from the terrace walks. The design, with its broad gravel walks and finely kept grass slopes, harmonises with the ancient architecture of the great building. I may add that order and neatness prevail everywhere in those fine gardens.—A. PETTIGREW, *Castle Gardens, Cardiff*.



HARDY FRUIT GARDEN.

Planting Fruit Trees.—The sooner fruit trees are planted in the autumn when the leaves commence to fall the better. A few green leaves at the points of shoots are of little consequence as regards safety in removing and transplanting. On the contrary, they are of assistance in some measure in aiding fresh root action, and they show at least that the plants have been hitherto vigorous, containing a reserve of force which will be useful in re-establishing the trees.

Advantages of Early Planting.—There are many advantages secured by early planting. The ground is warm, usually fairly moist, and readily workable for longer periods than is the case in winter. Trees with a full complement of healthy, fibrous roots take to the warm, moist soil at once, and rarely experience any check other than what is beneficial. Those with few fibrous roots have an excellent chance of recuperating, as the fresh, sweet soil which surrounds them and the comparatively warmer medium is conducive to the emission of a number of lateral fibres from smooth bare stumps. Trees, however, of this character are not the ideal of planters, nor should they be, preference being given to well balanced specimens in regard to root and branch. Such give the most satisfactory returns from early planting, and there is no fear of their failing to start well the following spring. A year is often gained in growth by a few weeks promptitude in the autumn.

Preparation of the Soil.—The ground for fruit trees should, in all cases, be deeply dug, whether rich, poor, or of medium quality. The due preparation is best effected some weeks previous to planting, so that it is in readiness and somewhat consolidated. When this cannot be done the planting must follow close upon the preparation, light soil being made firm by treading. In poor soil a moderate amount of manure may be buried in the subsoil, but sparingly used in the surface soil unless well incorporated, so as not to come into direct contact with the roots. A good vegetable soil needs but little addition for the early growth of fruit trees. It is best to encourage only a medium growth of wood, but a free extension of fibrous roots. A 2-feet depth of soil will meet the full requirements if the subsoil below is loose to admit the draining away of superfluous moisture. If the soil is shallow endeavours must be made to increase its depth, even if a foot or more of barren soil has to be removed. If possible substitute good loam of a holding character, and mix with the best of the staple. On damp, badly drained sites the soil must be raised above the level in order to provide a warmer and drier position for the roots and prevent their descent into the subsoil. This is often effected by providing stations for the trees 6 or 8 feet in diameter instead of raising the whole body of soil, the base being drained with a foot depth of rubble or stones.

Selecting Trees.—This is a matter which must be left largely to the judgment of the planter. Trained trees may be obtained as cheaply

as those which have had no early regulation of growth, and as it is better to secure the former they should be purchased when two or three years old. Time is lost in pruning and training in order to lay a foundation of branches. This is best done in the nurseries, where fruit trees are made a specialty, and it is from firms of repute that properly trained and named fruit trees may be obtained. They ought to have made good growth of medium strength, have clean wood, and a number of fibrous roots proportionate to their size. They will then transplant easily and grow away readily. It is not desirable to obtain trees with fruit buds predominating. A due amount of wood growth is essential to the future welfare of the trees.

Stocks for Fruit Trees.—Nurserymen are well able to advise on this subject, but it may be mentioned as a guide for those planting trees in special positions. Pears for planting at narrow distances apart, say 4 to 6 feet, must be obtained on the Quince stock, Apples on the Doucin or English Paradise stock, and Cherries on the Mahaleb stock. Pears for planting at wider distances should be on the Pear stock, and Apples on the Crab stock. Pear and Crab stocks root deeper, and are most fitting for trees of strong and large growth, while the dwarfing stocks are admirable for restraining growth, being of a fibrous surface-rooting character.

Planting.—Wide shallow holes should be dug before uncovering the roots of the trees to be placed therein. Previous to planting examine the roots, seeing whether there are any bruised portions, or jagged, torn ends. If so, they must be cut smoothly across, when they will quickly heal and further the development of fresh fibres. It is important that the roots be not long exposed. They dry and lose vitality under the influence of drying air, consequently they injure the trees. With everything in readiness the actual planting may be carried out quickly. Some light fibrous loam mixed with a little wood ashes is excellent for sprinkling among the roots. Make the soil firm before placing the tree in the hole, and be careful not to plant too deeply. Spread the roots out in layers to their full extent horizontally from their origin, sprinkling soil among the fibres carefully in an outward direction so that the points are not twisted backwards. The last or upper layer of roots should lay within 4 inches of the surface when finished. Stake the trees securely to prevent wind disturbance and the consequent disarrangement of the roots. A mulching of short littery manure will serve the double purpose of preserving heat and moisture in the soil and preventing the entry of frost.

Newly planted wall trees ought not to be nailed or tied permanently in position at first, the soil usually sinking considerably, and the trees, being loose, settle along with it. This applies to all the forms of trees which are used for walls—horizontally trained, fan-shaped, and cordon. A few loose ties are sufficient to keep them in position until the ground consolidates, when the main nailing or tying in should take place.

FRUIT FORCING.

Figs.—*Earliest Forced Trees in Pots.*—The trees intended for this purpose should, if they have been placed in the open air, be taken under cover to protect them from frost and the cold autumn rains. If not repotted, top-dressed, or had the drainage rectified as advised in a former calendar, the needful operations must be attended to at once. Place the trees in a rather dry well-ventilated house, where they will be cool, yet not subjected to more than a few degrees of frost. Any thinning of crowded and shortening of attenuated growths must be performed without delay, remembering that the fruit is produced on the well-matured shoots, and mainly near their extremities. Wash the trees carefully with soft soap (3 ozs. to a gallon), and water in a tepid state, using a brush, and reaching well into the angles of the shoots and crevices of the bark; the brush must be sufficiently stiff to dislodge scale, using it carefully where the embryonic Figs are located, as the least scratch will show itself as a blemish on the developed fruit. After judicious as well as efficient washing, the trees may be dressed with an insecticide.

In order to force Figs successfully, a light airy house, well heated, facing the south, and having pits containing fermenting materials to afford a bottom heat to stimulate the roots and afford a constant supply of nutritive matter, is necessary. It is also important to select varieties that produce first crop Figs with certainty or more so than many. Early Violet and St. John's produce small fruit, black and greenish-white respectively, and are the earliest to ripen. Pingo de Mel possesses an excellent habit, and the fruit is larger and better flavoured than the preceding. For general purposes the best are White Marseilles and Brown Turkey, both producing large fruit, well flavoured, and the trees give good returns, both in the first and second crops.

Planted-out Fig Trees.—Figs that have been in bearing since the early part of June are now commencing to rest, and may be divested of the old foliage as soon as it parts freely from the wood. If planted in inside borders, and the growth is considered too strong, the present is a favourable time for root-pruning, an operation that has a magical effect on over-luxuriant Fig trees, and is very desirable where the space is limited. All the inert soil should be cleared away, strong roots cut out, or shortened to whence fibry proceed, and the drainage examined, and if defective be rectified. The roots may then be relaid in fresh compost, firmly rammed, mulched, and left dry until the time arrives for forcing. The soil, however, needs to be moderately moist when lifting operations are performed, then it will so remain till the time of starting. The young shoots that have been allowed to grow up with their points to the glass will be thickly studded with embryo fruits, which must be protected from injury when the house and trees are cleansed, as well as

from the effects of sudden and severe frosts, by being unfastened and drawn down below the trellis until the time arrives for thinning out the branches that have reached the extremity of the trellis. This will facilitate lifting and root-pruning operations. The best soil for Figs is a calcareous loam, which naturally contains nodules of limestone and particles of grit or small stones. Good friable loam, however, with a liberal addition of lime rubble, broken bricks and road scrapings will grow Figs well, the chief points being thorough drainage, firm soil and restricted root space. Stimulants, in the form of solid manure or liquid, should always be applied to the surface when the trees are growing.

Late Fig House Trees.—All root-pruning should be finished as soon as the leaves give indications of falling, bearing in mind that strong-growing varieties can only be kept fruitful and manageable by limiting the rooting area proportionate to the extent of the trellis space. The root space need not exceed half that of the trellis, as the main points are to secure sturdy growths studded with fruit, and then feeding proportionately to the crop. When the leaves are down, or until they are, the houses should be freely ventilated, especially in favourable weather and at night, except when frost prevails.

Strawberries in Pots.—Successful Strawberry forcing depends largely on the treatment the plants are subjected to during their preparatory course, and especially at what is commonly known as the resting period prior to starting. The wintering of Strawberries in pots by stacking them one upon another in sawdust or other material against a wall, or housing them on the border of fruit houses, is not only unnecessary, but absolutely injurious, as the soil not infrequently becomes dry, and the currents of air induced by the free ventilation wastes the energies of the plants. The forwardest will now have the crowns well developed and the pots filled with healthy roots. To preserve these is a point of some importance, as when they get frozen and suddenly thawed their collapse is certain and the plants start badly in consequence. If intended for early forcing they will be the better for having lights placed over them, the pots being plunged in ashes or cocoa-nut fibre refuse, or even tree leaves, but not so thick as to heat; but the lights must be withdrawn in mild weather, and only used in case of heavy rains, when they must be tilted, or in case of frost.

They should be regularly examined for watering, supplying it only to such as stand in need, never allowing them to suffer, as the Strawberry is much injured when allowed to become dry at the roots. Place late plants in a raised bed, or plunge in ashes or other material on the flat in a sunny position to finish the ripening process, and they will require to be duly supplied with water. If any plants remain long without needing a supply, or the soil becomes very wet, examine the drainage, rectifying it wherever defective, expelling worms with lime water. Sun and sharp frosts ripen the growths and solidify the crowns better than the atmosphere of houses.

THE BEE-KEEPER.

APIARIAN NOTES.

PREPARED FOR THE WINTER.

AFTER overhauling and filling up hives with worker comb to prevent excess of drones next summer, I have not observed a single cell of foul brood in any one of my stocks, due entirely, I believe, to my thorough system of ventilation. I have had an entire immunity from it for upwards of thirty years. Carbolic acid I found valuable only when other laws of sanitation were attended to; it does not destroy the germs of foul brood. All my stocks, too, are wind and watertight, yet permit the escape of the perspiration of the bees from within.

We do not fear the severest weather during the winter, and to lessen the risk of the loss of bees during the spring and early summer all are provided with extra stores, so that feeding will be entirely obviated up till June, 1895. Should the season be untoward we may have to feed then, and as our hives are all full-sized, unless those in two divisions I want to swarm, there is much room for storing newly gathered honey should the season be favourable.

MEAD.

"A. E." inquires how to make mead. We make our mead from the Heather honey washed from the combs after they are pressed. The pollen amongst these combs gives a high colour, flavour, and assists fermentation. We have no standard of amounts further than by the denseness of the liquor, and having it so that an egg floats on it, or as strong as syrup fed to bees.

After the honey is thoroughly washed out of the combs, preparatory to the latter being boiled for the purpose of extracting the wax, it is passed through sieves and muslin bags. It is then allowed to stand till all sediment settles at the bottom, when the liquor is again filtered, after which it is boiled for about an hour, skimming carefully the froth as it appears. Before lifting from

the fire add any flavouring ingredient desirable, keeping the same in a net bag. Now pour it into a cooler, and when milkwarm put it into a cask which has been thoroughly cleansed, and in which a sulphured rag has been burned, to destroy false ferments. This done, add some brewers' barm, when fermentation will set in, and continue for three or four days. Keep the cask full with some of the preserved liquor during that time. Stop it closely, or if desirable less a small vent hole for two days more. After this make it air-tight and store in a warm place. When a year old taste the mead and if fined well it may be bottled and sealed, but two years in the cask is not too long when the mead has been strong enough at the first. The reason for bunging the cask so early is to give a more regular ferment than it does when allowed to stand exposed a long time.—A LANARKSHIRE BEE-KEEPER.

SPRING FLOWERS FOR BEES.

No time should be lost in filling all spare beds and borders with spring-flowering bulbs and plants that yield both honey and pollen. The earliest of these is the Winter Aconite, bright golden yellow, flowering in this locality (a midland county), about the end of January. These, when once planted, do not need to be disturbed, as after the foliage have died down in the spring annuals may be sown in the same place. If in mixed borders or beds, with the result that the Aconites will appear again the following winter, and bloom freely without any further trouble. We also plant them on the turf under trees; they grow admirably in this position.

Snowdrops, both the single and double varieties, may be planted in the same way, and are usually in bloom in February, and Crocuses of various colours should not be omitted from the smallest garden. These we plant as edgings to beds and borders; large masses of them are planted on the grass, also under trees, and by keeping the colours separate they are very bright and showy, and yield a large amount of pollen which is very acceptable to the bees. By the time these plants are in bloom in March the bees are breeding somewhat freely, and it is surprising what pollen the bees will collect on a bright day at that time of the year, this being necessary in the hive for feeding the young bees. Wall-flowers should be extensively planted, and are obtained by sowing the seeds in the spring, transplanting them when large enough into beds, to be now planted in their permanent places. If carefully lifted they will not suffer in the least, and will bloom freely throughout the spring. They have the advantage of being very hardy. Last winter we registered 3° of frost below zero, and very few plants were killed, but the snow protected the plants. *Limnanthes Douglasi*, usually called "the Bee Plant," is when in bloom a perfect paradise for the bees, as they will work on this in preference to any other plant that I am acquainted with. This is a dwarf flowering annual, seeds of which should be sown as soon as ripe, and seedlings may now be transplanted to their permanent position. The plants are not particular as regards soil, but do best in the full sun and bloom during May.—AN ENGLISH BEE-KEEPER.



* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Salad Vegetables (*G. C.*).—Beet, Celery, and Tomatoes are admissible in a collection of salads for exhibition, unless specially debarred by the terms of the schedule.

Blackened and Decaying Pears (*C. H. P.*).—The fruits are infested with a destructive fungus (*Gloeosporium fructigenum*), and we shall shortly publish an illustrated article on the subject by Mr. G. Abbey.

Millipedes (*A. B. C.*).—The "insects" you send are small millipedes (*Julus terrestris*), and although we should not apprehend they will injure the Vines, we should prefer them out of the house, and dead than alive. Prepare some clear lime water made from lumps of fresh lime, and with this syringe the marauders when they are "on the prowl" at night.

Tacsonias Dying (*Tacsonia*).—We have no means of indicating the reason "why you cannot succeed with *Tacsonia Van Volxemi*." If the soil was of the right kind, and in the right condition when used, also that in the pot neither too wet nor too dry when the plant was placed in the tub, and if the new soil was pressed as firm as the old, and no mistake made in watering either by yourself or anyone else, we can only conclude the position is unfavourable. We have found this *Tacsonia* one of the easiest of plants to grow.

Naming Specimens (*W. A. K.*).—When specimens, whether of flowers or fruit, arrive on Thursday, Friday, or Saturday, they are usually, if at once recognisable, named in the following issue, but when close and special investigation is needed some delay must of necessity occur. Specimens arriving on Wednesdays can seldom be named in the current issue, and not often if they arrive on Tuesdays, though they can be sometimes. Some boxes of fruit which arrived on Wednesday morning this week could not possibly be named in the present issue. It is work which requires much more time than can be given when actively preparing for press. Procure your Journals as usual, and we hope you will have the pleasure of binding them for many years to come.

Dinner Table Decoration (*Anxious*).—If you are directly responsible to your employers for the dinner-table decorations certainly the butler should not be allowed to interfere in the matter, though obviously he must have space for whatever else may be essential connected with the dinner. At the same time some indoor servants take considerable interest in the decorations, and can occasionally suggest ideas of service to a gardener. It is desirable that gardeners and butlers should work amicably together, but undoubtedly neither have the "right" to interfere with the clearly defined work of each other. We shall shortly publish an article on dinner-table decorations, and if you like to send us a post-card directed to yourself we will name a book that might possibly be useful to you, or at least suggestive.

Forcing Lilac (*E. F.*).—White Lilac is obtained early in the year by placing well budded shrubs or bushes dug from the ground in a warm dark place, such as a well-heated shed or Mushroom house. Shrubs of the common pink Lilac are usually the most plentiful, and the flowers come white when they expand in darkness. A temperature between 60° and 80° is suitable; the higher it is the sooner the flowers appear, and we have known them quickly obtained in a temperature of 90°. The shrubs must be syringed occasionally till the growth starts, and the roots be kept very moist. In addition to the heat from hot-water pipes, some persons have heaps of sweet fermenting materials, consisting of leaves mainly, in the Lilac shed, turning them occasionally, for the diffusion of heat and moisture, but an excess of moisture must be averted or the flowers will suffer. If you have not any shrubs that you can dig up you must apply to nurseries for them. White Lilac can be forced in glass structures, when small shrubs of the White variety are obtained and potted. The best of these are grown in France, and imported and sold by English nurserymen.

Culture of *Stephanotis floribunda* (*F. P.*).—It is a great mistake to keep this plant too warm, for its growths are more sturdy and it flowers more profusely when grown under cooler and more airy conditions than the plant is generally subjected to. Cool, airy treatment after flowering is of the utmost importance to thoroughly harden and ripen the wood before the season for complete rest arrives. The plants that flowered early in the year have had no artificial heat for the last six weeks, and none will be given as long as the temperature can be kept from falling below 50° at night. Abundance of air should be admitted during the day, and a little ventilation allowed all night when the weather is mild. The atmospheric conditions of the house should also be much drier than is generally the case. If this plant is infested with mealy bug it should be thoroughly syringed once a week with petroleum and water, 1 oz. of the former being added to a gallon of the latter. If the oil is well mixed in the manner frequently described, and the plant shaded from strong sun for about two days after syringing, the bug may be thoroughly eradicated. Half measures are next to useless, and syringing with petroleum two or three times a year only reduces the bug and does not prove effectual in clearing the plants entirely of the pest.

Trees and Shrubs for a Wet Position (*Amateur*).—For the low-lying ground, formerly a pond, and filled up with stiffish soil, about a quarter of an acre in extent, and which will always be rather moist, backed now by trees on all sides except that fronting the house, which stands on a much higher level, the planting of the old pond must depend something on the trees already round it, and whether it would be desirable to make that harmonise with the other trees, or to assume a distinct character of its own. In the latter case a quick and pleasing effect would be produced by using Willows and Poplars for light foliage, either without or in combination with some sombre-leaved Pines, and with an undergrowth of evergreens and other plants if desirable. Thus in such a place first there might be planted three good plants of the *Babylonian* or Weeping Willow, one of the White and two of the Duke

of Bedford Willow, or *Salix Russelliana*; and mixed with these one plant of *Populus alba*, *P. tremula*, *P. fastigiata*, and *P. balsamifera*. Then the whole undergrowth might be a mass of Laurels, Privet, and Box, or walks might be made through it, and the following arranged in groups, so as to be very attractive, the last-named sorts being kept most to the outsides:—Evergreen Oaks, a few Hollies, common Laurels, Portugal Laurels, Boxes of sorts, *Aucuba japonica*, *Daphne laureola*, *Arbutus unedo*, *Atriplex halimus*; Rhododendrons if a little peat can be given them, and there is little or no calcareous matter in the soil; *Hypericum calycinum*, or St. John's Wort, and *Laurustinus*, keeping the latter chiefly at the outside. Second, if the Willows and Poplars should be too light you may mingle with them a few Pines, as Spruce Firs (*Abies excelsa*), *Picea pectinata*, and *Pinus austriaca* and *rigida*; but if these are encouraged to feather to the ground nothing else must be planted near them. Third, The Spruce Fir and *Pinus austriaca* and *rigida* would flourish pretty well in such a place, and would soon form a thicket of themselves; but if the place were desired to look well from the house, and to be a place of resort as well, then if such sombre trees were planted from 30 to 40 feet apart walks could be carried through the space, and the above evergreens thrown into groups in the open spaces, to which might be added such deciduous plants as Privet and Dogwood. Fourth, If the surroundings admit of it, and as economy is your object, we would plant with Willows and Poplars, say from 30 to 40 feet apart, including a few Spruce, and then use Laurels for undergrowth, with a belt of *Laurustinus* for the outside.

Indian Figs—Cochineal (Yorks).—You are quite right in saying the fruit of *Opuntia vulgaris* is so called, but it is not that species that supports the cochineal insect. *O. vulgaris* has been naturalised in the south of Europe, where, in Sicily, it has spread over expanses of volcanic sands and ashes where not a particle of vegetable soil exists. The fruit is about the size of a Fig, and red on the inside. It is very much relished by some, but varies in quality according to the climate in which it is produced. The Sicilians grow it extensively, and esteem it one of their most valuable esculents. It forms an important article of diet with the inhabitants of that island during three months of the year, though strangers generally consider it insipid. In the countries where it grows the Prickly Pear is, on account of its rapid growth, much used for the formation of fences round lands and dwellings; and the quickness with which it grows, and its long stout spines, speedily render it such a formidable enclosure that neither man nor beast can penetrate it. *O. Tuna* also makes strong fences, and when the island of St. Christopher was divided between the English and the French three rows of the *Tuna* were planted by common consent between the boundaries. Sir J. E. Smith states that the long and slender stamens of the flower are very irritable, and that if a quill or feather is thrust through them, in the space of two or three seconds they begin to lie down gently on one side, and in a short time become recumbent at the bottom of the flower. The fruit yields a rich carmine pigment, which is used at Naples as a water-colour. *O. cochiniifera*, or Nopal, is the plant on which the cochineal insect feeds and breeds. It is in Mexico where the production of cochineal is carried on to the greatest extent, but it is also produced in the Canary Isles and in Java. The insect is the *Coccus cacti*. A number of the females are preserved during the rainy season. After the rains have ceased they are distributed over the plants, and having deposited their eggs speedily die. The eggs are hatched by the heat of the sun, and give rise to innumerable insects, the males of which are only in the proportion of one to a hundred or two hundred females, and being provided with wings they move about and fecundate the latter. After this period the females which before moved about attach themselves to the plant, and increase rapidly in size, so that in the end their legs, antennæ, and proboscis are scarcely discernible, and they appear more like excrescences on the plant than distinct animated beings. They are now gathered by scraping them off by means of a blunt knife, or brushing them off with a quill, a feather, a squirrel's or deer's tail, a few being left to continue the race. They are destroyed by dipping them in hot water, or by the heat of a stove. In the former case they are afterwards dried in the sun.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (J. K.).—1, Baronne de Mello; 2, Huyshe's Victoria; 3, Maréchal de Cour, poor specimen; 4, Alfriston; 5, A promising fruit, worthy of a name. (W. W.).—1, General Todleben; 2, Grosse Calebasse; 3, Pitmaston Duchess; 4, Beurré Beauchamp; 5, Hacon's Incomparable; 6, Beurré Diel. (H. S., Knowle Green).—Brown Beurré. (A. A.).—1, Cox's Pomona; 2, Not known,

probably local; 3, Maréchal de Cour; 4, Beurré Capiaumont. (N. S. R.).—Neither of the Pears is Fondante d'Automne. 1 Is possibly Marie Louise d'Uccle; 2, Beurré d'Amanlis; 3, Autumn Bergamot; but the flavour of all is destroyed by having been in contact with some foreign matter. The Apple is Gravenstein. We have several packages of fruit containing neither names or addresses of the senders. These cannot receive attention.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (F. C. M.).—*Sibthorpia europæa*. (L. C.).—*Montbretia crocosmæflora*. (S. T.).—1, *Dracæna australis*; 2, *Croton Warreni*; 3, *Cratægus coccinea*. (Nova).—1, *Cypripedium insigne Maulei*; 2, *Dendrobium phalaenopsis Schöderianum*. (T. H. S.).—*Ceanothus rigidus*. (Aytan).—Small flowers of *Dendrobium Parishii*. (T. B.).—1, *Populus heterophylla*; 2, *Populus canadensis*. (Constant Reader).—1, *Davallia Veitchii*; 2, *D. dissecta*; 3, *D. canariense*; 4, a *Lomaria*, unfertile; 5, possibly *Lomaria blechnoides*; 6, *Blechnum braziliensis*.

COVENT GARDEN MARKET.—OCTOBER 24TH.

No alteration. Prices steady.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, per half sieve	1 6	to 3 6	Peaches, per doz.	1 0	to 10 0
Grapes, per lb.	0 6	1 6	Plums, half sieve	0 0	0 0
Cobs, per 100 lbs.	22 6	25 0	St. Michael Pines, each	2 0	6 0
Lemons, case	10 0	15 0	Strawberries per lb.	0 0	0 0

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Beans, Kidney, per half sieve	1 0	to 1 6	Mushrooms, punnet	0 9	to 1 0
Beet, Red, dozen	1 0	0 0	Mustard and Oress, punnet	0 2	0 0
Carrots, bunch	0 3	0 4	Onions, bushel	3 6	4 0
Cauliflowers, dozen	1 6	3 0	Parsley, dozen bunches	2 0	3 0
Celery, bundle	1 0	1 3	Parsnips, dozen	1 0	0 6
Coleworts, dozen bunches	2 0	4 0	Potatoes, per cwt.	2 0	3 6
Cucumbers, dozen	1 0	2 6	Salsafy, bundle	1 0	1 5
Endive, dozen	1 3	1 6	Scorzouera, bundle	1 6	0 0
Herbs, bunch	0 3	0 0	Shallots, per lb.	0 3	0 0
Leeks, bunch	0 2	0 0	Spinach, bushel	1 6	3 0
Lettuce, dozen	0 9	1 0	Tomatoes, per lb.	0 2	0 6
			Turnips, bunch	0 3	0 4

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blooms	4 0	to 6 0	Maidenhair Fern, dozen bunches	4 0	to 6 0
Asparagus Fern, per bunch	2 0	3 0	Mignonette, 12 bunches	1 0	3 0
Asters (English) doz. bunches	4 0	8 0	Orchids, per dozen blooms	1 6	12 0
Bouvardias, bunch	0 6	1 0	Pelargoniums, 12 bunches	6 0	9 0
Carnations, 12 blooms	1 6	2 0	Primula (double), dozen sprays	0 6	1 0
" doz. bunches	9 0	12 0	Pyrethrum, dozen bunches	2 0	4 0
Chrysanthemums	3 0	9 0	Roses (indoor), dozen	0 6	1 0
" doz. blooms	2 0	6 0	" (outdoor), doz. bunches	0 6	12 0
Cornflowers, doz. bunches	2 0	3 0	" Tea, white, dozen	0 6	1 6
Dahlias	2 0	4 0	" Yellow, dozen	2 0	3 0
Eucharis, dozen	2 0	4 0	" Safrano (English), doz.	1 0	2 0
Gaillardia, dozen bunches	1 0	1 6	" Maréchal Niel, doz.	3 0	8 0
Gardenias, per dozen	2 0	4 0	Smilax, per bunch	2 0	3 0
Gerauium, scarlet, doz. bunches	4 0	6 0	Stephanotis, dozen sprays	4 0	6 0
Gladiolus, dozen sprays	1 6	2 0	Tuberoses, 12 blooms	0 4	0 6
Lilium longiflorum, dozen	6 0	9 0			
Marguerites, 12 bunches	1 6	3 0			

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ (golden) dozen	6 0	to 12 0	Ferns, in variety, dozen	4 0	to 18 0
Aspidistra, per dozen	18 0	36 0	" (small), per hundred	4 0	6 0
Aspidistra, specimen plant	5 0	10 6	Foliage plants, var., each	2 0	10 6
Asters, dozen pots	3 0	4 0	Lilium Harrisii, per dozen	12 0	24 0
Chrysanthemums, per doz.	3 0	6 0	Lycopodiums, per dozen	3 0	4 0
" large, per doz.	9 0	18 0	Marguerite Daisy, dozen	6 0	12 0
Dracæna, various, dozen	18 0	42 0	" yellow, doz. pots	6 0	10 0
Dracæna viridis, dozen	9 0	24 0	Mignonette, per doz.	6 0	0 0
Erica, per dozen	12 0	15 0	Myrtles, dozen	6 0	9 0
Euonymus, var., dozen	6 0	18 0	Palms, in var., each	1 0	15 0
Evergreens, in var., dozen	6 0	24 0	" (specimens)	21 0	63 0
Ficus elastica, each	1 0	7 0	Primulas, per dozen	4 0	6 0
			Solanums, per dozen	10 0	12 0



ROUGH PASTURE.

COARSE herbage in pasture is by no means a certain indication of inferiority; on the contrary, if it was laid down with care it may be highly nutritious. Cocksfoot, Meadow

Fescue, Tall Fescue, Timothy, and Meadow Foxtail are all coarse Grasses of the highest excellence. They were recommended by Mr. Faunce de Laune to form the bulk of all pastures on good soil. All of them under good cultivation yield great bulk of herbage, and in well balanced combination they combine to render pasture not only valuable for this, but also for early, continuous and late growth. With plenty of Foxtail and Cocksfoot, stock may be out of the yards ten days or a fortnight sooner than where there is little or none of these early Grasses. Or if they are abundant in meadows laid in for hay, haymaking is over before July, and the succulent aftermath springs up with marvellous rapidity. Timothy is valuable in the autumn for its late growth, as well as for its heavy crop earlier in the season, but earliness is even more desirable. All calculations as to the comparative nutritious value of early and late Grasses are in favour of the former, the earlier herbage being proved to contain two-thirds more nutritive matter than late growth.

It is such important facts that influence our decision to break up very rough pasture, and to lay it down again with the best mixture of Grasses and Clovers, and then to give it systematic cultivation. As we have already shown, the breaking up of pasture is always regarded as an extreme measure, and though the best Grasses are desirable, the mere fact of their absence or presence only in a very limited degree would not alone justify it. For example, in the famous King Meadow, near Carlisle, held in high repute for its great feeding qualities, there is 69 per cent. of Perennial Rye Grass, only 4 per cent. of Timothy, and none of the Fescues, no Foxtail or Cocksfoot. In the best meadows of the Eaton Hall Home Farm, exclusively grazed by one of the Duke of Westminster's herds of dairy cows—the Grange Herd—there is 75 per cent. of Perennial Rye Grass, 2 per cent. of Timothy, and neither of the other Grasses we have mentioned. In 1892 the average milk yield of forty of the cows grazed on this land was 673 gallons per cow. They had the additional advantage of a liberal dietary in the winter, but they had nothing extra while they were out on grass, no feeding at milking time.

To show the exceptionally nutritious value of Rye Grass in combination with Clover, we give one more example at Lord Wantage's home farm in the Vale of White Horse. Of the Grasses in a meadow of 46 acres 72 per cent. was Perennial Rye Grass; of the entire herbage 34 per cent. was White Clover. In his report of a season's grazing of this meadow the farm manager said, 'The last week in April (1889) I stocked it with forty-four Hereford steers and four shire fillies; the Herefords were all fat, and sold to a London dealer by the middle of July. I then drafted thirty-six other Herefords into it from inferior pasture; they were all fat and gone by the end of August. I then stocked it with forty shorthorn heifers; twenty of these were sold fat at the end of October, the remaining twenty, being half-fat, were put in the stalls about the first week in November. I then put in twenty four Welsh runts (stores) to clean it up, and they have (February 14th) until quite recently been doing well, when I moved them into strawyards. I have never known artificial food of any sort given to beasts in this field.' This remarkable statement should act as an incentive to thorough pasture cultivation. There is no imperative reason for laying all land down to permanent pasture; under good management temporary pasture may be even more profitable than the best of permanent pasture. The Scotch farmers in Essex have proved this by the admirable manner in which temporary pasture under a six or eight-years-course system has been made to answer. Thorough tillage, sustained fertility by means of a free, regular use of lime, natural and chemical manures, affords them abundance of the best herbage for hay and for grazing their big herds of cows.

Valuable as old rich pasture undoubtedly is, there can be no

sound reason why inferior pasture should not be improved (however rough or neglected it may be) and rendered profitable, if not equal to the best pasture. The popular idea that only very old pasture can be fully profitable is altogether erroneous. Once let the principles of pasture cultivation be generally applied to practice, and we shall cease to see it brown and bare in the winter. Really good pasture is always green, simply because the soil condition is sound in every essential—drainage, porosity, and sustained fertility. It may be either permanent or temporary, it matters not which, and there are undoubtedly local conditions which may render temporary pasture altogether preferable to permanent pasture, just because it is most profitable.

WORK ON THE HOME FARM.

The month draws to a close, there is a change to colder weather, useful growth has ceased, and the clearance of root crops from the land should be pushed on with briskly while carting is light, and before there is serious risk of harm to the roots from severe frost. Carrots, white Turnips, Swedes and Mangolds, are all heavy crops. The white Turnips are being folded with hoggets, having some crushed Oats and a run on pasture for awhile by day; they are being drafted for sale in batches as they are ready for the butcher. The roots are going into heaps, mainly in the form of a long ridge, alongside a road to facilitate carting in the winter. Enough for the shepherd's requirements will at once be carted from the field and stored in a heap near the lambing fold. This is easily managed by turning the whole of the carts in that direction, or if there is a lambing yard at the homestead enough roots may be accumulated there by sending the last cartloads there daily from the field. We like to have a field or two of late-sown Swedes left out for folding ewes and lambs on in March or April. Firm roots of medium size answer best, and the advantage of leaving them out in the field is the green tops which they have in mild weather, and which the lambs run forward and consume before the folds. Early lambs also make their mark on the roots before the ewes get to them. Where this crop is considered to be so forward as to be susceptible of severe injury from frost the roots are thrown together in small circular heaps all over the field, some soil being thrown over them for protection.

A supply of roots will also be taken to the homestead for the cows, Carrots to be used for the next two months, and Mangold to come into use with the new year. In East Anglia the farm horses always have sliced or minced Mangold with Barley chaff during the winter. The mixture is wholesome and nutritious, the crisp sweet roots making it very palatable. Let the covering of all root heaps be frost-proof. Litter is plentiful enough generally now, and where bracken, sedges, or rushes can be had, they should be used to save the straw. We prefer ploughing in the root leaves, but where it is customary to turn in the flock let this be done while the leaves are fresh and crisp.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

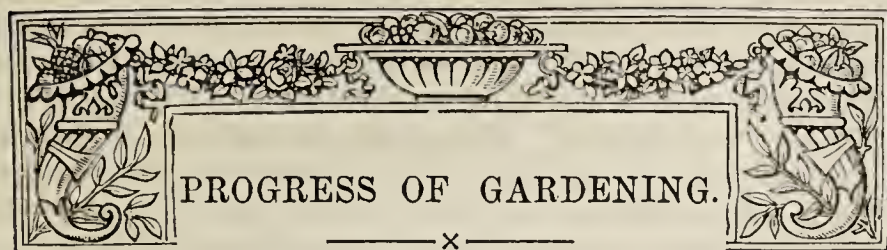
Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1894. October.		Barometer at 32°, and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday ..	14	30.025	49.2	47.0	N.E.	54.0	54.4	47.8	94.2	48.0	—
Monday ..	15	30.112	43.9	41.2	N.	51.8	53.2	36.9	88.6	34.1	0.020
Tuesday ..	16	30.160	45.1	43.6	N.	50.0	53.8	38.3	90.9	33.8	0.029
Wednesday	17	30.134	42.1	42.0	N.	48.9	53.7	31.2	81.2	29.2	—
Thursday ..	18	29.811	44.8	41.7	N.	48.1	4.9	41.9	58.0	39.9	—
Friday ..	19	2.668	46.2	44.0	N.E.	47.9	51.4	37.1	65.3	31.9	—
Saturday ..	20	29.508	43.9	42.7	N.E.	47.9	48.2	40.0	51.8	35.9	0.280
		29.917	45.0	43.2		49.8	51.9	39.0	75.7	36.1	0.329

REMARKS.

- 14th.—Slight showers early; bright sunshine nearly all day, but one or two very slight showers in afternoon; clear cold night.
 15th.—Bright sun from sunrise to sunset, but slight showers at 3.30 P.M., and between 5.30 P.M. and 7 P.M.
 16th.—Dull with spots of rain early; occasional sunshine during day, but heavy rain at 3.40 P.M.; clear night.
 17th.—Foggy early; bright sunny day, overcast at times.
 18th.—Overcast, but fair, throughout.
 19th.—Fair, but almost sunless.
 20th.—Overcast, with occasional spots of rain and showers from 5 P.M. to 6 P.M., and 8.30 P.M. to 9.30 P.M.

Considerably (about 8°) colder, but no sharp frost. Rain still below the average
 —G. J. SYMONS.



WE have lately heard a great deal about the progress made in this science, or in that art, or the great improvements that have taken place in this or that trade during the present century; but we rarely hear of anything that is new or startling in gardening. Probably there are many arts which have shown greater and more marked progress during the last hundred years, but there are few in which the advancement has been so steady, sound, and sure as that of horticulture. The art of gardening has become better understood, the appliances appertaining to it more perfected, its exponents more highly educated, and it has developed a literature which so far has been unsurpassed by the literature of any other art.

Although much of the philosophy of gardening is still contained in Shakespeare's lines—"Root away the noisome weeds, that without profit suck the soil's fertility from wholesome flowers. . . . Superfluous branches we lop away that bearing boughs may live," yet the means and methods adopted for performing many of the simplest gardening operations have been greatly improved. Science has been utilised by the gardener to assist him in making the most of the soil in the cultivation of the flowers, fruits, and vegetables under his charge, and some erroneous notions have been swept away by the aid of it. The resting of the land is never spoken of now as a means of enriching it; but animal or chemical manures are applied to impoverished ground instead. Fruit trees, instead of being cut in like pollards, are pruned rationally. Prowling cats and stray dogs are never shot now for the purpose of feeding Vine roots, nor the assistance of the astrologer called in as an aid to gardening. Many of the plants at one time thought difficult to grow are now cultivated with ease, and garden operations are undertaken without the slightest hesitation, which some years ago would hardly have been thought of.

With reference to gardening patronage, a great change has taken place within the last thirty years. At one time it was the aristocratic portion of the community in this country who did so much for the art of gardening, and were in reality the supporters of what I may term high-class gardening. One of the most important parts of a gentleman's establishment was his extensive gardens, conservatories, and pleasure grounds. Now, unfortunately, they are not so able to keep up those large establishments as formerly, and retrenchment invariably begins with the garden. On the other hand, the middle and working classes have taken a greater interest in its advancement, and have, no doubt, rendered great assistance in keeping it up to its present standard of efficiency in this country. Although there are no garden establishments, such as the Queen's at Frogmore, the Buccleuch's, Rothschild's, Devonshire's and Portland's being formed now, or likely to be in the future, yet the area of ground occupied by gardens is very greatly in excess of what it was forty or fifty years ago. This I mention to show that the patrons of gardening are no longer confined to the aristocracy, but belong to all the walks of life, from the nobleman with his park and ancestral hall down to the artisan who grows his vegetables and tends his flower plot after his labour of the day is finished. The choicest exotics are no longer the exclusive property of Royalty, but may be found in the possession of the merchant and tradesman. The luscious fruits of the Grape, Peach, and Melon as often enrich the table of these classes as

that of the nobleman, and the plant and vase of cut flowers are as much in use for the dinner table as almost the tablecloth itself.

One of the phases of progress made in gardening is exemplified by the improved quality of garden produce in every department during the present century. Perhaps the only exception to this is the Potato, which, though improved as regards size, is inferior, in point of flavour, to some of the Potatoes that were in existence before the days of the Potato disease. It is, however, to be hoped that a variety will yet be raised which may possess the prized flavour of the old Dons, and, at the same time, be disease-proof. The quality of most other vegetables has not only been greatly improved, but their season has been so extended that it is possible to have some kind almost the whole year round—I refer to the Cauliflower, and its hardier variety Broccoli.

Many of the best varieties of our hardy fruits have been raised during this century, and the culture of the Apple and Pear has received a great impetus in this country during the last few years; but we are still, I think, a good deal behind in this matter, and it is to be hoped that progress in the right direction will soon be such that no foreigner will be able to compete with our home-grown fruits in our markets. All kinds of flowers have been greatly improved by selection and hybridism. The Orchid has been transformed to such an extent that it is found difficult to apply correct names to the hybrids. The Rhododendron has been manipulated, so to speak, until something like a new genus has been created. The Dahlia, Chrysanthemum, Carnation, Rose, Gloxinia, Begonia and Hippeastrum, have been hybridised to such an extent that any material improvement in these seems beyond expectation. The Narcissus, Streptocarpus, Gladiolus, Canna, and various genera of Orchids are still passing through the hands of the hybridist, and the results yet to be obtained cannot be guessed. The Fern, even, is no longer safe, although it is only a few years since its reproductive organs were understood. It is, like the other plants mentioned, being subjected to the whims of the hybridist, and some remarkable and interesting developments have been obtained by Mr. Lowe, Shirenewton Hall, near Chepstow, and others who make the Fern a speciality.

In this portion of the art the gardener has been of great assistance to the scientist, thus giving a *quid pro quo*. The hybridist has proved that there are many hybrids of Nature's own making. This he found by crossing two distinct species, which produced a hybrid hitherto regarded as a distinct species. No doubt as greater progress is made in the art of hybridising many more so-called species will be found to be natural hybrids.

The introduction of hardy trees, especially Conifers, during the last sixty years has had a remarkable influence on the landscape side of gardening, and has as much as anything else done away with that most horrible of all arts—the topiary art. The variety of trees to choose from for planting in pleasure grounds is infinitely greater than at the beginning of the present century. A good illustration of this fact can be seen in such places as the Derby Arboretum, laid out and planted by Loudon, with all the hardy trees obtainable at that time. The absence of Conifers is very marked, and indicates one of the advantages we have now over those laying out gardens at that time. The formal garden, no doubt essential in many instances, is fast giving place to a more natural style, and altogether the foibles of former times must always be with us in some form or other. I think even in landscape gardening there has been a decided advance in the right direction during these latter years.

The nursery trade has materially added to the progress of gardening, for it has fortunately been carried on by a class of men noted for their business acumen, enterprise, and integrity, and we have just cause to be proud of them, seeing that they stand almost unrivalled in the points indicated. A story illustrating the great enterprise of our nurserymen is told of one of the Messrs. Veitch, who, when inspecting Miss North's picture gallery at Kew, saw a

painting of a beautiful *Nepenthes* which had never been seen in this country. He made inquiries where Miss North had met with it, and when told, his firm at once despatched a collector from London to Borneo to find it, which he did. I believe this *Nepenthes* was afterwards named in honour of the lady whose picture was the means of its being introduced to this country. For many years past the trade has annually introduced a number of new plants, fruits, flowers, and vegetables to the public, and nurserymen are never afraid to pay the raiser a high price for a meritorious plant, fruit, or vegetable which may prove a credit to the firm.

The flower show, so much in evidence in these days, has undoubtedly added its modicum to the furtherance of horticulture, by exciting among gardeners that powerful incentive to progress—emulation. It is, however, regrettable that emulation is fast giving place to the love of filthy lucre, and the flower show, which might have had an elevating influence, is fast developing into a degrading and demoralising power, and it is an institution which the gardener must soon “end or mend.”

Although there is little chance of mechanical art ever lessening a great deal of the gardener's work, yet the mowing machine—an advent of the last fifty years—has almost laid aside the scythe in the garden, and the latest in this direction is a mowing machine moved by steam, widely advertised by a firm making a speciality of garden requisites. We have now a class of engineers peculiarly our own, known as horticultural engineers, and the development of their industry has enabled the gardener to propagate his plants, grow his exotic fruit and flowers with greater success, and at the same time with much less cost than formerly. Electricity, as an aid to the gardener's art, has been introduced in one or two places, but as the science of electricity is still in its infancy, the time has not arrived to claim it as having done much for us in the way of better cultivation.

The manufacture of chemical manures has unquestionably done much to assist the horticulturist in producing better quality in his products. Pot Vines could not be made to bear the fine crops they do were it not for the use of these stimulants. Animal manure, let it be ever so good, cannot be applied to pot plants in sufficient quantities without causing a nuisance; besides, it is not in every place that it can be had, whereas chemical manures can always be obtained, and stored away till required.

I have already made a passing allusion to the high character of our gardening literature. From such periodicals as the “*Florist*”—one of the earliest gardening papers—which simply gave a few descriptions of florists' flowers and a short epitome of culture, we have now at least four first-class gardening papers that, even from a literary point of view, can hold their own with almost any periodicals printed. The gardener is no longer contented with a simple description of a plant, nor yet an epitome of its culture, but he must know something about the latest researches anent bacteria and micro-organisms, and must, if possible, know the why and wherefore of everything connected with his calling, and all he can about the life history of the plants he has under his care. Consequently his literature must supply his wants in this direction. The horticultural papers supply the latest chemical and biological discoveries which are in the slightest degree connected with gardening, and in every way endeavour to keep the gardener abreast of the times. Nothing has done more to break down the secrecy that at one time existed regarding the methods of propagating, or the means of obtaining high cultural results, than our gardening press. No modern gardener is so selfish as to keep to himself information which he knows would be of service to others. Hence when important discoveries are made they are communicated to the gardening community through their much-loved periodicals. It is probably to the influence of the gardening press that we owe our present improved position in regard to the other arts and trades, as we now claim to be placed on an equal footing with them all. Gardening is one of the subjects which has been taken up and taught most enthusiastically by the majority of the Technical

Instruction Committees throughout the country. The Allotment Act—a small beginning in the right direction—is also a fruit of the telling influence of our gardening papers.

When we begin to inquire into what advancement the gardener himself has made we soon find ourselves on such dangerous ground that it requires all the tact we possess to prevent us saying things that, to use a vulgarism, would entitle us to the aspersion of “blowing our own horn.” Still, we can all modestly say that the gardener of to-day is far before his predecessor of sixty years ago. There were gardeners even much farther back than that who could still teach us many things to-day; but on the whole the gardener of the present time is better educated, holds a better social position, and is much better paid than those at the period indicated. We have in our profession—rightly or wrongly I call gardening a profession—men who have taken University degrees, men who have done deeds worthy of knighthood, and many who have written books that will entitle them to the heartfelt thanks and gratitude of thousands of their fellow workers for years to come.

Such progress as I have only had time to hint at has been brought about by the steady perseverance of our predecessors, and by emulating their example we can in many different ways add still further to its advancement. Our opportunities are greater; we are building on all their accumulated experience, and we are thus justified in hoping that the progress of gardening in future will be even much more rapid than it has been in the past.—
W. W. PETTIGREW, *Superintendent of Park and Spaces, Cardiff.*

FRUIT PACKING AT THE CRYSTAL PALACE SHOW.

ALTHOUGH, in most respects, the late show, held under the auspices of the Royal Horticultural Society, was a great success, there was one section that showed deplorable weakness. I allude to the packing competitions. In class 135, for 10 bushels of cooking Apples and 10 half bushels of dessert Apples, for the handsome prizes presented by Messrs. Monro and Webber, there was but one entry. In this entry the cooking Apples, Lady Henniker, were large and even. The dessert Apples, King of the Pippins, were mostly good, but although on the descriptive card the grading was stated to be *the best*, Apples could be found half the size of others in the same basket. The packing was very ordinary, and not worthy of any special commendation.

Class 136, for one bushel and one-half bushel of Apples, packed for market in packages of any description and number, there was not a single entry. Mr. Weir, the donor of the prize, exhibited some interesting sample boxes containing 5 lbs. and 20 lbs. weight of Apples, well graded, with the fruit packed in wood wool and pink paper.

In class 137, for 12 lbs. of Grapes, the first and second prize baskets were well packed, the berries also being very fine, and the bunches averaging 2 lbs. each. Little fault could be found with the packing; but as most market growers' bunches average nearer 1 lb. than 2 lbs., it would have been more instructive had the bunches been nearer the lower weight, in which case they could not have been packed in the same manner in the baskets, and another method or larger packages would have been requisite.

In class 138, for twenty-four Peaches, four entries, the first prize was awarded to a box packed with wood wool. Each fruit was wrapped in white tissue paper up to the level of the bedding material. The box was too large and the lid was nailed or screwed down, a bad fault. The second prize box again was too large and the lid nailed; fruit packed in coarse wadding without being wrapped in tissue paper. Third prize box, right size, lid tied down, not nailed; fruit wrapped in white tissue paper to level of packing material, which was fine white cotton wool, cut into strips with scissors and wound round the Peaches. This was by far the most attractive box, and would have taken first prize had not the fruits been overripe. Cotton wool and wadding are, however, held by experts to be much too heating to pack Peaches in. Mr. Monro advocates paper shavings, which are used largely at Toddington for both Peaches and Grapes, while another informant of mine, who deals very largely in Peaches, told me that he considered the best wood wool far preferable to paper, as the latter often becomes quite solid and damp after a long journey, while wood wool always retains its elasticity and does not become sodden. The difficulty

with wood wool seems to be to prevent the wood dust settling on the exposed part of the Peaches, and thus spoiling their appearance.

In the competition for the best packed box of Pears, six entries, things were even worse as far as attractiveness went than in the Peaches. In Class 139 the first prize was awarded to a large box packed with wood wool, which at first sight reminded one of the lucky bran-tub at school treats—the Pears were there, but they had to be hunted for. The packing of the second prize box showed a glimmer of taste in the use of pink tissue paper, but the packer had drifted back again into darkness in letting wood wool, with which the box was partially packed, come between the tissue paper and the fruit; leaves were also used in this medley. In the third prize box the Pears were merely wrapped loosely in white paper without any attempt to prevent them rolling about, the packer evidently having a fine faith in the resisting qualities of his fruit, that did not commend itself to the judges. One box in this competition was packed with lawn mowings. It was really difficult to look at these crude attempts at packing with patience. In not one solitary case were they attractive, indeed it was evidently only in two or three cases that they were intended to be so. The English fruit grower will not see that it is not the quality of his fruit so much as the way he places it before the public that makes the difference between his pursuit proving a winning and a losing game to him.

The saying "good wine needs no bush" was probably evolved by a seller of cheap wines, who put the largest bush he could find over his own door, and thereby attracted the public to such a tune that he was able to retire to a dukedom and a castle of his own before the old-established firms had quite made up their minds whether they had not better send out the office boy to cut a bunch of broom. In growing fruit for market the same holds good. Grow the best if you can by all means; but, at all events, put what you do grow on the market in the most attractive manner. Second-quality fruit, packed carefully and put before the public in a way that takes their fancy, will invariably pay the grower better than first-class produce if the latter be carelessly packed and marketed in a slovenly manner.

Foreigners do not think that time spent in the details of packing is wasted. There were a few boxes of fruit at the Palace, on the stall of Mr. E. Guzner, 111, Fleet Street, which had come from Paris. The samples were certainly excellent, and were set off by the packing. The great Apples and Pears lay in their nests of paper shavings with white tissue paper around them, brightened here and there with little rosettes of crimson or green, without a bruise on them, and just as they had started for their lengthy journey. They were as good an object lesson of how fruit should be packed as the boxes in the prize competitions were of how not to do it. I was very sorry that Mr. Monro in his interesting lecture did not have one of these French boxes brought in, that his attentive audience might have seen by ocular demonstration what may and should be done. I am glad to find that the axiom, that boxes should invariably be used in consigning good Apples to market, is gaining ground, both Mr. Monro and Mr. A. Weir in their remarks on fruit packing emphasising that point.

I received a letter recently from a Dorsetshire gentleman, who is doing his best to induce the neighbouring farmers to grow good sorts instead of the worthless cider Apples with which their orchards are now filled, asking me for information as to best markets and probable prices. I am telling him that if he can rely on his farmer friends spending a little time and money in carefully grading and packing their fruit, and putting the best of it on the market in an attractive form, it will pay them; but that if they will take no trouble in these matters, they may just as well leave their orchards alone.—S. W. F.



ONCIDIUM ORNITHORHYNCHUM ALBUM.

At the meeting of the Royal Horticultural Society held in the Drill Hall, Westminster, on the 25th ult., Mr. R. J. Measures, Cambridge Lodge, Camberwell, exhibited a grand plant of this Oncidium, and for which a first-class certificate and cultural commendation were awarded. It is by no means a new Orchid, but it is not generally grown in collections. As depicted in the engraving (fig. 62), the flowers are small, white, with a yellow blotch on each, and they are borne in great profusion on arching spikes. The speci-

men exhibited by Mr. Measures carried seventeen flower spikes, which made an excellent display, and caused the plant to create more than ordinary interest on the occasion mentioned.

CYPRIPEDIUM CHARLESWORTHII.

THERE is no doubt about this being a charming Orchid. It has flowered in many private and trade collections. July and August appears to be the time of flowering, although it may change a little earlier or later when thoroughly established. The dorsal sepal is very broad and shows off to advantage, as it does not turn back like some species. The colour varies from light rose mottled white to dark rose, the darker forms being the most rare. If an albino form turns up, which is not unlikely considering the number that has been imported, it will be very valuable. The shining white staminodes add greatly to the beauty of the flowers.

The plant appears to be a very good grower, much better than *C. Spicerianum*, of which it was thought to be a variety; but it



FIG. 62.—ONCIDIUM ORNITHORHYNCHUM ALBUM.

has proved quite distinct from that species. In the size of the roots and constitution it resembles the old favourite *C. insigne*. It also grows well under the same conditions as that species, thriving in an intermediate house, potted in turfy loam with all the fine soil sifted out, fibrous peat and sand, with good drainage.—J. GODFREY, *Spetchley*.

CYPRIPEDIUM INSIGNE.

THERE is probably no other Orchid so common as this handsome old species, and certainly no other is so frequently illustrated. The introduction of so many new and beautiful species of this genus has had the effect of elbowing *C. insigne* out of the position it should hold in collections, and only in very few places is it cultivated with any spirit. Familiarity has undoubtedly bred contempt of this beautiful plant to a very great extent, but even so it is difficult to account for the almost total neglect that is everywhere apparent. No Orchid is more easily grown or gives better return for a little care, as the flowers may be had from the present time until February, thus bridging over several of the dullest months of the year.

Where it is desired to have the flowers over as long a period as possible, plants must be grown in different temperatures. Those to flower now should be kept in a warm house all through the season; plants so grown have been in flower for the past three weeks. Others may be grown in the same house, but retarded by placing in a cool house or frame when the growth is completed, usually about the latter part of July. From these the plants may be introduced to heat successively to prolong their season, while others grown in a greenhouse temperature usually flower at

Christmas or soon after, these carrying their blossoms well into the new year.

C. insigne is not at all fastidious as to compost, the strong roots thriving in a mixture that would be fatal to many other Orchids. Equal parts of good fibry loam and peat with enough chopped sphagnum and potsherds or charcoal to keep the mixture open will grow it to perfection. Good drainage is essential, as few Orchids require so much water at the roots as this species when healthy. Fairly large pots must be used, as the flowers are more freely produced when the plants are not often disturbed at the roots.

A good deal of confusion exists with regard to the varietal names of this species, especially among the older kinds. This is owing to the custom so prevalent, especially among trade growers, of separately naming any that show the least variation from the type or existing varieties. *C. insigne Chantini* is a well marked form, but has several synonyms; the pouch in this variety has a tinge of red, and the dorsal sepal is very fine. *C. i. alba marginata* is also distinct, the name being sufficiently descriptive. *C. i. Maulei* is a large, light coloured form, the dorsal sepal very broad, white at the apex, with brighter purple spots than any other kind. *C. insigne Sanderæ* is the rarest variety of all, and seems likely to remain so. This beautiful kind is wholly of a clear bright yellow with the exception of the white dorsal sepal. There are numerous other varieties, the chief variations being in the distribution of colour on the sepals, but those named above are probably the most distinct. —H. R. R.

THE FLORISTS' TULIP.

[By JAMES W. BENTLEY, Hon. Secretary to the Royal National Tulip Society.]

(Continued from page 378.)

CHAPTER II.—PROPERTIES OF THE TULIP.

THE Tulip flower must have neither more nor less than six petals, three outer and three inner, placed alternately, and close to each other; they should be all alike in height, size, and shape, and be broadly rounded on the top. The petals must be stout in substance, and wide enough to allow of the flower expanding freely without showing any gaps or openings between them. These openings constitute a deadly fault known as *quartering*, and make the flower possessing it worthless. The expanded flower should resemble, in its general outline, a circular cup, or the half of a hollow ball. This resemblance to a cup has caused florists to talk of the *cup* when discussing the form of the flower. A "short cup" is most esteemed as approaching in shape to the half of a hollow ball, while a "long cup" is looked on with disfavour.

This standard of the shape of the Tulip may seem arbitrary, and I can well imagine the "superior person" of floriculture exclaiming, in a tone of pitying contempt, "Oh! these purblind florists can see no beauty in God's great gift of flowers until they have twisted them into some shape or other, which they are pleased to call perfection." I do not, however, propose to defend our special work here, although it can be, and has in the past been, well and thoroughly done; and will merely observe that the world is wide, and that there is plenty of room for all lovers of flowers to work in their own way therein. The capacity for improvement is in the flower itself; the standard of perfection is indicated by it, and the florist merely helps it in the way it appears to tend to improve. The beauty of the Tulip is quite as much in the inside as the outside of the flower, and it is evident that no other shape than half a hollow ball is so well adapted for fully displaying it.

The petals are united to the stem immediately below the pericarpium, which should be of such a size as to display itself prominently when the inside of the flower is looked into. Surrounding the pericarpium, at equal distances from each other, are six stamens, each of which is surmounted by an anther, which should be comparatively large in size and black in colour.

The bottom of the inside of the flower is called the base, and the colour of the base determines the ground colour of the flower. This base should extend from the ovary about one-fourth up the length of the petals, and should be in colour either pure white or pure yellow without any stain or taint of any other colour whatever; the stamens also must be of the same pure colour as the base, without stain or tinge of any other colour. A Tulip with base and stamens of pure white or pure yellow is said to be *pure*, and one in which either base or stamens display any spot or tinge of another colour is said to be *stained*, and is considered quite valueless.

This quality of *purity* is a most important one, and has only been attained after long years of patient work at seedling-raising. The dead and gone southern growers fought manfully for this quality in the years that are past, and great was the conflict of opinion between them and the North as to which was the most important—purity or correct marking. The Tulip has, however,

settled the question itself by showing that it could combine both qualities in one flower, and now the poorly marked pure flowers of the South and the splendidly marked but impure flowers of the North have been discarded, and both marking and purity are absolutely essential.

It is not necessary here to say anything about the other portions of the plant, except that the stem should be long enough to lift the flower well above the foliage, and stout enough to support it erect.

All that I have hitherto written applies equally to all florists' Tulips, but it is now necessary to treat of the three great divisions into which they are divided; these are named roses, byblœmens, and bizarres.

Roses have white bases and ground colour, and their petals are coloured with some shade of red, which may vary from a delicate pink or rose to the most glowing scarlet. The scarlet colour is the most prized, but reds of somewhat dull shade are much grown because of other merits they possess in the way of shape or marking.

Byblœmens—a name which reminds us of Holland, and meaningless to English ears—have also white bases and ground colour, but the petals are coloured with some shade of purple, which may vary in tone from pale lilac or lavender to all but black. The blue-black and blue-purple shades are most esteemed, a reddish-brown colour is disliked as resembling too much the duller flowers of the rose class. The "rosy byblœmens," as flowers of this colour are called, are still grown to some extent, but they are most unsatisfactory as being neither one thing nor another, and should be discouraged.

Bizarres have yellow bases and grounds, and the colour on the petals may vary from orange-scarlet, through many shades of brown to black. All these colours are in favour; preference is, however, shown to those which are either very dark in their markings, or very red and fiery.

I am strongly of opinion, however, that instead of three divisions (two white grounds and one yellow) we ought to have four, by dividing the yellow grounds as well as the white into two divisions, which might be called *red bizarres* and *dark bizarres* respectively. This division has been advocated before, but the reason given for it has, so far as I am aware, been mainly that formerly the red bizarres were looked on with disfavour, and that it was not fair that they should have to compete with the preferred dark bizarres at exhibitions. I think a better reason for the division can be given. There is quite as much difference between a red bizarre and a dark bizarre as between a rose and a byblœmen, and just for the same reason, for there is no doubt that the rose or red colour which, occurring on a white ground colour produces a rose, becomes by mingling with the yellow ground of a bizarre Tulip scarlet, and produces a red or scarlet bizarre. Similarly the purple colour, which produces a byblœmen when it occurs on a white ground, becomes almost black on a yellow ground, and a dark bizarre is the result. The bizarres, too, are more numerous than either of the other classes, and probably outnumber them both put together. There is, therefore, plenty of room for division, and we should as a result, assuming they were divided, obtain more glowing scarlet bizarres in the red class, and even more intense blacks in the dark class, through the exertions of seedling raisers, who would have more definite objects in view than at present is the case. However this may one day be, at present Tulip growers are content with one class in bizarres, and red and dark bizarres are equally in favour.

The Rev. F. D. Horner, in his inimitable style, thus speaks of these three divisions in a paper read at a meeting of the Royal Horticultural Society in 1892:—

"They (the roses) are our fairest, gentlest Tulips, the only class that has a sweet and English name ('Roses'), and they seem to exercise a softening influence among their fellow flowers, toning down the strong, fierce colours of the yellow grounds, and cheering up the spirits, so to say, of the dark, cool, quiet, and sometimes almost gloomy flowers of the other white ground class, the byblœmens."

Each of these three divisions is again subdivided into two, which are called breeder Tulips and rectified Tulips.

A *breeder* is the seedling form of the Tulip, and the petals are entirely suffused, above the base, with one plain self colour. There are no markings whatever in breeders, and they simply exhibit one uniform tint of colour; pink to scarlet in the case of roses, silvery lilac to dark purple in byblœmens, and orange scarlet, rich browns, dull tawny yellow drabs, and dark browns among bizarres. These plain selfs or breeders are nothing more than the yet unchanged forms of the variegated varieties which are termed "rectified." This change, which is termed "breaking" or "rectification," is, so far as I am aware, a property possessed among flowers by the Tulip alone, and is a very interesting one. Breeders grow

more vigorously than rectified flowers, they also increase more rapidly, and it may be that they owe their name to this latter peculiarity, and to a much more annoying one of the seedling bulb in its earlier years before it is large enough to flower, forming a lot of little bulbs instead of confining itself to getting big enough to flower in the smallest possible time. The Dutch call breeders, pleasantly enough, "Mother Tulips."

A breeder may remain in the self or breeder state for an unlimited time. For very many years it may grow, increase, and multiply, and one may have a stock of many flowering roots, but some blooming season it will be seen that one or more of them have entirely changed their appearance—from being selfs they have become variegated or rectified. How or why the change has occurred no one knows, but there they stand with form and other properties unaltered, but yet marvellously changed in the arrangement of the colours on the petals. The colour of the base, whether it be white or yellow, is no longer confined, but has asserted itself all over the petals, and the old self colour has arranged itself in feathery patterns upon it in wondrously beautiful fashion. The change of "breaking" takes place quite suddenly; there is nothing to tell one in the bloom of the year before that it is going to occur, although it is easy to tell when a breeder has broken before it blooms, for curiously enough the foliage, which is a solid shade of green so long as the Tulip remains a breeder, becomes more or less mottled when the bulb has decided to produce a rectified Tulip. It has always been desired by Tulip men to break their breeders, and many nostrums have been tried in the past. I find that I break quite enough by growing some of my bulbs away from home in another soil and purer air; but for those who would like to try an old receipt I insert the following, extracted from an old work called "The Curious and Profitable Gardener," by John Cowell.

"Take the plaster of old walls, wherein is a great deal of lime, and powder it very fine; mix this with drift sand or such sand as is sharp, and found on the sea shore; to this add of the water that runs from a dung-hill; mix these as well as possible and put over the surface of the bed, a little before you plant your breeding or plain Tulips, and 'twill make them break into fine stripes to a wonder, as is related to me by a gentleman of great honour, who has proved it as he observes, for five or six years."

Old John Cowell evidently gives this in all good faith, but he owns that he relies on the "gentleman of great honour;" still what more could anybody want? I have never tried the plan, but can see no objection, so far as the health of the bulb is concerned, to making the experiment.

Tulips are said to be *rectified* when they have broken in such a way as to be classed into one or other of the two classes into which rectified flowers are divided. These classes are called *feathered Tulips* and *flamed Tulips*.

This is the last subdivision I shall have to mention, and at the risk of being thought too laboured in my explanations I give below the various subdivisions in a simple form.

Florists' Tulips	Roses	Breeders	
		Rectified	{ Feathered Flamed
	Bybloemens	Breeders	
		Rectified	{ Feathered Flamed
	Bizarres	Breeders	
		Rectified	{ Feathered Flamed

A *feathered Tulip* is one in which the marking is limited exclusively to the edges of the petals. The colour of it varies in intensity or brilliancy, as well as in the space it occupies in different varieties. In some it is merely a narrow streak, confined to the very margin; in others it covers a considerable breadth, and between these limits we have every shade of difference. It also varies as to the manner in which (to use a florist's phrase) it is laid on. In some the feathering, as it is called, is laid on densely, terminating abruptly on the lower edge, and forming what is called a *plated* feather; in others it terminates in slender streaks, arising from some of the rows of cells in the tissue of the petal containing colouring matter much lower down than the intervening ones, thereby producing what is known as a *pencilled* feather. The *pencilled* feather is far more beautiful than the *plated* one, and more esteemed, although such is the scarcity of good feathered flowers that we yet grow many plated flowers. A perfect feathered flower must have the ground colour, whether white or yellow, completely pure and bright, and entirely free from spot or mark of any kind, except the feathering round the edges of the petals. This feathering should be laid on evenly and without breaks throughout its whole extent, terminating gradually and imperceptibly on the lateral margins of every petal alike, at a point not

nearer to the stem than the commencement of the base, which should, as previously explained, cover about one-fourth of the petal at its lower end. The breadth of the feather at its widest part should not exceed one-fourth of the length of the petal, for if it do the large amount of surface which then becomes covered with colour gives the flower an overweighted appearance. It may, however, be very much narrower with advantage; in fact, it matters little how small an amount of colour is used in the composition of the feather provided it is continuous all round the petals. Breaks in the feather—that is, portions of the edges of the petals which are destitute of colouring matter—are called *skips*, and skips constitute a fault that feathered flowers are very prone to.

A *flamed Tulip* has, in addition to the feathering above described, a coloured beam or pillar occupying the centre of each petal. It varies much in its shape—in some instances it consists of a narrow stripe of colour extending from the base up the middle of the petal nearly to the tip, at other times the beam assumes a pyramidal shape, occupying almost the entire width of the petal at the base, and gradually tapering up till it is lost in the feather at the top. Between these two styles of flaming there is every kind of form and size. The most perfect specimen is that in which the beam is of a pyramidal form and of moderate breadth, being free from streaks of ground colour in its centre, but gradually throwing off narrow streaks like branches at its sides and the top, to commingle with the pencilings of the feather without rising to any part of the margin of the petals in a solid mass of colour. The more of the narrow branching streaks there are and the better, provided that the ground colour is left visible between them in such a proportion that there is on the entire surface of the petal about equal amounts of ground colour and marking. If the marking is in much greater proportion the flower has a dull, overburdened look, and is called *heavy*; whilst if the ground colour is in too great a proportion the petals have a bare empty appearance, and the flower is termed *light*. It must not be supposed that either lightly or heavily flamed flowers are rejected; on the contrary they are both grown and esteemed. We do not, and cannot conform rigidly to our standards, whether of shape or marking; they exist in our minds as diagrams with which we mentally compare our flowers, and we esteem most those varieties which come nearest to them. At the same time we grow, and are pleased with, many varieties which offend in one respect and charm in another.

I have before stated that the beauty of the Tulip lies as much in the inside as on the outside of the flower, and it is important that both ground colour and marking should be equally bright and intense on the outside as the inside of the petal. Many varieties fail in this respect; the outside, particularly among bizarres, being generally rather duller in marking and ground than the inside. Much improvement is, however, noticeable amongst some of the newer varieties in this respect.

I have availed myself largely in the foregoing description of the properties of the Tulip of Dr. Hardy's admirable articles on the subject, published in the "Midland Florist" for 1847 and 1855.

(To be continued.)

RIPENED WOOD.

THOUGH much pressed for time just now, I cannot allow "J. A.'s" important contribution (page 381) to this controversy to pass without a word of thanks. It is the most valuable article which has yet appeared, and treats the scientific aspect of the question, as at present understood, in a masterly manner. There are one or two points upon which I do not quite agree with the writer, but these mere divergences of opinion would doubtless disappear upon further investigation and discussion.

I cannot unfortunately be equally complimentary respecting "Azoto's" latest literary effort (page 380), the scientific line hardly suiting his flowery and verbose style of writing. Consequently my stock of knowledge has not been appreciably increased by his attempts in that direction. Curiously enough, at the outset he shows himself unable, or pretends to be so, to apprehend the essence of the joke against him on "solar influence," and this, too, at a time when he is posing as a scientist. Let me tell him, then, that "solar influence" is a term generally employed by astronomers and other scientific men to express the attractive force exerted by the sun, in virtue of his enormous mass upon the whole solar system, and even far beyond into the depths of space. I presume even "Azoto" would hardly venture to affirm that it was this force which caused the growth of terrestrial vegetation. No, the expression he was hankering after in his thirst for long words was "solar radiation." For my part I prefer the one he despises—"sunshine," being plain Anglo-Saxon, understood of the people, clearly expressing one idea, and one only.

Having put "Azoto" right in this little matter once and for

all, I hope we may pass to his quasi-scientific disquisition upon the ripening of wood. Again, however, it is difficult to follow his meaning owing to the before-mentioned propensity of using long or little known words in a very questionable sense; but the pith of his remarks appears to be that the luminous envelope of the sun—the sun himself having no such power—produces the upward flow of sap, and also induces the chlorophyll of the leaves to distil off oxygen from a compound gas commonly known as carbonic anhydride or dioxide. There is nothing very new or recondite in such a theory, but “Azoto” adduces Sach’s experiment in support of it, thereby acknowledging that his scientific opinions are “made in Germany.” Of course in that respect he is no greater a sinner than many another scientific writer and lecturer, many of whom are prone to fork out foreign experimenters’ dictams—

“Got by rote,
With just enough of learning to misquote.”

For myself I have always felt grave doubts as to the capacity of this theory to explain all the problems of vegetable physiology, and should not be surprised to find it exploded before long. I have yet to be satisfied that this process of distillation is directly effected by bright sunlight, as has been so often alleged upon what I consider very insufficient evidence. But to adequately discuss so fundamental a question would take not one but a series of articles. Neither is this the place for such discussion. I shall, therefore, in the future, as in the past, endeavour to keep resolutely to the practical aspect of this ripe wood question.

Your correspondent, towards the close of his letter, patronisingly informs me that he will have “much pleasure in joining issue” on three points indicated, if I “will explicitly state” a case. I am, however, under no obligation whatever to do so. The Welsh Grape-growing muddle* was his creation, not mine; and there is no call upon me to get him out of the difficulty. “Azoto,” when rushing into print on 20th September, and adducing that remarkable example of horticultural argument as clinching, evidently thought any stick good enough to beat a dog—your humble servant—with. But I proved a month ago that the said stick was utterly rotten. He has never since seriously attempted to controvert the conclusions at which I then arrived, or the meteorological facts I then put forward. Nor has he even ventured to deny that fruit is in many cases extraordinarily well finished this year. Consequently, instead of my being required to state a case, “Azoto” has simply allowed judgment to go by default.

It has always been a puzzle to me why “Azoto” is so indignant about my scepticism, but in the penultimate paragraph of his last effusion he is good enough to let the cat out of the bag. He there acknowledges an alarm lest my “pernicious teaching may have a mischievous effect on the unformed opinions of young gardeners, and the employers of gardeners generally.” I think, therefore, I may fitly conclude my reply by an amusing story, distinctly germane to our subject and to “Azoto’s” remarks quoted above. The noble owner of a great place in the midlands was showing a party of friends over his gardens, where I believe I am right in saying forty gardeners are kept. With much pride he ushered them into a splendid range of vineries, which elicited a chorus of admiration from the guests. One near-sighted but inquiring-minded young lady, however, asked, “What, Lord So-and-so, have you been dressing your Vines with?” His Lordship could not imagine, had given no orders, did not fancy the Vines had been dressed. “Why, then, are they covered with that white stuff?” rejoined his pertinacious interrogator. He was completely floored, and sent for the head gardener—a pompous individual, whose belief in ripened wood was only exceeded by belief in his own importance. A brief cross-examination elicited the disgraceful admission that the white stuff noticed was owing to these canes being covered with mealy bug, due, in this worthy’s opinion, to the wood not having been sufficiently ripened! I know not whether so transparent an excuse served its purpose, and saved this brilliant example of British gardening talent from getting what he richly deserved. But my tale shows how careful employers should be to see they are not imposed upon, and this ripe wood nonsense used as a cloak for shortcomings by unsuccessful employés.—A SCEPTIC.

THOUGH I am a believer in the “ripe wood nonsense,” I am rather fearful lest unscientific mortals like myself should become confused in our ideas as to what ripened wood is. That there is danger can easily be seen in the learned explanations given by your able correspondents in last week’s Journal. I am always satisfied with the wood of my Peach trees when, towards autumn,

I see it changing from green to something approaching red, and with my Pear trees when I see the leaves turning yellow. Of course that is my plain and unscientific way of putting it. I think “Sceptic’s” contention is that this process or change is not necessary in order to produce a crop of fruit the following season: in fact, he says in effect, “Do not bother your head about the ripening of the wood, it’s not essential.”

If that is so it is a new departure, and entirely in opposition to the present belief; therefore “Sceptic” ought to have full play to establish and defend his principle, and as he is, as “Azoto” says, the “aggressive party,” he must expect no quarter until he establishes his new doctrine on practical grounds. In the meantime, however, he can easily afford to chuckle at those who use no stronger arguments than quotations from past and present writers. “Sceptic,” like many more, not in the garden line alone, but in many lines of life, no sooner gets hold of a new idea than the old is denounced in anything but complimentary terms. Has not “Sceptic” himself been a believer in ripe wood at one time? and if that is so, is it not too bad that a system which has satisfied his mind for so long (for I do not think he is a youth) should be so disrespectfully pounced upon and termed “nonsense?”—D. I.

If your correspondent, “Sceptic,” wishes to convert others to what he believes to be the truth he must go to work in a different way to what he has been doing lately in these pages. There is no convincing power in anything he has written on the subject of ripened wood. It may appear to him very grand to be able to characterise other people’s tenets as “nonsense,” “fudge,” and such like, but that is not the way to convert a man from one opinion to another, let the subject be what it may; it only tends to raise opposition. I would suggest that “Sceptic” should try another method—viz., that he will be good enough to tell us what is the truth; or, in other words, that he will give us better knowledge than we already possess. This is just what “Sceptic” has not done. He will find numbers of us ready to let the old theory drop, and he may then begin to ridicule the doctrine of ripened wood. We shall acknowledge him as a leader amongst us, and be amazed at our own ignorance and stupidity.—T. S., *Henbury Hill*.

A PLEA FOR HARDY PLANTS.

IT was with very great pleasure that I read the admirable leading article on the above on page 355. I hope “C.” may at some future time follow it up with some further observations equally suggestive and judicious. Many gardeners who would like to introduce hardy perennials into the gardens under their charge have serious difficulties to contend with. In some cases the manner in which the garden is laid out prevents these flowers being grown in an effective manner, and disappointment is certain to result. There are, however, few gardens in which a border cannot be devoted to them, and, if furnished with a good collection, will not fail to please.

Many flowers are also admirably suited for planting in beds by themselves, and one might occupy considerable space in speaking of these. *Anemone japonica* and its white variety in particular will be found of fine effect grown in this way. *Helianthus rigidus*, syn. *Harpalium rigidum*, should also be grown in a bed by itself, its running habit making it very troublesome in the ordinary herbaceous border. The circular bed spoken of by “C.” is a good example of a most attractive method of planting so as to make the bed interesting over a long period. For a short time before the blooming of the Michaelmas Daisies there is frequently a little dulness, and a few of the hardy annuals may be advantageously employed.

The arrangement of the plants to produce an harmonious effect is, as your contributor says, no easy matter, and must be largely the result of experience and also of experiment. The old method of arranging the plants according to their heights is not always the best, as in most cases this gives a want of balance of colour at some seasons. In the spring and autumn this is especially noticeable, as in the former season nearly all the colour will be in the front of the border, while in autumn this will be reversed. In the spring some of the bulbs should flower well back in the border, and the difficulty in autumn may be greatly modified by the use of some of the *Colchicums* and autumn-flowering *Crocuses*.

I was much pleased to see your correspondent’s appreciative remarks upon the use of *Sedums* and *Saxifragas* as edgings to the beds. Many of these attractive plants are admirably adapted for this purpose. They do not, however, do well with Box, and are best adapted for permanent edgings, especially when they are grown over stones. In my own garden the edgings of the short walk from my front gate to the door of the house are composed of these and other dwarf plants. Most of these have been planted for at

* Though the Grape-growing experience at Castle Coch was cited by “Azoto” as supporting his views, we are bound to say that it was not he who characterised it as a “muddle,” nor, we venture to assert, could anyone with knowledge on the subject do so after an inspection of the excellent work.

least seven years, and receive little attention beyond clipping off decayed flowers and keeping them from encroaching on each other. They form a very beautiful edging, and even in the depth of winter the deep green of some of the Saxifrages is very attractive. One could almost write a short article on the edging of this walk; but then we enthusiasts, so flatteringly and kindly referred to by "C.," are never tired of sounding the praises of our favourites, and it will not do to trespass too far in our enthusiasm upon the space of the Journal.—S. ARNOTT.

I READ with much pleasure the remarks made by "C." It is indeed somewhat strange that the utility, not to mention the undoubted beauty, of the best of our hardy plants should at this late time of day fail of recognition, and that they should be left severely alone by so many owners of gardens. It is beyond the power of gardeners to initiate and carry out changes in the style of flower gardening so long as their employers are against rather than to foster any desire for a change. Beds and borders are originally badly planted, and they are afterwards left very much to themselves. The requirements of the plants are not studied, nor their fitness for certain effects and arrangements; neither is that periodical attention bestowed upon the borders and the plants which, in their case, is just as necessary as that given without reluctance to ordinary bedding plants.

Among hardy plants Starworts or Asters are a host in themselves. They are, indeed, the flower of the season. The species and varieties are so numerous and at the same so varied in character that they imprint upon our gardens a distinct and charming feature. I have of these some very large clumps quite 10 feet across; these include the taller growing kinds. The dwarfier sorts, of which the very best are *Amellus*, *longifolius*, *formosus*, *ericoides*, and *horizontalis* are not so large, but they are so smothered with bloom that they are equally attractive. I have introduced among others *Purity*, *Mrs. Trevelyan*, and *Harper Crewe*. These are dwarf white sorts, and all are so beautiful that any garden without them is destitute of most interesting and valuable flowers.—R. P. BROTHERSTON.

NUTRITION OF ROOTS.

MR. BISHOP writes, "Mr. Gilmour says that roots only absorb actual water." Certainly I say so, and Mr. Bishop says so too, as he stated recently that he had always contended that "plants took in their food in solution in water." I do not know what Mr. Bishop means, but he seems to infer that because actual water contains all the elements of plant food when it is in the soil, and has been in contact with the various substances and has dissolved them and become charged with them, that all actual water, at all times, must contain all the elements of plant-food.

Mr. Bishop apparently now wishes to contend that water in the intermediate state, as he terms it, cannot contain all the elements of plant-food. It will be remembered that at the commencement of this controversy he contended that vapour in the ground was not liquid, but that it was in an intermediate state, in which state it was more capable of dissolving plant-food than actual water itself. There appear to me to be two Mr. Bishops.

Fogs, clouds, and mist are actual water, and are not in an intermediate state. Professor Tyndall says, "All air, except when artificially dried, contains aqueous vapour, which as vapour is perfectly invisible. A certain temperature is requisite to maintain this vapour in an invisible state. If the air be chilled . . . the vapour will instantly condense and form a visible cloud. Such a cloud, which you will remember is not vapour, but 'liquid water' in a state of fine division, &c." (Tyndall. "Heat: a Mode of Motion." Sixth edition, 1880). So much for Mr. Bishop and his contention that fog, clouds, and mist are not actual water!—D. GILMOUR.

[We think our readers have had as much water, in whatever form, as they can digest at present, and we know that our great *Chrysanthemum* constituency claims, and not unreasonably, all the space that can be afforded them at this season of the year. The watermen must, therefore, rest on their oars till—well, "till the clouds roll by."]

VINES IN THE AUTUMN.

So long as there are any signs of green life in the foliage so long will it be necessary to give the Vines due attention. All growers will recognise the fact of the Vine being a late root-worker. Herein lies the reason of overcropped Vines pulling themselves up for another season when the crop is cut early. With foliage clean and healthy very much can be done to plump up main buds and prepare for the next year's crop of fruit.

At present I am practically demonstrating to my men two important items in Grape culture. First, by relieving the rods now not only are

remaining Grapes improved in colour, but buds are at once filled up. This example is in a house of Gros Colman. I should say that in cutting Grapes I also cut the wood, this leaves me from two to four main leaves to develop the home bud. Very particular am I at all times in the matter of main foliage. I reduce, according to circumstances, the younger sub-lateral leaves. With me, foliage is good, the leafstalks often being as large as some laterals, and I have seen, and am thoroughly convinced, of the importance of attention in the autumn. By no means, however, do I promote this leaf growth at the expense of the crop, but rather the other way, fine foliage being a necessary adjunct to the carrying of good crops.

Probably the first item now of practical value is water. In too many instances the Vine languishes or suffers from the want of moisture. Certain it is that if the roots are not well supplied now we lose much, and this is one inducement for Vine roots to travel away from home—when they can get away. With good ordinary drainage here, in November I flood the borders on favourable mornings—this, too, with a full crop of Grapes hanging. Ventilation must be also good at the same time, and the Vine will enjoy such treatment with no detriment to the hanging fruit.

Coupled with this watering is the question of feeding. I even now would not hesitate to do this if I thought the Vine required it. As a fact, in one house, a very late one, I am applying soot, watering copiously at the same time. Being free in the use of fire, I am not at all concerned if the borders are wet, so long as there is no surface water about after mid-day. All this autumn treatment marks itself in the spring, when I do less watering. What can be done in Grape growing has to be found out. It is quite possible that every house will have different needs, but of this I am sure, a thorough autumn management will be conducive to the success of the coming year's crop.—STEPHEN CASTLE, F.R.H.S., *Fordingbridge*.

ROYAL HORTICULTURAL SOCIETY.

OCTOBER 23RD.

SCIENTIFIC COMMITTEE.—Present: Dr. M. T. Masters (in the chair); Mr. MacLachlan, Dr. Bonavia, and Rev. G. Henslow, Hon. Sec.

Coniferae.—Dr. Masters exhibited a series of cones and branches of various trees received from the late conference. They included very fine specimens of the cones of *Abies cephalonica*, *A. magnifica*, *Cedrus Deodara*, which rarely fruits in this country, *Abies Nordmanniana*, *Abies Veitchii*, remarkable for developing the bracts under cultivation, *Abies ajanensis* and *Pinus Pandrow*. There was also a portion of a trunk of a fine plant of *Thuja gigantea*, nearly 4 inches in diameter and twenty-five years old. It was suggested by Dr. Masters that this tree might form a good substitute for the Larch, which appears to be dying out in many places. The specimens were grown in the gardens of the Marquis of Huntley by Mr. Harding, in those of Viscount Powerscourt by Mr. Crombie, and of Sir P. Murray by Mr. Croucher.

Chionodoxa Bulbs Attacked by Aphis.—Mr. MacLachlan exhibited some bulbs which had a shrivelled appearance. He observed that he had received specimens from two different sources. On examination there proved to be numerous aphides beneath the outer skin of the bulb. It was named *A. subterranea*, and had not been known before to attack bulbs, though it infests the roots of many plants, to which it does not prove very injurious. The aphid, therefore, had probably got to the bulbs from some other fibrous-rooted plant. He regarded the attacks as being serious, because the aphid was protected by the skin of the bulb from insecticides. He suggested the removal of the skin when the bulb was first lifted, and a thorough examination be made. He thought that perhaps if the ground were treated with bisulphide of carbon it might prove effective. It was also suggested that a trial might be made of putting the bulbs under cover, and submitting them to the fumes of tobacco, or where spirits of turpentine could evaporate. Examination should be made to see the bulbs themselves were not injured by the process. Of course, all old skins should be burnt.

Lawns Damaged by Fernchafers.—Mr. MacLachlan showed the larva of a beetle, *Rhizotrogus solstitialis*, which sometimes does considerable damage to lawns.

Phenological Phenomena.—A communication was received from the Secretary of the Royal Meteorological Society alluding to the appointment of a Committee to investigate this subject some twenty years ago. Since which period that Society has published records occupying some 350 pages of the Journal, as well as maps and diagrams. It is suggested that the whole subject shall be now reviewed by a fresh conference, in order to consider whether the observations should be continued or otherwise. It was proposed that the Secretary should confer with the Secretary of the Meteorological Society on the matter.

LIMITED COLLECTIONS OF FRUIT.

EVERYONE interested in the promotion of fruit culture will be highly gratified to see that the Royal Horticultural Society is likely to decide that all collections of fruit that come before the Committee shall be limited to fifty dishes, without any duplicates. An unlimited collection is not only unnecessary, but also unfair to small growers, as they would be simply swamped if they exhibited, by the larger growers, who can stage their fruit in tremendous quantities. If I had to select varieties of Apples or Pears for market purposes, only a very few sorts out of even fifty of the most approved varieties would be thought worthy of planting for profit, as many of the Apples and Pears exhibited, though

of large size and fine appearance, are of comparatively little value from a market point of view, and a whole host of the varieties already planted will scarcely pay for the room they occupy, to say nothing about the attention, labour, manure, and other charges. If only the best and most suitable sorts had been selected in many cases that I could name, the results would have proved of the satisfactory order.

Now that the leading society of the kingdom has taken the matter in hand, other societies will follow suit, as there are several annual exhibitions in the country where these unlimited classes exist, notably the Gloucester Root, Fruit, and Grain Society, which provides two classes for culinary and dessert Apples. In each there is no limit to the number of dishes, an exhibitor being perfectly at liberty to stage as many dishes as he can, provided he gives the secretary notice of the amount of space he requires. The same remarks apply to the class for Pears at that show. Such arrangements really act against a good competition, as there are only a very few exhibitors who care to enter the contest, whereas if only fifty dishes were allowed, as suggested by the Royal Horticultural Society, more collections would be staged, and of a much better quality, that would be far more educational than at present. Fruit culture has received so much attention of late years, and showing no indications of diminishing, that all will gladly welcome any plans for the promotion of that industry, and I think the action of the R.H.S. is a very decided step in that direction.—FRUITMAN.



EVENTS OF THE WEEK.—Horticulturists will be busy during the ensuing week, the Chrysanthemum show season having already opened. To-morrow (Friday) the exhibition at the Crystal Palace opens, and will continue the following day. On the 6th, 7th, and 8th inst. the principal show of the National Chrysanthemum Society will be held at the Royal Aquarium, Westminster. Exhibitions will also be held at Leeds, Brighton, and Watford on the 6th and 7th; and on the 7th and 8th at Ascot, Bournemouth, Wolverhampton, and Liverpool. A Chrysanthemum show and Congress opens at Antwerp on Sunday, November 4th, and will continue the following day.

THE WEATHER IN LONDON.—Much rain has fallen in the Metropolis since publishing our last issue. On Saturday it rained heavily at frequent intervals, but Sunday was fine with the exception of the evening. Monday proved showery, and on Tuesday it rained all the day. Wednesday opened damp and foggy, but it cleared later in the day.

MILD WEATHER IN HAMPSHIRE.—Mr. E. Molyneux writes that frost has not yet injured anything at Swanmore Park. He is still gathering Runner Beans and Peas. Dahlias are not touched, Begonias still good in the beds, and herbaceous Lobelias better than at any time during the year. They like moisture and have had plenty, as nearly 3½ inches of rain fell in ten days after 20th of October.

THE ROYAL GARDENERS' ORPHAN FUND.—The seventh election of children to the benefit of this fund, consisting of an allowance of 5s. per week (subject to the conditions stated in rule xiii.) will take on February next, at the Cannon Street Hotel, London, E.C. All applications must be made on a printed form, copies of which may be had gratis of the Hon. Secretary, or of any of the local secretaries. Such form must be correctly filled up, duly signed, and returned to this office not later than Friday, December 7th.—A. F. BARRON, *Hon. Sec., Royal Horticultural Society's Gardens, Chiswick.*

FRUIT HOUSES IN THE ROYAL GARDENS.—In referring to the fruit houses in the Royal Gardens, Windsor, on page 392 of last week's issue of the *Journal of Horticulture*, it should have been stated that the range of houses alluded to in the thirteenth line is 340 yards long instead of feet as printed. The matter was printed as written, but we have pleasure in making the correction.

EUONYMUS EUROPEUS.—Mr. G. Freeman, Akeley Wood Gardens, Buckingham, writes:—In your last issue (page 385) Mr. Divers asks particulars respecting the fruiting of the above. We have here a number of plants, some yielding a fair crop, others completely fruitless, although the plants flowered profusely; last year and the year before they were perfection. I believe it is a general failure with them this season. Hollies here, of which we have some fine specimens, are producing berries in abundance. Cydonia japonica, the white flowered variety, on a south wall is bearing several trusses of blooms.

DEATH OF MRS. DAVID THOMSON.—We learn with much regret of the death, which occurred on October 25th, of as good and kind and helpful a gardener's wife as ever lived. How good and kind she was hundreds of visitors to her hospitable home well know, and will readily acknowledge; how helpful none can know so well as the accomplished gardener at Drumlanrig, with whom friends innumerable will mourn in his great bereavement.

HORTICULTURAL CONGRESS IN PARIS.—We are informed that at the Horticultural Congress to be held in Paris in May, 1895, under the auspices of the National Horticultural Society of France, and in connection with the show, the following subjects will be discussed:—1, The part played by chlorophyll in plants and the remedies for chlorosis. 2, The cultivation of forced Vines under glass in France and other countries. 3, The outward appearance of fruits and tubers as indicating their quality. 4, The heat of the sun or that of the air: which has most influence on vegetation? 5, Grafting Potatoes. 6, Apparatus for warming glass houses and consuming different fuels. 7, The advantage of a fixed standard for regulating the different systems of hot-water heating. 8, The various modes of growth in plants obtained from seed, Palms more particularly.

THE LILY DISEASE.—It is pleasant to know that this annoying disease has not reached the garden of the Rev. D. R. Williamson, whose interesting communications upon the Lily, its rival the Rose, and the Viola, I always read with enjoyment. I had "said my say," as I thought, upon this disease, but since writing I have had occasion to remove my bulbs of *Lilium chalcedonicum*, and it may be of interest to some to know that, although the foliage was attacked by the disease, the bulbs are perfectly sound. Finer bulbs I could not wish to have.—S. ARNOTT.

DEATH OF MR. ROBERT PETFIELD.—We regret to hear of the death of Mr. Robert Petfield, who for many years was gardener at Didlington, Huntingdon, the residence of A. J. Thornhill, Esq. Mr. Petfield died on the 22nd ult., at the age of sixty-nine years. He was a keen florist, cultivating the Dahlia and Chrysanthemum for exhibition purposes with great success. Besides being a member of the National Chrysanthemum Society, Mr. Petfield was largely instrumental in winning for St. Neots Society the national trophy of the National Chrysanthemum Society in 1890, and again in 1892 and 1893.

THE CAPE GOOSEBERRY.—It is surprising to find how few people seem familiar with the old Cape Gooseberry, and once they see it in fruit how greatly they are charmed with it. Messrs. J. Cheal & Sons kindly sent to a meeting where I was the other evening, a few branches laden with the beautiful red fruits, and they were seized upon with exceeding avidity by the ladies present. Pieces of this plant are singularly effective for room decoration. *Physalis Alkekengi* is a hardy herbaceous perennial, and is so easily raised from seed that anyone may have it in quantity. Some day it will be grown in all good gardens.—A. D.

BULLFINCHES.—These birds are more numerous this winter than I ever remember so far. I have caught in trap-cages in my garden about forty, and this comparatively early, as I usually trap more in November than in any other month. Last season I was somewhat taken to task by a correspondent in the *Journal of Horticulture* for advising trapping these destructive birds to fruit buds. On two occasions, also, I have gone into hot water for recommending others to trap them when giving my series of technical instruction lessons to classes in Worcestershire and Warwickshire. I considered it pure sentimentalism of ladies, as gardeners understand too well the damage and disappointment that result from attacks on fruit trees by these birds. May I ask for candid opinions on the subject?—J. HAM, *Astwood Bank.*

WOLVERHAMPTON FREE LIBRARY LECTURES.—On Saturday evening a lecture was given by Mr. G. A. Bishop, F.R.H.S., in the Lecture Hall of the Free Library, on "Amateur Gardening: Flowers and Vegetables." The chair was taken by Councillor Weaver. The subject was intensely interesting to a number of persons who were in sympathy with the best modes of cultivating what is beautiful in flowers and choice in fruits. The lecturer, after describing the various kinds of soils with which the amateur has to deal, and indicating the best methods of treating them as regards drainage, manuring, and digging, passed on to treat of seeds, and to show the proper methods of sowing, planting, potting, pruning, and watering, and then adverted to the cultivation of vegetables. During an interval, by the aid of the limelight, was exhibited some photos of recently exhibited flowers and Grapes grown by the lecturer, and which had secured prizes.

— **THE POTATO CROP.**—According to the official returns the Potato crop in Great Britain occupied this year 504,454 acres, of which 340,557 acres belonged to England, 129,859 acres to Scotland, and 34,038 acres to Wales.

— **GLORIOSA ABYSSINICA.**—A foreign contemporary describes this Gloriosa as a splendid acquisition. It is a native of Abyssinia, and grows to a height of about 6 feet when grown in a large pot, tub, or vase, and flowers in June. The flowers are large, very beautiful, and rosy scarlet margined with green.

— **THE HORTICULTURAL TRAVELLING STRUCTURES AT ANTWERP EXHIBITION.**—We are informed that the New Travelling Hot-houses, which run on wheels and rails, and were recently noticed in this journal, have been awarded the prize medal given to British Horticultural Buildings at the Antwerp Exhibition.

— **MESSRS. DANIELS BROTHERS.**—We are requested to state that a grand amateur dramatic performance (under influential patronage), to consist of "The King's Gardener," will be given by Messrs. Daniels Brothers' Dramatic Corps, in aid of the Royal National Lifeboat Institution, in the Assembly Room, Agricultural Hall, Norwich, on Thursday, December 6th, 1894.

— **A HUGE MAHOGANY TREE.**—An American paper says a log of mahogany, measuring 44 feet and 4 inches long, 60 inches by 56 inches across at the base, and weighing 2166 tons, was cut in Guatemala and floated down to Laguna, Mexico, a distance of over 300 miles, from which port it was to have been sent to the World's Fair. All vessels refused to carry it, and after lying at Laguna for more than a year the log was sawed in two and lately brought to Nesmith Brothers' lumberyard at Greenpoint, New York.

— **WOOLTON SHOW.**—I am sorry to again have to refer to this matter. The show was extremely interesting and novel, and for a good purpose, but I repeat what I stated in the first instance—namely, that the show was non-competitive. Neither could it be so, for some exhibitors had two or three loads of plants, whilst others had only a basket of fruit or a dish of Tomatoes. I trust it will not be thought that I complain on account of the position "R. P. R." placed me on the prize list. I consider I was rightly placed as to merit, and I was well paid in kind for what little I did. It was simply a case of those who showed the most coming off the best. What I have to complain of is being told there (and I believe in the presence of Mr. Disley, the Secretary), that the show was non-competitive. I see by your last issue (page 384) that the secretary states, without the sanction of one of his committee, that the show was certainly a competitive one. Then he further says that judges were appointed. Yes; six good men and true. One of the oldest of the "judges" asked me what he had been invited there for. I told him I had just heard from one of the committee that it was to do him and his colleagues honour, also to award eight prizes. If competition had been the object, why was it not stated on the prize cards? more especially as the show was intended for education for the cottagers of Woolton.—W. TUNNINGTON.

— **APPLES AT WOODHATCH.**—Lecturing on Apples and Pears at Reigate on Monday in last week, I was favoured with the presence on tables of a fine collection of some twenty-four superb dishes of Apples and Pears, which through the great kindness of T. B. Haywood, Esq., Mr. Salter, his excellent gardener, had brought down from Woodhatch. It need hardly be said that not only did fruit at this time point a moral but they were the subjects of the deepest interest to those gardeners and others who attended. Of Pears Easter Beurré, Doyenné du Comice, Beurré Clairgeau, and Beurré Diel were very fine; and of Apples, Lord Derby, Bismarck, Peasgood's Nonesuch, Bramley's Seedling, Blenheim Pippin, Warner's King, Prince Albert, Gloria Mundi, King of the Pippins, Brownlee's Russet, and Mère de Ménage were all superb samples. Pears were chiefly from walls, and Apples from tall bush trees that have the branches like long single cordons, each one being closely spurred. That is the Woodhatch style of pruning, and it seems to answer well. Some trees bore as fine crops this year as I have seen anywhere. Mr. Haywood has a large span fruit room, round which on broad trellis shelves the Apples and Pears are effectively arranged, and in the centre a table on which may be seen, so long as there is ripe fruit, dishes of some of the ripest Apples and Pears with names attached. Knives and forks are also at hand, and when visitors are at Woodhatch they are taken into the fruit room to have a tasting experience, and with such first-rate fruit that is naturally a most enjoyable one.—A. D.

— **SUNDERLAND GARDENERS' SOCIETY.**—A meeting of this Society was held at the Café on the 25th ult., when, Mr. Bolam presiding, Mr. Watson, Sea View, read an instructive and practical paper on the "Cultivation of the Euphorbia and Poinsettia." The essayist treated his subject in a clear and lucid manner, and was listened to attentively.

— **THE CAMPHOR TREE IN JAPAN.**—It is stated that the Japanese Government owns large forests of Camphor trees that are sufficient to keep up the average supply of the gum for twenty-five years; and young plantations are growing up. These are under the Japanese Forestry Department. Hitherto the gum has only been taken from trees seventy or eighty years old, but it is proposed to operate on younger ones in future. The gum is taken from chips out of the root or base, which yield 5 per cent. of it.

— **TOMATO GROWING NEAR BIRMINGHAM.**—A correspondent writes to a daily paper:—"I was not aware until a few days ago that Tomato growing had developed tremendously in the district of Birmingham. At Aston there is something like a mile of Tomato beds holding about 3000 plants. Each plant yields about 5 lbs. of Tomatoes during the season, so that it may well be understood that the undertaking has increased rapidly during recent years. I believe that it is the largest place of the kind in the Midlands. The season is said to have been highly productive, but the weather has greatly retarded the process of ripening. Nevertheless, I am told that a ton of Tomatoes was gathered in one day and sent to the Birmingham market."

— **THE CALIFORNIAN REDWOOD TREE.**—There may be seen at the Polytechnic Institution, Regent's Street, a dozen heavy planks of Californian Redwood. They are not remarkable in appearance, says a daily contemporary, but a little explanation makes them so. The tree has sometimes been found 80 feet round, and 300 feet high, with enough wood in it to build a house, barns, and fences for a whole farm. It is said that the timber shrinks and swells less than any other, that as railway sleepers it will last twelve years, where Oak would only last six and Pine four, and that it is practically unflammable—a quality recognised and allowed for by insurance companies in the United States, where fireproof warehouses are sometimes built of it.

— **FLOWERS AND FRUIT IN CENTRAL AFRICA.**—It is reported that Mr. Scott Elliot, who at the beginning of the year was engaged by the Royal Society to make a botanical exploration in Central Africa, reached his destination a few weeks ago. His first report shows that the flora over the whole of this region up to an altitude of 6000 feet remains unchanged, and points to the probability that it extends similarly down to the Zambesi. The Euphorbia and Erythrina are the most common trees, and the variety of plants is likewise somewhat limited, the principal being an Acanthus, a plant richly ornamented with red spikes of flowers and large prickly leaves. The Banana supplies the wants of the people, but Coffee and Tobacco, and all other tropical plants could be grown if properly cultivated.

— **COLOUR OF PEACHES.**—While there has been so much comment on badly coloured fruits at northern exhibitions this season—Apples, Peaches, and Plums especially—the weather from the last week of August has done much to retrieve the character of hardy fruit, and prepare keeping sorts for giving late supplies. What one sort may lack in crop may have made up for that by fine quality. The lightness of the Apple crop, accompanied by five weeks of the finest autumnal weather ever known, has given fine colour, solidity, and size. Stone fruit has not to the same extent profited by the fine weather; Peaches have in comparatively few places been up to par for fine colour. At Glasgow some fine fruits of Royal George (a favourite in the north) were highly coloured. Mr. Lunt, as usual at Edinburgh, was well to the front with finely coloured Royal Georges, though justly placed second to the fine Gladstones tabled by Messrs. Buchanan of Kippen. These enthusiastic growers have had some trees heavily laden, and the quality all that could be wished. They sprinkle Thomson's manure over the surface of the soil and fork it in slightly, then water freely, withholding manurial supplies when the ripening period is attained. It is a mistake to supply rank manure to Peaches (or other fruits) when the growth is dormant. The soil becomes sour and root action is rendered feeble. Giving liberal supplies judiciously when the roots are active and the impost on the vitality of trees is great gives size and colour to Peaches; but it is a mistake to suppose light coloured fruits lack flavour—Noblesse Peach is unsurpassed.—M. TEMPLE, Carron, N.B.



CHRYSANTHEMUM SHOWS.

As is usual at this time of the year we have received numerous intimations of Chrysanthemum shows which are to be held during the ensuing season. Space, however, can only be found for mentioning those that have been advertised in our columns up to date, of which the following is a list. We append the names and addresses of the respective secretaries.

- Nov. 2nd and 3rd.—CRYSTAL PALACE.—W. G. Head, Crystal Palace, S.E.
- „ 6th, 7th, and 8th, Dec. 4th, 5th, and 6th.—NATIONAL CHRYSANTHEMUM SOCIETY (Royal Aquarium, Westminster).—R. Dean, Ranelagh Road, Ealing.
- „ 6th and 7th.—LEEDS PAXTON.—J. Campbell, The Gardens, Methley Park, Leeds.
- „ 6th and 7th.—BRIGHTON AND SUSSEX (New).—M. Longhurst, 18, Church Road, Hove.
- „ 6th and 7th.—WATFORD.—Chas. R. Humbert, Watford.
- „ 7th and 8th.—ASCOT, SUNNINGHILL AND SUNNINGDALE.—F. J. Patton, The Links, Ascot.
- „ 7th and 8th.—BOURNEMOUTH AND DISTRICT.—J. Spong, The Gardens, Lindisfarne, Bournemouth.
- „ 7th and 8th.—WOLVERHAMPTON.—J. H. Wheeler, The Gardens, Glen Bank, Tettenhall.
- „ 7th and 8th.—LIVERPOOL.—W. Dickson, 7, Victoria Street, Liverpool.
- „ 13th and 14th.—KINGSTON AND SURBITON.—F. J. Hayward, High Street, Kingston.
- „ 13th and 14th.—KIDDERMINSTER (St. George's Institute).—H. Turley.
- „ 13th and 14th.—PLYMOUTH (West of England).—C. Wilson, 4, North Hill.
- „ 13th and 14th.—FARNHAM.—F. Weller-Poley, Waverley Abbey, Farnham.
- „ 14th and 15th.—BARNSELY.—W. Earle, 20, Grove Street, Barnsley.
- „ 14th and 15th.—HULL AND EAST RIDING.—E. Harland and J. Dixon, Manor Street, Hull.
- „ 14th and 15th.—BIRMINGHAM.—J. Hughes, High Street, Harborne, Birmingham.
- „ 14th and 15th.—SOUTH SHIELDS AND NORTHERN COUNTIES.—B. Cowan, Harton, South Shields.
- „ 14th and 15th.—HEREFORDSHIRE.—J. Ough, 7, Clifford Street, Hereford.
- „ 14th and 15th.—BRISTOL.—E. G. Cooper.
- „ 14th and 15th.—RUGBY.—William Bryant, 8, Barby Road, Rugby.
- „ 14th, 15th, and 16th.—YORK.—J. Lazenby, 13, Feasgate, York.
- „ 15th.—BIRKENHEAD AND WIRRAL.—W. Bassett, 23, Grove Road, Rock Ferry.
- „ 15th and 16th.—WINCHESTER.—Chaloner Shenton, Westgate Chambers, Winchester.
- „ 16th and 17th.—BOLTON.—James Hicks, Markland Hill Lane, Heaton, Bolton.
- „ 16th and 17th.—CHESTERFIELD.—A. H. Johnson, New Square, Chesterfield.
- „ 16th and 17th.—ECCLES, PATRICROFT, PENDLETON AND DISTRICT.—H. Huber, Hazeldene, Winton, Patricroft.
- „ 16th and 17th.—BRADFORD AND DISTRICT.—H. R. Barraclough, 383, Bowling Old Lane, Bradford.
- „ 16th and 17th.—SHEFFIELD.—W. Houseley, 177, Cemetery Road.
- „ 20th and 21st.—WOKING.—H. W. Robertson, Somerset Villa, Woking.

CHRYSANTHEMUM HAIRY WONDER.

WHEN the hirsute variety Mrs. Alpheus Hardy first made its appearance a few years since, it was generally thought that a large number of Chrysanthemums with hairy florets would follow it, and this has proved to be the case. In most collections it is now a common occurrence to find at least half a dozen such varieties, but in trade establishments where novelties are made a feature a much larger number than that may be seen. Mr. H. J. Jones, Ryecroft Nursery, Lewisham, has many of these curious varieties, and amongst them is Hairy Wonder. Last week an award of merit was adjudged for this variety by the Royal Horticultural Society, and on the following day, the 24th ult., Mr. Jones secured a first-class certificate for it at a meeting of the National Chrysanthemum Society.

The illustration (fig. 63), which has been reduced from a photograph of one of the flowers exhibited, depicts the character of this novelty, which is of a rich cinnamon buff colour.

HINTS ON JUDGING.

THE remarks I purpose making on judging Chrysanthemums are intended for those who are commencing the arduous duties for the first time during the coming season. It is right that new blood, as it were should be imported into the ranks of Chrysanthemum judges; the elder members are getting tired of the work, or less anxious to accept engagements than formerly. At this I do not wonder, entailing as it does much tax on the brain and anxiety of mind to do justice to all concerned, apart from the many long railway journeys incurred. A remark made to the writer some years since by one of our most experienced and respected judges—Mr. J. Wright—is opportune. “When you have had as much of it as I have you will be less mad after Chrysanthemums than you are now.” Persons who have not previously acted as judges must of necessity feel some trepidation when making their first award, especially if the class is well filled with exhibits close in point of merit. Exhibits in some classes judge themselves, but when the competition is keen it is then that a good method of adjudicating is beneficial. Much more difficulty is often experienced in finding the third prize stand than there is in selecting the first. This class of prize deserves as much attention as does the first, and should receive its due proportion. Although these hints are intended for beginners I shall be all the more gratified if they are beneficial to older judges than myself. I fancy some might pick up a wrinkle or two if they would take the trouble to digest these remarks without prejudice.

Popular as are Chrysanthemums in all phases of their culture, I think it must be conceded that at public exhibitions generally the section devoted to cut blooms receives the greater share of patronage. At the present time, when as many as 200 varieties of Chrysanthemums are encountered at one show, a different system must prevail of allotting the prizes than was the case twenty years since, when less than a third of that number were met with. The enormous increase of varieties in the Japanese section alone requires the adoption of a quick and at the same time a sure method of dealing out justice to exhibitors. Prizes are generally offered for a specified number of blooms, and not for a stand collectively, irrespective of its number. Every bloom should be judged upon its individual merits, or why specify a certain number? There are various methods adopted of arriving at a definite issue as to the relative merits of exhibits, and I contend that all judges should be able and willing to give the reason why stand 44 is superior to its neighbour in the same class. It may not always be policy to do so, but when an exhibitor approaches a judge in a becoming manner for educational purposes then the adjudicator would do well to give the information required. There are some exhibitors, though, who do not always ask for information from this point of view; these, as a rule, obtain such information as I think answers my purpose best:

No one will deny that adjudicating on the many blooms placed before the judges is very much a matter of individual taste. There are, of course, certain facts and points about blooms which cannot be ignored, but when two stands of blooms in the Japanese section, for instance, with all their peculiarities of form, are considered to be almost equal in point of merit, the deciding point of balance must be very much a matter of individual taste. For instance, one judge may consider the broad florets of some variety represent higher culture than his colleague will admit, while the latter may have a leaning to forms of Japanese Chrysanthemums which his partner does not so much admire.

METHODS OF JUDGING.

As is well known to readers of the *Journal of Horticulture* I am a staunch believer in the point method of judging cut blooms. I allude, of course, to instances where the competition is close in point of merit, and maintain that it is the only way of meting out justice to all concerned. Many judges still stick to the method of judging by comparison. This system was perhaps all right many years ago when varieties were less numerous and the types of blooms fewer, but now we have such an enormous number of sorts representing almost all manner of forms the comparison method of judging does not do justice to individual characteristics. Apart from the justice of the case, the comparison method entails much unnecessary labour as well as loss of time. It is not possible for any set of judges to carry in their mind's eye, as it were, the merits of a stand of twenty-four blooms, much less forty-eight, in a competition of say fifteen competitors, except, of course, where one exhibit is infinitely superior to all others in this particular class. To

me it seems a waste of time to have to carry a stand of blooms about the show room for the purpose of comparison when other methods are so much easier, and, I may say, much more accurate. Some experts of this order of opinion select what they think is the best stand of blooms in a certain class and place it in front of all others in competition with this selected one. Very often a better is found, the first must perforce be replaced, and the one preferred for the time being carried round, perhaps

of another by one of the two judges. The second judge takes up a position on one side of the stand. They commence generally at the left hand corner of both stands. The bloom in the back row of stand A is compared with that in a similar position in stand B; individually A is superior to B. The former then scores a point or two, perhaps more if A happens to be a much larger and superior variety. In the next instance the balance may be in the opposite direction. This is



FIG. 63.—CHRYSANTHEMUM HAIRY WONDER.

to be displaced by another. Surely this cannot be the easiest, quickest, and most accurate method of dealing with competitive exhibits. Last year at Birmingham Mr. Kipps and myself had no less than twenty stands in one class to adjudicate upon, and as many as six prizes to award. Does any sensible reader think the comparison method could have been carried out as easily, accurately, and as quickly, as by allotting points to each according to respective merit?

The comparison method, to give an explanation of it, is simply this: One stand, which apparently is the best, is selected and placed in front

mentally noted then as one point off A stand, and so on is the whole stand compared, and very likely the judges forget which stand has the balance before they get through it, and have to start afresh, owing to having nothing tangible to refer to. It would be all very well if the same varieties were shown in both stands; but when can two such exhibits be found? The most ardent believer in the comparison method could hardly persuade himself that a well-developed bloom of Avalanche could compete with one of Stanstead White in its best character. Some judges have a weakness for giving equal prizes to stands close in point

of merit, but I am not a believer in this doctrine of extricating themselves out of a difficulty. There is a first, and it should be found.

HOW TO JUDGE BLOOMS.

I will now give a few plain instructions how to proceed. In all well-appointed shows the exhibits in one class are placed together, or as near as possible, except under exceptional circumstances. The judges should first examine the rules and conditions relating to the exhibits, such as the specification and classification of certain varieties being under the National Chrysanthemum Society regulations, or anything of a special kind. This is important, and may save some trouble and unpleasantness afterwards. There are certain conditions that judges must adhere to as long as they are in the employment of any particular society. A walk round the room is then taken to obtain, as it were, the key bloom in each section. This cursory glance enables a judge to understand better the class of blooms he has to deal with in this particular exhibition. A mere glance at some of the competing stands is sufficient to know that they will not require closer scrutiny. Those that necessitate a further inspection are noted in some way peculiar to individual judges. In some cases the stands are pushed back or drawn forward an inch or two; where competition is strong this is a saving of time. If a second glance is not sufficient to settle the position of each, then the individual merit of each bloom is considered. Instead of taking each bloom separately from left to right, beginning at the back row, I commence at the left hand end of the stand, taking the blooms in rows of three, upwards or downwards it matters not, as long as the practice is the same throughout the whole show. Where, however, a future reference is required of individual blooms I adopt the former practice, entering the names and their value in my notebook. Experience teaches, though, that this plan is not so expeditious as that of taking the blooms in rows of three. The judges fix upon a maximum number of points, which is generally six, made according to the key bloom noted previously.

Now comes the question of allotting the points. Of course a beginner should have made himself acquainted with the properties contained in Chrysanthemum blooms—such as size, depth, solidity, breadth of petal, finish, freshness, and colour. Size is not determined by diameter alone, for the depth is taken into consideration. For instance, a bloom of any of the "Queen" family 5 inches in diameter and but 2½ inches in depth would not be termed a full-sized bloom, and would be out of proportion, and could not receive the maximum number of points. If this bloom was 4 inches deep, the florets smooth, incurving properly and solid, it would be entitled to rank as of first size. If a bloom has size, but lacks some other point, perhaps dingy in colour, a few days too old, it cannot be called perfect, it is not worth six points, but five do not do it justice, then five and a half should be given, and so on throughout. Some persons may think that judging by half points is ridiculous, and even those who favour the system of point judging will not admit the advantage of half, let alone quarter points. It is however, in my opinion, the only way of dealing accurately with all the blooms.

Commencing then at the row indicated, a bad Barbara is not worth more than two points. Princess of Wales in the middle row is good, but a trifle pale in colour, therefore not perfect, and so is allotted five and a half points. The back row bloom is a huge Empress of India, but lacks finish, and is somewhat stale, so four and half points will do this justice. The whole row thus totals twelve points. The points are added up at the finish, and that having the highest number wins. Suppose two stands are equal in number of points, "What then is done?" I fancy I hear someone say. Why, go over them again, commencing at the opposite end of the stand; if they total an equal number again the arrangement of colour and style of setting up the blooms would decide the difference. Some judges with a limited experience commence to point high early in the season, and also at any show; but as they proceed they so often find blooms of the same variety much superior to those to which they gave the maximum number of points to but a short time previously. Here, then, is an instance of the advantage of taking a quiet look round before commencing the awards to obtain the key bloom. Throughout all sections of cut blooms the same principle should be adopted. The various points of excellence should be well studied, always bearing in mind that quality is of far more consequence than mere size.

Next to this, if you have been a cultivator, remember that when an exhibitor wishes for information, especially if he is a disappointed one, do not fail to give it, as you may have reaped much benefit from the pointing out of faults in your own exhibits in years gone by. A supercilious judge is not admired by his colleagues, neither is he respected by exhibitors nor approved by his employers. A man that makes himself popular as an exhibitor cannot fail to do likewise as a judge if he carries with him the same principles.

I had intended to include a few hints upon judging plants and groups in the present article, but that must be held over until the next issue.—E. MOLYNEUX.

SPORTS.

I HAVE been asked by a friend who has a sport from Maiden's Blush and one from Madame Edouard Rey if these Japanese Chrysanthemums have already sported. In looking over my notes I cannot find that either of them has done so yet, there seems to be a recollection that the first named did some years ago. It will be a great convenience if any readers of the Journal can supply the information desired, as in the case of an affirmative the new sport will not be put on the market.—P.

NATIONAL CHRYSANTHEMUM SOCIETY.

THE General Committee of this Society held a meeting on Monday evening last at Anderton's Hotel, Fleet Street, when Mr. Ballantine occupied the chair. After the minutes of the previous meeting had been read and confirmed, Mr. Jones of Lewisham handed over to the Chairman a handsome silver cup, which he offers for competition at the Society's show next week. It was announced that the new supplemental catalogue will be published this week, and that it will supersede the one at present in use for all official purposes. The Secretary also announced that the prize money awarded at the recent October exhibition at the Aquarium amounted to £37 10s., and had been duly paid to the winners. The following list of medals awarded on the same occasion by the Arbitration Committee was submitted for confirmation and passed:—Silver-gilt medals to Messrs. J. Laing & Sons, H. Cannell & Sons, J. Burrell, H. Berwick, B. S. Williams & Sons; silver medals to Messrs. L. H. Calcott, Cutbush & Sons, Cheal & Sons, H. Deverill, W. J. Godfrey, H. J. Jones, S. Mortimer, Spooner & Son, and T. S. Ware; bronze medals to Messrs. Wyatt and Anstiss for the various meritorious stands exhibited by them.

Since the last meeting, when income amounting to upwards of £169 had been received, a further sum of £122 4s. 6d. has come in, making a total of over £291. The annual dinner, at which Sir Edwin Saunders has consented to preside, will take place at Anderton's Hotel on the 29th November. Stewards to assist at the forthcoming exhibition were elected, the gentlemen following forming the show Committee—Messrs. Taylor, Turk, Reeve, Challis, D. B. Crane, H. Briscoe Ironside, Boyce, Boyce jun., Halse, Geo. Stevens, Moorman, and Witty. It is hoped that exhibitors will get their staging finished in good time, as it is particularly desired that the judging be commenced by 11 A.M. A Sub-Committee consisting of ten ordinary members and the officers of the Society was elected to proceed with the preparation of the new schedule for 1895. Eighteen new members and Fellows were elected, making a total of ninety-nine ordinary members, and nine Fellows who have joined since the beginning of the year.

NEWCASTLE-ON-TYNE CHRYSANTHEMUM SHOW.

THE executive of the Newcastle-on-Tyne Horticultural Society have decided to add another show to their programme in the form of a Chrysanthemum exhibition. The first of what it is hoped will prove a long series will be held on November 21st and 22nd. Schedules can be obtained from Mr. Jas. J. Gillespie, jun., Cross House Chambers, Newcastle-on-Tyne.

CHRYSANTHEMUMS DAMPING.

TALKING with Mr. Mease the other day about damping blooms, he gave as his opinion that mere dampness of the atmosphere, especially externally, was not so much the cause of damping as was the undue watering of the plants, thus causing the absorption of too much moisture, and that caused a sort of minute blistering of the petals that was the actual decaying process called damping. This blistering is much more evidenced on the dark coloured sorts than on those of lighter hue, and it may be said, thereby hangs a mystery that is perhaps not easily solved. This good grower likes to keep his blooms well up under the glass, also to be sparing with water to any varieties that have a tendency to damp. Certainly the weather of late has given large blooms trouble.—A. D.

LARGE CHRYSANTHEMUM BLOOMS.

WE are very apt in connection with our appreciation of these flowers to run very much in grooves. Thus we have gone invariably for form and finish in incurved blooms, and almost equally for use and stuff in the Japanese. It has really become a moot point whether these latter are not large enough for any purpose. That the tendency to produce huge flowers has been fostered by judgments and certificates favouring size there can be no doubt, and the most beautiful Japanese ever seen would now stand little chance of notice or of commendation unless the blooms come up to the now favoured dimensions. May we not now ask for denser flowers, more of depth and of refinement of petal? Certainly as much of variation in form as can be found, but all the same, neither merely big or gaudy, but having such qualities as we look for in the incurved varieties—depth, solidity, and finish. Those who have seen the chief novelties of the present season find generally very large blooms, and in many respects there is a good deal of sameness in form and colour. If the size feature is still to be encouraged even the new enlarged boards will need still farther enlarging, a condition of things that could not be regarded with other than strong alarm. Probably there are few growers or exhibitors who would wish for, much less advocate, employing larger boards than are the enlarged ones of to-day. Obviously then we must set up higher and more exact standards in judging Japanese flowers, and he will be a courageous judge who will be the first to bell the cat.—A. D.

CHRYSANTHEMUM PROSPECTS ROUND BOLTON.

THE Chrysanthemum season is now fast approaching, and bids fair in this district to be of the same interesting and absorbing character as it has been in previous years. The cold, wet summer at the time filled many of our growers with feelings of disgust and the outlook was not promising, but thanks to the sunny weather of September our fears have disappeared and very fine displays are anticipated, which will more than repay for the labour and anxiety connected with the culture of the Chrysanthemum round a town which is not noted for its pure atmosphere. It is not my intention to enumerate what I found at each

place separately. Suffice it to say that where they are grown for home decoration as well as for exhibition the outlook is most hopeful.

Foremost amongst the Japanese are Vivian Morel, Mdlle. Marie Hoste, G. C. Schwabe, Colonel W. B. Smith, Charles Shrimpton, John Shrimpton, Mrs. Harman Payne, G. W. Childs, Amos Perry, W. Seward, Edwin Molyneux, W. Tricker, Boule d'Or, Florence Davis, Mrs. E. W. Clarke, and Lord Brooke, which is a trifle late. Of the newer varieties the most conspicuous for fine blooms are Mdlle. Thérèse Rey, Rose Wynne, Louise, Princess May, Madame Cambon, President Borel, M. Panckoucke, Madame Charles Molin, Charles Davis, Robert Owen, Miss Dorothea Shea, Beauty of Exmouth, Nevin, Primrose League, Madame Edward Rey, and Le Prince du Bois, and all that remains in this district of the precarious Golden Wedding is the pot and the tally denoting its decease. Amongst the incurved The Queen family are remarkably fine, so also are Madame Darier, Mrs. Clibran, Lord Wolseley, M. R. Bahuant, Robert Cannell, and Jeanne d'Arc. The Princess family are good, but rather late. The most promising of the new varieties are Baron Hirsch, Vice-President Jules Barigny, Ami Hoste, Robert Petfield, and Lord Rosebery.

These will, I fear, be too late for our forthcoming show, for which a very comprehensive schedule has been prepared, and liberal prizes are offered. The great event to the Bolton people is the President's, C. H. Shaw, Esq., prize, a silver cup for twelve incurved and twelve Japanese blooms. This class is confined to growers residing within eight miles round Bolton. The leading class in the open section is twelve incurved and twelve Japanese blooms, and the prizes are £5, £3, £2, and for a similar class of twenty-four blooms, miscellaneous, the prizes are £3, £2, £1. Our Bolton show promises to be the best we have ever had, for in addition to our ordinary prizes we are giving two medals of the Royal Horticultural Society. The Secretary and Committee are using every endeavour to make it a success, which they hope it will be.—R. S.

SPECIALITIES IN SCHEDULES.

IN my diary alone I have a note of ninety exhibitions to be held in the short space of time commencing with Hertford, October 25th, and concluding with Birstall on November 24th, just one day short of a month. Obviously, however, reference cannot be made to all of these, and therefore I allude chiefly to those mentioned in the list published in these pages. On October 31st the meeting of what is known as the Kent County Society was held as usual in the Rink, Blackheath.

The annual exhibition at the Crystal Palace opens on November 2nd, and is always looked forward to by all concerned in Chrysanthemums as being one of the best shows held in the metropolis. As usual, the principal class is for forty-eight blooms; the conditions, though, are easy, half to be incurved and the remainder Japanese, not less than eighteen varieties in each section; £10, £7, £5 are the amounts offered in prizes. For eighteen incurved and the same number in the Japanese amounts of £4 are offered in each class for the first prize. Special encouragement is here given to other sections; £2 are given for reflexed varieties, and that amount Anemone blooms also. As much as £8 are offered as first prize in a group of plants arranged for effect in a space not less than 100 square feet. A space of 60 square feet and a first prize of £5 is set apart for Chrysanthemum blooms arranged for effect, irrespective of variety, to be accompanied by small Palms, Ferns, or autumnal-tinted foliage.

On the 6th the great autumn exhibition of the National Chrysanthemum Society opens at the Royal Aquarium, and is no doubt looked on as the finest show held anywhere. The schedule contains no less than sixty-five classes devoted to Chrysanthemums—truly a grand opportunity for making a rich display. What is known as the "Trophy" class occupies a foremost position, but it is questionable if this creates as much interest as it did when first started. The "Holmes" Memorial challenge cups are the prizes mainly striven for by "big" growers; £10 accompanies each cup as first prize. That for the incurved section of thirty-six varieties, distinct, is held for this year by Mr. Lees, gardener to F. Beavan, Esq., Trent Park, New Barnet, who intends doing his utmost to retain it still longer. In the Japanese class forty-eight distinct varieties are required. The cup is now held by Mr. W. H. Fowler, Taunton. Handsome prizes of £7, £4, £2 are offered also in each class. For twenty-four incurved, distinct, and the same number of Japanese, £4 are offered in each class. Both of these should bring good blooms from many cultivators. Every encouragement is given to exhibitors in all sections, even the hairy petalled varieties have a class all to themselves. Much interest is evinced in the small flowered types, such as Pompons, Anemone Pompons, and single flowered varieties. Capital prizes are provided for all. Handsome prizes are offered for blooms arranged in vases and on tables, with long stems to show their decorative value.

The Brighton and Sussex "New" Horticultural Society hold its annual meeting on the same day as the National Chrysanthemum Society, as usual in the Royal Pavilion. Some of the best groups of Chrysanthemums ever arranged are to be found at this exhibition. Special interest is taken in this phase of employment of the Chrysanthemum in a decorative point of view. Cut blooms are liberally provided for in many classes, and which usually brings strong competition. On the same day the sixth show of the Leeds Paxton Society is held in the Town Hall. Numerous prizes are offered, not only for groups of Chrysanthemums arranged for effect, but also for miscellaneous plants. Two silver challenge cups are offered for incurved and Japanese blooms, eighteen of each. With these cups, and the substantial prizes accompanying them, good competition should be assured. The fifteenth exhibition held under the auspices of the Liverpool Horticultural

Association is fixed to take place in St. George's Hall on the 7th, and is sure to be one of the best autumn shows in the kingdom. The Liverpool growers are keen enthusiasts, trained specimen plants have long been well shown there. In the cut bloom section prizes of £10 10s., £6, £4, £2 are offered for forty-eight blooms, embracing the two leading sections. Fourteen other classes are provided, ranging in value from £3 to 10s. A maiden class is here provided for those not having won a prize previously.

The second annual show of the Wolverhampton and District Society is to be held on the 7th also. A good schedule of prizes has been issued, and which ought to bring keen competition. The large classes for cut blooms are kept distinct, one is provided for Japanese, and another for the incurved section. The same date is secured for the Ascot, Sunninghill, and Sunningdale Society, which is, as usual, held in the grand stand. The exhibitions of this Society have long been noted for the excellence of the groups of Chrysanthemums here arranged, three classes are provided for them. Cut blooms always are staged in the best of condition, substantial prizes being offered in the various sections. A silver cup, in addition to the money prize, is offered for twelve reflexed blooms. Bournemouth has chosen the same date for their meeting in the Winter Gardens. A silver challenge cup added to £5 as first prize should tempt many exhibitors in the class for thirty-six blooms, half to be incurved, and the remainder Japanese. A challenge cup is also added to the first prize for a group of plants arranged for effect.

The Kingston and Surbiton Society has this year chosen the 13th for the opening date of their eighteenth exhibition, which is a week later than is customary. The seventh challenge vase, value 25 guineas, is offered, added to a prize of £5 for the best stand of forty-eight blooms, distinct, half to be incurved and the remainder Japanese. It may be remembered this trophy was won last year by Mr. Neville, gardener to F. W. Flight, Esq., Twyford, Winchester, and should he again carry it off it becomes his property. Liberal provision is made here for all sections of cut blooms, plants and groups arranged for effect, table plants and fruit. Taking it as a whole it is one of the best shows held in the country. The same date is chosen for the West of England Autumn Show at Plymouth. Large prizes have made this Society leap into the front rank as a Chrysanthemum centre. This year no less than £12, £8, £4 and £2 are offered for forty-eight Japanese blooms, not less than twenty-four varieties; £8, £4, £2 are offered for twenty-four incurved blooms in not less than eighteen varieties.

To Birmingham belongs the credit of first initiating the offering of large cash prizes, and to them also belongs the record of the largest competition in the large class for cut blooms. This year the handsome sums of £10, £7 10s., £5, £2 10s., £1 10s. and £1 are offered for twenty-four Japanese and a like number of incurved blooms in separate classes. Numerous other classes are provided sufficient to make this one of the finest shows in the kingdom. Specimen trained plants are perhaps seen here in better condition than at most shows; £5 are offered as first prize for nine large flowered kinds; £10 are also offered as first prize for a group of Chrysanthemums 100 square feet.

The 14th is chosen for the eleventh annual meeting in the Artillery Barracks of the Hull and East Riding Society. No other society that I know confines itself so closely to Chrysanthemums as this. Out of fifty-three classes no less than fifty is devoted to this flower alone. Handsome prizes, good management, and a cordial greeting to all, and no favouritism, have been the characteristics of the executive in the past; and, indeed, they have succeeded in making this one of the finest shows in the kingdom. Bristol, too, hold their show on the last-named date. For years excellent shows have been held in this city, and judging from the schedule before me the management may expect another, as all sections appear well provided for. Rugby show is held on this date. Many useful as well as valuable articles are offered as prizes here in addition to the usual class prizes. The 14th also is the date chosen by the South Shields Society; £6 are offered for twenty-four Japanese blooms as first prize, and a like amount for the same number of incurved, with substantial second and third prizes. The Herefordshire Fruit and Chrysanthemum show is also held on the above date. In a county like Hereford it is natural that fruit should occupy the leading place in the schedule. In the Chrysanthemum classes £5 are offered as first prize in one case for a group of plants in a space of 12 feet by 7 feet; £2 are offered for thirty-six cut blooms, besides other smaller prizes in many more classes.

At Winchester the first prize in the leading class for cut blooms has been increased from £5 to £7, to which is added a challenge vase value £15, for forty-eight specimens. Other good prizes in both cut blooms and plant classes tend to make this one of the best—if not a large one—shows in the south of England. Chesterfield exhibition is held on the 16th; £5 are offered here for twenty-four Japanese blooms. Special provision is made for local exhibits. The Birkenhead and Wirral show is fixed for the 15th. Prizes of good value are given for nearly all sections of Chrysanthemums. Bradford and Eccles both hold their meetings on the 16th. At the former place £5 are offered for twenty-four Japanese and a like number of incurved, in each case not more than eighteen varieties are asked for. At the latter numerous prizes are offered. The principal class is that for twelve incurved and twelve Japanese, distinct; £5 and a silver challenge cup are here offered.—E. MOLYNEUX.

THE TEMPLE GARDENS.

SINCE the displays of Chrysanthemums in the various public parks, under the supervision of the London County Council, have come so prominently to the front, less, perhaps, has been said about the plants

at the Inner Temple Gardens. It does not follow, however, that the cultivation of these popular plants has been neglected; indeed, the reverse is the case, and Mr. Newton is, as usual, well to the fore with his annual display. A large number of plants have been grown this year, and these are arranged in the glass house that faces the River Thames.

Many recently introduced varieties are, of course, included in the collection, which, for the space at command, forms a really remarkable one. If greater accommodation was available there is no doubt that at the Inner Temple Gardens we should have as fine a display as anywhere; but room is limited, and so necessarily must be the number of plants. These are placed closely together in the afore-mentioned building, which is by no means of large dimensions, and considering these circumstances they make an excellent display. During a hasty visit a few days since some fine blooms of W. G. Childs were noticed. This is a magnificent variety when well grown, the blooms being large and richly coloured. Mrs. A. G. Hubbuck, too, is well grown, and many remarks were to be heard concerning this variety. The popular Col. W. B. Smith is likewise well represented in this collection, and some of the plants carry blooms that would not be discreditable on an exhibition board. Grand flowers of the bright yellow Sunflower attract the notice of visitors, and the charming W. Tricker is much admired. The white Louise Boehmer shows well, and the blooms of Charles Davis, the novelty of last year, is developing grand blooms. Baron Hirsch and Mons. R. Bahuant are to be seen amongst the incurved varieties, which, however good in their way, are not usually appreciated by the public.

WATERLOW PARK.

As in other parks of the metropolis the Chrysanthemums in the one under notice are now making a good display. Waterlow Park, being new compared with some of the other resorts, is not perhaps well known to the public except those who reside in the neighbourhood. Notwithstanding this fact, however, a large number of visitors now daily pay the park a visit for the purpose of seeing the Chrysanthemums. As usual a large number of plants are grown, and these have obviously received careful attention. They are arranged in a small conservatory, and in some vineries in which Grapes are also hanging. These are not the best places imaginable for displaying the flowers, and cannot be compared very favourably with the elaborate structures that have recently been erected in other parks; but no doubt Waterlow will receive attention in this direction in due course. It may be stated, though, that the best is made of the facilities in this charming park, and the Chrysanthemums, like the other plants, are a credit to Mr. J. Pallet, the Superintendent.

The plants are remarkably healthy, and the majority of them are carrying some good flowers. It can be observed that while a few novelties appear here and there, the old standard varieties find a prominent place in this collection. No fault can be found with this policy, for however desirable it may be to try new kinds in private gardens or trade establishments, it is certainly a wise plan to retain the older sorts that are so useful for decorative purposes in the parks. The popular Mrs. G. Rundle is seen to advantage even amidst a number of newer arrivals, and the flowers are much admired. Bouquet des Dames is doing wonderfully well here as it is elsewhere this year, the flowers being large and of great substance. The bright blooms of Edwin Molyneux attract attention, as do those of the huge Etoile de Lyon. Vivand Morel also shows up conspicuously amongst the rest, and the richly coloured Amos Perry is well grown. William Seward, too, is in excellent condition, the deep coloured flowers being very effective when in close proximity to light varieties. Another kind worthy of note is J. Shrimpton, and the same applies to Miss Anna Hartshorn.

The incurved varieties are not so extensively grown as are the Japanese kinds, but some good flowers seem to be developing. Mons. R. Bahuant, as in most collections, is excellent, the flowers showing great depth as well as breadth. Madame Darier will also produce some good blooms, as will many others of this type. Pompon and early flowering varieties are grown for assisting in adding interest to the collection, which is a credit to all concerned in its management.

FOREST HILL.

MESSRS. J. LAING & SONS have, as usual, a large collection of Chrysanthemums at their Forest Hill nurseries. As on former occasions the plants are in excellent health and bearing good blooms. With their customary activity to move with the times they have included many of the latest novelties among the varieties now grown, retaining with them those of the older kinds that are most popular, and, of course, in general demand, and, as may be necessary, discarding others.

For the purpose of making an effective display many of the plants are arranged in the centre of a large span-roofed house at the Stanstead Park nurseries. These are rather late this year, as is the case in many establishments, and will be seen at their best next week. Among other varieties Vivand Morel was noted as being particularly good. The flowers are larger than usual in size, and very finely coloured. On some of the plants white flowers are discernible, these being produced from crown buds. President Borel, too, calls for attention, and the flowers of W. H. Lincoln are specially attractive. The favourite Viscountess Hambleton has some splendid blooms, and the same remark applies to the richly coloured G. W. Childs, a variety that should be in every collection. One of last year's novelties, Charles Davis, appears to be extensively and well grown, the plants being vigorous, and bearing excellent flowers. William Seward, W. F. Routh, Advance, E. Molyneux,

and Thomas Hewitt also stand out conspicuously amongst the many other varieties that are grown.

Incurved blooms are not yet at their best, and for that matter this may be said of them in most collections. Madame Darier seems to be as early as any, and of this some fine blooms are noticeable. Mons. R. Bahuant is also well represented, the same applying to other kinds that are in demand. At The Vineyards, another establishment of Messrs. Laings', several houses are devoted to Chrysanthemums, and here the bulk of the stock is kept. Here, too, thousands of plants are grown for yielding blooms, and all the best varieties in cultivation are included amongst them. If the members of the firm in question are not as great specialists in Chrysanthemums as they are in Begonias, it is obvious that close attention is given the popular autumn flower, and judging from the stock in hand it is certain that all demands for varieties of merit could be supplied. On the whole Messrs. Laings' Chrysanthemums are quite equal to those seen in similar establishments, and maintain the good reputation they have long held in that respect.

ROYAL EXOTIC NURSERY, CHELSEA.

THE name of Veitch is usually synonymous with something good, and the Chrysanthemums are no exception to the rule. Though they are grown in such a position as to be subjected to all the evil influences of the impure air of London, and also in a structure in which drip is constantly falling during such weather as we have experienced of late, the plants are splendid examples of correct methods of culture and constant attention. In many cases the pots used are remarkably small, in which the dwarf sturdy little specimens carrying one, two, and three flowers each, are looking exceedingly well.

The Chelsea collection is not what would be termed a large one, comprising only about 1000 plants, but this is of little importance where quality is designed, and actually does supersede quantity. The plants are arranged, as doubtless many though perhaps not all readers will be aware, in one of the numerous large span-roofed structures that flank the long walk of this great metropolitan plant emporium, and are in the form of an immense central bank with narrow borders on each side. Standing at the entrance the effect is superb, the handsome blooms showing to excellent advantage in the evident careful placing of the colours. The bank gradually slopes upwards from the door, reaching a height of about 10 feet at the far end, while the front row is not more than 4 feet high.

The number of varieties grown is very large, the palpable desire being to keep well up to date, and as it would be obviously impossible to name the whole of them a selection of the best must suffice. An almost pure white form of Vivand Morel demands prompt attention on entering by its finely formed large flowers, while the same variety in its normal colours receives a goodly share of admiration. Charles Davis is here, as in many other places this season, in an almost pure yellow colour, and as such is very beautiful, though not likely to be so popular as the rich bronze form. Mdle. Thérèse Rey is superb. The florets are perfect in substance, and build up a grand flower. It is a favourite, and appears likely to remain so, though the constant influx of new varieties renders none certain for more than a season or two. The dark, shapely blooms of John Shrimpton on dwarf plants in comparatively small pots, are very fine, and the same may well be said of William Seward.

The delicately hued blooms Viscountess Hambleton are charming, as also are those of the rich yellow Sunflower. A magnificent bloom of Mrs. Falconer Jameson was particularly prominent, the size, form, and colour being exceptional. Mrs. E. G. Hill is admirably represented, while the peculiar coloured Silver Cloud arrests attention. Amongst the others noted were Wilfred Marshall, Eda Prass, Lilian S. Bird, Col. W. B. Smith, Lord Brooke, R. C. Kingston, Primrose League, Miss Dorothea Shea, Louis Boehmer, President Borel, Mrs. Alpheus Hardy, and Avalanche.

As the exhibition will remain on view for some time yet, Chrysanthemum lovers should wend their way to Chelsea; they will find ample scope for their admiration, and will come away thankful to Messrs. J. Veitch & Sons, and Mr. J. Weeks, the grower, for having provided such a handsome display.

RYECROFT NURSERY, LEWISHAM.

NOTWITHSTANDING the difficulties which naturally arise in the cultivation of any plants in or near the metropolis, Mr. H. J. Jones has made his Ryecroft Nursery, Lewisham, a noted home for Chrysanthemums in the comparatively short period of four or five years. Not long ago there was but one show house of huge dimensions at this establishment; but as time rolled on this, with several smaller erections, proved inadequate for the large number of Chrysanthemums that were grown, consequently other structures have been built. These are now filled with fine healthy plants that are likely to produce a splendid display of bloom. A glance through the houses at this famed Chrysanthemum nursery is sufficient to prove that the utmost care is taken in the cultivation of the plants as well as in the correct nomenclature of the varieties, which nowadays reach to a considerable number. From among the thousands of seedlings many are continually expanding their blooms, and these, when named and certificated, will doubtless be frequently seen in other collections. The constant demand for novelties renders this work of raising and selecting new varieties imperative, and despite the labour which it involves it is carried out in a systematic and noteworthy manner.

It is no easy matter for those who have not visited the Ryecroft

Nursery to form an idea as to the magnitude of the collection of Chrysanthemums there grown. As regards comprehensiveness it can perhaps hold its own with any in the kingdom, and comprises most of the best varieties in cultivation. There are about 3000 plants arranged in the large show house before mentioned, but these only form a minor portion of the collection. Nevertheless they will in the course of a week or ten days make a display practically unsurpassed. This house is more than 100 feet long and proportionately wide, and the plants are arranged in banks on each side, with a winding walk through the centre. As elsewhere, the blooms are late in expanding this year, and on the occasion of a recent visit many promising novelties were not opened, but there were abundance to interest the most casual observer. Two other fine houses are likewise filled with plants for producing large blooms, while another huge structure is devoted to the single and Pompon types, of which a speciality is likewise made. In addition to these tens of thousands of stock plants, healthy and vigorous in appearance, are grown so as to meet the ever-increasing demand for cuttings.

Regarding the individual blooms it need scarcely be said that the majority of those open are quite up to the average in size, and among the newer varieties some charming novelties were conspicuous. Those with hirsute florets form a striking feature, as they are becoming very numerous. Of these the recently certificated Hairy Wonder, and which is figured in the present issue, stands out prominently. Esau is another effective flower of the same type, salmon blush suffused with yellow. King of the Hirsutes is a large Japanese flower of a lemon yellow, and Monarch of the Ostrich Plumes is another striking novelty of a bright yellow shade.

Among the new Japanese varieties King of Chrysanthemums is promising remarkably well. This is a splendid flower of a bright crimson shade, with an old gold colour reverse, and will make a grand addition to the list of exhibition varieties. It was obtained from Japan through California, and is very appropriately named. Parthenia is a beautiful reflexed Japanese flower, pure white, and of great substance. As a yellow Phebeus will probably be heard of again, the same applying to Sir Edwin T. Smith. The last-named appears to resemble The Tribune in form, but is larger and of a richer colour. The new varieties, Mrs. W. H. Lees and Madame C. Molin, for which certificates were recently awarded, are likewise represented, and our attention was drawn to Silver Cloud, a large white flower tinted salmon.

The foregoing varieties are but a few of the latest introductions, but all the standard kinds are, of course, included in the collection. Some incurved flowers were seen to be expanding grandly, and amongst the others several striking new Anemone-flowered sorts were discernible. Descartes is undoubtedly one of the best Anemones in cultivation, and worthy of the certificate that Mr. Jones secured for it last week. It is a large flower of a rich crimson colour, some of the centre tubes being faintly tipped with yellow. Another new variety of the same type is Junon, a charming rosy pink flower. As mentioned above, thousands of seedlings are on trial, and many novelties of this year raised by other growers have already been added to the extensive stock.

SWANLEY.

THE Home of Flowers would not be worthy the name or that of Cannell were not Chrysanthemums well and extensively grown, so that the collection numbers about 6000 plants, almost all of which are displayed in Messrs. Cannell & Sons' largest house, an imposing span-roofed one standing at the top of the nursery. The plants are not nearly so advanced as they have been in former years, but still the show is an imposing one. The growth of the plants is stout and strong, and so far damp does not appear to have played such havoc as is the case in many collections this season. The flowers are of good shape, finish, and colour, while in size they leave little to be desired. Both the firm and its grower deserve the heartiest congratulations for the success that has certainly been achieved.

Amongst so many varieties one scarcely knows where to commence, and after that difficulty has been overcome he cannot find a place to stop, for each glance something fresh catches the eye, and he may thus go on noting until almost every variety grown has been accorded a certain amount of attention. However, by starting with the popular and handsome Charles Davis one cannot but fancy he is on safe ground. Madame Charles Molin is splendidly seen in this collection, as also is the darkly coloured William Seward. The old Avalanche is seen in somewhat large numbers and in excellent condition, and it is evident that the Swanley experts are well aware of its practical utility. The handsome blooms of Edwin Molyneux (Messrs. Cannell's famous introduction) are very striking, the colour being developed to a singular degree.

A deep claret red coloured flower of great size and weight will be certain of notice. It is Commandant Blussett, and undoubtedly an acquisition. Vivand Morel as is usual everywhere holds a foremost position, while the chastely beautiful flowers of Miss Anna Hartshorn are very numerous and of excellent quality. The delicate shade of Primrose League secures for it a very large number of admirers, while the unique variety Odorata, with its lilac florets striped with yellow and sweetly scented, will also be accorded a high place by many. Mons. Panckoucke is a grand yellow that is not sufficiently grown, for it is certainly possessed of many good points. Mrs. C. Harman Payne is large in size and grandly coloured, while the blooms of Mrs. E. G. Hill are very charming.

In addition to those already mentioned there are now in bloom at Swanley a number of seedlings, some of which were apparently of great promise, though they were not sufficiently advanced to permit of a

decided opinion being expressed. Lord Marcus Beresford was certainly one of the best, with its pointed bright yellow florets and somewhat flat bloom. Pleasance, soft blush in shade, looks to have the making of a good sort, as also does William Weeks. Colonel Curzon, pale rose; R. Falconer Jameson, a deep coloured Etoile de Lyon; Colonel Batten, delicate pink; Miss Marie Cameron, very pale rose, and John Machan, clear yellow, were also seen.

Each of the varieties which have been named above belong to the Japanese section, those included amongst the incurved not being accorded so much attention—in fact, only a comparatively small number of plants, considering the extent of the collection, is grown. Globe d'Or, Madame Darier, Mons. R. Bahuant, Baron Hirsch, Queen of England, and Lord Wolseley were, however, seen in very good condition. Any time during the next week or two Swanley, if only to see the Chrysanthemums, will be worth a visit, though those who go might do worse than devote a few minutes to the Zonal Pelargoniums, which are now making a glorious display.

EARLY FLOWERING CHRYSANTHEMUMS.

THE contrast between the summers of 1893 and 1894 has certainly been most marked. The spring was good and very free, except in one or two instances, from late spring frosts. Some hot weather set in early, and by the beginning of July things in many cases were a month earlier than is usual here; but from that time forward there was a deficiency of sun and heat till by October things were as late, and in some cases later, than in average seasons. The result of all this has been that in Chrysanthemums the development has not been so good, although many sorts have grown from one-quarter to one-third higher than usual, and made more than ever evident the necessity for the possession of dwarf varieties.

A very remarkable thing was the great prevalence late in the season of green fly on the Chrysanthemums, and an even more remarkable phenomenon was about the end of June the sudden appearance of thousands of those little long black insects which turn into ladybirds. The numbers were so great that in about ten days they had devoured the whole of the green fly, leaving the plants free to grow, and themselves shrivelling up preparatory to their appearing in a new life as ladybirds. In former years I have noticed the ladybirds suddenly come and eat the green fly. They seemed to drop from the sky, as did the small black insects this year, and if we could do anything to promote their incoming in sufficient numbers early in the season we should be little troubled with green fly. I have seen experienced Chrysanthemum men kill these insects, thinking they were eating the plants, which is an entire mistake. There is another insect, too, which I have seen killed as an enemy and called a caterpillar, which it is not, but more like a gentle, such as is used for fishing bait, only that it is rather more green; these work up into the hearts of the plants and destroy the green fly. It is pointed at what I may term the mouth end and thick at the other, and if anything can be done to foster them it would be a good thing for the Chrysanthemums.

As for the shows of the National Chrysanthemum Society at the Aquarium at Westminster on the 4th, 5th and 6th of September, there was nothing very new or striking in early Chrysanthemums. I believe the new sort Harvest Home was exhibited for the first time by Mr. Owen the raiser. At the show of the same Society at the above place on October 10th, 11th and 12th it was apparent that exhibitions do not do justice to the typical early varieties. How is it likely that a fair idea of October flowering sorts can be obtained from a show where the first prize for twenty-four flowers in not less than eighteen varieties goes to a stand containing W. Seward, Kentish Yellow, W. H. Lincoln, E. Molyneux, and Miss Dorothea Shea? There is no great difficulty in growing late sorts early, as the London shop windows have abundantly shown, as displaying large blooms of W. H. Lincoln (a decidedly November variety) at the end of September; but that does not make it even a semi-early sort.

It seems to me that London is being left behind in the early varieties, and unless the schedules are altered the metropolitan shows will cease to mark the progress being made. The fact is many minds have become so acquainted with November shows for prizes, that these same minds do not grasp the importance of the early kinds to the flower trade and decorators in general; and while great progress is being made elsewhere, it is by some thought that such progress does not exist, or that it is a phantom of the brain of the enthusiast.

This October show was chiefly remarkable as relates to the early Chrysanthemum in the decorations shown. Mr. J. R. Chard of Stoke Newington, who took the first prize, and among his objects was one very large wreath composed almost wholly of Gustave Grunerwald, perhaps the largest mass of that variety ever seen at a show. The other decorations exhibited by Mr. D. B. Crane, of Highgate; Mr. E. Beckett, of Aldenham, Elstree; and Mrs. Walter Mole, of Hemel Hempstead, consisted almost wholly of early-flowering Chrysanthemums; thus they were advantageous in showing their value for these purposes.

The good new sorts of early and semi-early kinds I have been able to discover and grow are as follows:—The first in importance is a great advance in colour to any early sort yet in cultivation. It is named Harvest Home, and was raised by Mr. Owen. It is a crimson of very bright tint, tipped golden yellow; Japanese in form; grows a little over 3 feet high, and has flowers about 4 inches across; a free grower, with a rather slender habit and moderate foliage; blooms in September.

Longfellow (Longfellow) is a beautiful white Pompon, the form of the

flowers much resembling Madame Marthé in the late sorts. It grows about 3 feet high, with very spare foliage, and masses of white flowers borne on long sprays. The flowers measure about 2½ inches across. It was raised by the Messrs. Cannell of Swanley, and blooms in September. I consider it the best white early Pompon up to this time.

Edith Syrratt is a most profuse September blooming variety, magenta coloured, reflexed flower 2½ to 3 inches across. Fine open, spare habit; one of the best of its colour up to date. Raised by Mr. H. J. Jones of Lewisham.

Ivy Elphic is a dwarf, stout Japanese, growing 20 to 24 inches high, pink mauve in colour with white base to petals. Flowers 3 to 3½ inches across. Blooms in September. Raised by myself.

Golden Shower, fine yellow Pompon; grows 2½ feet high; flowers 2 inches across. Blooms in September in neat sprays useful for cutting. Raised by Mr. Owen.

Of the new October or semi-early sorts perhaps the most notable is General Hawks. This is a robust grower, from 4 to 5 feet high; Japanese. It is a profuse bloomer, of a purplish crimson colour, with flowers about 4 inches across—that is, as all the others I describe, without any of the buds taken off but allowed to grow naturally.

Edwin Rowbottom is a yellow, straight petalled, large Pompon. It grows 3 feet high, with a very slender habit, and bears a large mass of flowers; thus, it is rather difficult to keep up, but is not so objectionable in that respect if grown as a disbudded plant, when the flowers grow 4 or more inches across, and even when all the buds are left on it has the power to develop all of them into fair flowers from 2 to 3 inches across.

Of the older sorts of last season I may say that there has been some little discussion as to the merits of Lady Fitzwygram. It has been said that grown in the open ground it is like Madame Desgrange, and so it is in some places, but really as an open-air naturally grown plant it is hardly worth growing. It is as a disbudded plant flowered under glass that it is of service. I have seen some plants treated thus and the effect was beautiful, for the centre petals incurve over the middle of the flower, presenting there a perfectly white face, which Madame Desgrange rarely if ever does. Thus it makes its appearance in the London shops as one of the first and best white Chrysanthemums.

Another of last season's is Madame Marie Masse. It has justified all the good opinion I formed of it. It is one of the best very early sorts, quite second to Gustave Grunerwald and much more robust than that. It is probable it will be several seasons before we find a better in its line. Gloire de Mezin is another that quite comes up to the experience of the season of 1893. It is a most excellent variety.

There are many new sorts in view for trial next season, so there is every evidence of future progress. I have this year raised about sixty plants from seed that I grew last season of an October blooming semi-double seedling, which was a light bronze rather over 3 feet high. The seedlings from this are, if anything, more wonderful than my former experiences. In colour they range from pure white to deep crimson, and from a foot or 18 inches to 4 or 5 feet high, with a wonderful diversity of habit and foliage, with two or three among them of considerable merit and fit to grow for the future, being very early, and probably earlier next season.—W. PIERCY.



ROSE CAPTAIN HAYWARD.

I do not find the name of this Rose mentioned by any of your correspondents as being one of the best of our garden Roses. With me it has proved thoroughly perpetual, and is still blooming, in fact the bushes have been a blaze of colour nearly all the season. Whether it makes as good an exhibition flower I am not in a position to say, for I have not disbudded a single plant, but allowed the clusters of five, six, and seven Roses to develop. The blooms I have seen at exhibitions this season struck me as being rather thin in petal. It is an excellent button-hole Rose, the pointed buds being almost ideal in this respect. I can fully concur in all Mr. C. J. Grahame has said in praise of Viscountess Folkestone, it is indeed a charming garden Rose.—J. B. RIDING.

ROSE ANALYSIS.

LAST week I made an attempt to reply to the criticisms of Mr. Grahame and "Y. B. A. Z." which appeared on pages 368 and 369, but found it difficult to know where to commence, there seemed really nothing definite to answer. But still I felt that as they had paid me the compliment of devoting considerable space to their criticisms, a reply of some sort was at all events due to them. At last, when too late for the next number, I wrote as follows: "If Mr. Grahame or 'Y. B. A. Z.' will only state in definite terms what they object to in my analysis, and why they consider it does not give the relative positions of the different varieties with sufficient accuracy, I will do my best to answer their objections. I shall also be only too glad to receive and carefully consider any suggestions for the improvement of this analysis that they may kindly offer. For instance, the hint thrown out by

'Y. B. A. Z.' as to the positions accorded varieties which follow those having equal averages is, in my opinion, one well worth reconsideration."

Since then another letter from Mr. Grahame has appeared, in which he asks for a clearer explanation of the methods adopted in arriving at the positions of the different varieties in the tables. I described the principles by which I had been guided last year, but by giving illustrations of how each of these work out in practice, my extremely simple methods will no doubt be more clearly understood. These explanations I will give in a future number.—E. M., *Berkhamsted*.

NATIONAL ROSE SOCIETY—THE TROPHY CLASS.

MR. GRAHAME says (page 392) that I have misquoted him (page 368). I made no quotation at all. If I had done so I should have used inverted commas. Without them it is generally understood that the general sense is given without the actual words. His actual words (page 338) are, "These gentlemen ('W. R. R.' and 'E. M.') take a very decided undecided attitude, as they 'entirely agree' with each other, and neither says what he is for." My words (page 368) are, "Mr. Grahame complains that I am undecided, and that 'E. M.' and I will not say what we want."

If Mr. Grahame did not mean "what we want" by "what we are for," I am utterly at a loss to know what he did mean. Can he or anyone else tell us? I certainly thought I was accurately giving his meaning, and am much surprised to find myself accused of misquotation, unfairness, sophistry, and evasion! I leave the just allotment of these epithets with confidence in the hands of the readers of the Journal, and must decline to write any more upon the subject, a course I always take when my opponent descends to personalities.—W. R. RAILLEM.

THE ROSE SEASON OF 1894.

BEFORE the rush of the Chrysanthemum season comes upon us with all its violence, I want to say something about the past Rose season and all its ups and downs. I shall not venture upon vexed and disputed questions, dates of shows, and such like things, but merely record what are my own impressions of the season of 1894. My experience has not been so wide and so varied as it used to be, and I hardly think that many will wonder at this. The journeys that I used to take, and the night marches that I had to make, do not very well agree with the record of seventy-six years, and I have therefore had but few opportunities, comparatively speaking, of visiting exhibitions; moreover, the services of what I may call professional judges are not now so much sought after as formerly.

The National Rose Society has been the means of raising up and, so to speak, training a number of men in all parts of the country who are more or less qualified to assume the office of judge, and consequently their services come into requisition in the various localities in which they reside. I am not at all sure that the plan which is adopted by the N.R.S. for their large shows is at all suitable for small ones, and that in many cases would it not be better to have judges from a distance than to entrust the duty to exhibitors? They may be as impartial as possible, but defeated exhibitors will, as I very often see, be ready to lay that result to the bias of the judge rather than to the deficiency of their flowers. I do not think that a judge ought under any circumstances to see the flowers on which he is to adjudicate before he commences his work, still less to know to whom they belong, and in small shows this is hardly possible.

What shall I say concerning the Rose season? Well, just this: that in whatever way we look at it, whether from a gardener's or exhibitor's point of view, it was one of the most disappointing ones on record. 1893 was a disappointing one, but not so much so as 1894. In the former year the drought which set in early in March and continued on without a break until July left no room for illusion among growers. By the end of April already they felt they were in evil case, and they knew that if they were cast in the southern part of the kingdom their hopes of success were gone. But not so in 1894; the weather of January and February was of the normal character, and when we experienced the fine weather of March and April the hopes of growers were raised high as to their prospects; and there was but one breaker ahead—the possibility of frost. We have for many years experienced what is called the cold wave between the 19th and 25th of May, and writing to a friend who had said at the end of April "We have had no frost yet," I replied, "I do not fear the April frost, but that of the 20th of May," and on that very day the most terrible frost that we had experienced for many years swooped down upon our Rose gardens; it was the more destructive from the fact that the Roses were so much more forward than usual. Had they not been so the shoots would not have so entirely succumbed, and recuperation would have been quicker. Of course, as in all frosts, there was a capriciousness about it for which we cannot account; my own garden, for instance, was entirely unaffected by it, while many in the same parish were very severely hit, but it extended all over the country, and growers, both north and south, suffered severely. It was not as in 1893, when the running was all in the north, for Yorkshire suffered as much as Hertfordshire, and the drier soil and climate of East Anglia gave the growers there such a chance as they are not likely to have perhaps again.

The result of all this was a dead level of mediocrity in most of the flowers staged. I do not of course mean to say that there were no really fine flowers, for this there will always be when they have to be selected from such varying localities and under such different conditions, but that this was the general condition of the flowers exhibited has been

pretty generally granted. The same causes operated very markedly in the case of some exhibitors, the principal of whom were unable to put in an appearance at the early shows. I noticed amongst other things in visiting the places of exhibition on the morning of the shows how very much the pernicious practice of dressing Roses has increased. I say pernicious because I think it is much of a par with the painting of the Lily and the dyeing of the Carnation, and because I believe that nothing will so militate against our exhibitions as the knowledge that this practice becomes general. We are all aware how much it has had to do with other florist flowers; perhaps in no case is it so thoroughly practised and so completely recognised as in that of the Carnation and Picotee the Chrysanthemum and Dahlia are also brought under its influence. I have known a box of twenty-four Chrysanthemum occupying the exhibitor nearly twelve hours to prepare them for the show, at least so he told me, and others to whom I mentioned it told me most likely that it was so, while with regard to the Carnation I have known a loose looking flower so manipulated in a short time as to become a regular and symmetrically arranged one. I do not think, however, as some seem to imagine, that this has led to the introduction and greater popularity of the border Carnation and Japanese Chrysanthemum. Where the former are exhibited just as much dressing takes place as in the older florist favourites, and the same may be said of the Japanese Chrysanthemum. The popularity of either is not influenced by these considerations, but by the development of the tastes for decoration both in the garden and in our dwellings, for both of these purposes these classes are better adapted. Still with all this, when I see exhibitors in some nook or corner quietly manipulating their Roses I feel that they are dealing a blow at the further development of our favourite flower. It is true that the N.R.S. has set its face against over-dressing, but I am persuaded that this is not enough. It must I think condemn all dressing if sufficient check is to be put to the practice. I noticed, too, in how many instances flowers are brought to the place of exhibition with a piece of bass tied round. I will not put this in the same category, for in truth it seems to keep the flowers in better condition when brought to the show place than in the old way, sometimes it is true the exhibitor forgets to snip it in one or two of his Roses, and has to be recalled to his stand.

The increasing interest in the cultivation of Tea Roses shows itself more and more each year. I think I have seen them in better condition in other years, although some magnificent blooms were staged. One is not likely soon to forget the grand Cleopatra exhibited by the Rev. F. R. Burnside at Windsor, a fitting companion to the Madame Cusin of the Rev. Foster Melliar of last year; but everywhere the value of this class is being recognised, and it is only to be hoped that growers will not fall into the extreme of excluding H.P.'s from their gardens. A quarter full of Tea Roses does not form a striking or brilliant object in the garden, as it lacks the colour that is requisite for such a purpose.

A great deal of ill-considered babble has been talked about garden Roses, and our sympathies have been enlisted on behalf of what people call "the dear old garden Roses;" but I do not think that the stand of the old Gallicas, and others, exhibited at the Crystal Palace will be likely to induce any grower to discard his H.P.'s for them; and in truth stands of garden Roses are mostly composed of some of the smaller Teas, Noisettes and dwarf Polyanthas, and some few of the single Roses. Doubtless when the Hybrid Sweet Briars of Lord Penzance, which are to be distributed this autumn by Messrs. Keynes, Williams & Co. come to be more generally grown they will make a pleasing addition to our list.

Of new Roses there is not very much to record: But one gold medal was awarded by the N.R.S. which richly deserved the honour. It is one of the series of beautiful flowers which has been added to our collections by Messrs. Dickson & Son of Newtownards who have gained more medals than have been awarded to any of our raisers of seedling Roses. The Clio of Messrs. William Paul & Son and Charles Gater, of Messrs. Paul & Son, are Roses which will probably make their mark in the future. Of the foreign Roses of last autumn absolutely nothing has been seen; English nurserymen have been so bitten in times past that they are now more chary of listening to the high sounding phrases of the French raisers. Indeed this year has notably shown how difficult it is to introduce anything. I will not say that can excel but equal the introductions of bygone years; when we see the medal for the best Rose in the show going to such old established favourites as Marie Baumann, Duchesse de Morny, Souvenir d'Elise, and The Bride only a sport from that old Rose Catherine Mermet, it is manifest that these still hold their ground as Roses most difficult to beat. A new Rose may for a time enjoy a certain amount of popularity, but then gradually it sinks back into its proper position. When two years ago Gustave Piganeau was carried forward with such a rush I ventured to dissent from the general verdict then given, and said that its colour was against it, size being its chief recommendation; we hear very little of the encomiums which were lavished on it when it was first exhibited.

Our enjoyment of Roses in our own gardens has been diverse from that of last year. Then the excessive heat and drought brought them out early and very soon sent them out of flower; but this was somewhat compensated for by the autumnal blooming. Flowers were produced both in Hybrid Perpetuals and in Teas in large numbers and were excellent in quality; whereas this season the dull weather in June and July prolonged the Rose season proper to a greater length than usual, but at least, as far as I am concerned, autumnal blooming has been comparatively a failure. A rainfall of nearly 4 inches in September falling on more than half of the days in the month, Hybrid Perpetuals and the

more full kinds of Teas, such as Souvenir d'Elise Vardon and Jean Ducher, had but a poor time of it. Of course there were a number of Teas which were fairly good, and but for them September would have been a roseless month. I am speaking, of course, of only a small collection, for where large numbers are grown there will always be flowers of more or less good quality to be had. Such then is my experience of the Rose season of 1894, and we have been so often sorely disappointed that were it not that "hope springs eternal in the human breast" one might be tempted to ask whether we shall ever again have a good Rose season.—D., Deal.

SECTIONAL VENTILATORS.

I AM sending you the particulars of a sectional ventilator for green-houses, forcing houses, and other glass structures. It is constructed for attachment to the hot-water pipes, and can be fixed in a few seconds. By its use a constant circulation of air can be maintained at all seasons, night and day, of the same temperature as the house.

It was designed principally for use in early Tomato houses and vineries, but will prove of equal value in all structures heated by hot-water pipes where it is desirable to insure a circulation of air without reducing the temperature. The ventilators are made of stout zinc. I am quite aware that ventilating with heated air is not a new idea, but I do not know of any system that provides a cheap and easy means of applying it to all kinds of glass structures. One of the chief recommendations of the present system is that it can be applied without any

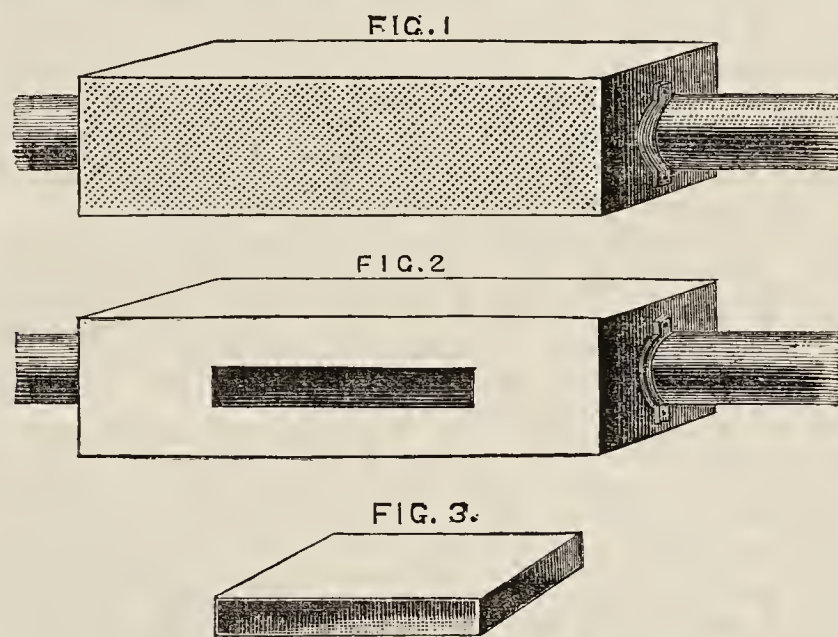


FIG. 64.—SECTIONAL VENTILATORS.

alterations save the removal of a brick in the outside wall, through which the cold air passes to the ventilator, and in this aperture fig. 3 is fixed, one end coming flush or thereabouts with the outside wall, the other end passing through an aperture at the back of the ventilator. The following are the references to the woodcut (fig. 64):—1, Ventilator, front view when fixed; 2, ventilator, back view; 3, attachment between wall and ventilator. The front is of perforated zinc; full size of ventilator 18 by 6 inches. The back, through which the cold air passes, has an aperture 9 by 2½ inches; into this 3 passes from the wall, in which it is fixed.—F. D. WOOLF, Southampton.

CHRYSANTHEMUM SHOWS.

HERTFORD.—OCTOBER 25TH AND 26TH.

ONE of the first Chrysanthemum exhibitions held in the provinces this year took place on the above dates in the Corn Exchange, Hertford, under the auspices of the Hertford Horticultural Mutual Improvement Society. The show was opened by the Countess Cowper, and was well attended. As regards the exhibits these were, on the whole, of a superior character, the Japanese blooms being particularly good. As may be expected, the season is yet early for incurved flowers, which doubtless accounted for these not being so extensively shown. Those staged, however, were quite up to the average in merit, and were creditable to the respective growers. The groups, too, were very good, and miscellaneous autumn-flowering plants were well represented. Fruit formed a special feature of the exhibition, as did vegetables, the latter being splendidly represented. The arrangements were admirably carried out by Mr. Jason Fears, the honorary secretary, who was assisted by an efficient Committee.

The leading class was for a group of Chrysanthemums in pots, to be arranged in a semicircle of 9 by 9 feet, quality of bloom and general effect to be the principal features. There were three groups staged, and these were noteworthy for the fine blooms and healthy appearance of

the plants. Mr. W. Morgan, gardener to J. H. Johnson, Esq., Berkhamsted Manor, was awarded the first prize. In this group were some splendid blooms of Vivand Morel, Etoile de Lyon, Edwin Molyneux, Avalanche, and Sunflower. Mr. E. H. Caterer, gardener to A. F. Giffirth, Esq., Elmsfield, Hertford, was placed second with a creditable group. Mr. C. Cox, gardener to J. Trotter, Esq., Buckendon Grange, Hertford, was awarded the third prize, some fine blooms of Col. W. B. Smith being noticeable in this group.

For a collection of plants from which Chrysanthemums were excluded, Mr. W. L. Bastin, gardener to Captain Pringle, Digswell House, Welwyn, won the first prize. This group was finely arranged, but would have looked better had there been a little more colour in it. Palms, Ferns, Lilliums, Pancratiums, and Nerines, with a few Orchids, were the principal plants here. Mr. E. H. Caterer was second with a well-arranged group. Mr. Owen Cooling, gardener to W. R. Baker, Esq., Bayfordbury, Hertford, was third; Mr. J. Turk, gardener to P. Bosanquet, Esq., Ponfield, being fourth.

Cut blooms, as before remarked, were as a rule very good. In the class for twenty-four Japanese blooms, distinct varieties, there were three exhibitors, and the competition was very keen between the two leading stands. Mr. W. Collins, gardener to J. W. Carlile, Esq., Ponsbourne Park, Hertford, was placed first with a splendid stand. The varieties were, Mrs. C. H. Payne, W. H. Lincoln, Madame Thérèse Rey, Edwin Molyneux, Puritan, Col. W. B. Smith, Vivand Morel, Mrs. E. W. Clarke, Florence Bond, G. C. Schwabe, Mdle. Marie Hoste, President Borel, K. C. Kingston, Mrs. Cox, Sunflower, Princess May, Charles Davis, G. W. Childs, W. Seward, Avalanche, J. S. Stanborough Dibbins, Etoile de Lyon, Mrs. F. Jameson, and W. Tricker. Mr. W. Wells, Earlswood Nurseries, Redhill, was second, the best blooms in this fine stand being Col. W. B. Smith (grand), Primrose League, F. W. Flight, Souvenir de Petite Amie, Vice-President Calvat, Miss Dorothy Frankland, Charles Shrimpton, Duchess of York, Favourite, Viscountess Hambledon (the premier Japanese bloom in the show), Amos Perry, M. B. Spaulding, Alice Seward, Mrs. E. W. Clark, Frank Wells, W. H. Lincoln, President Borel, Chas. Davis, Lizzie Seward, Miss Dorothea Shea, Standard, Louise (fine), W. Seward, Princess May, and Golden Beauty. Mr. C. Cox was placed third with a stand of creditable blooms.

Mr. W. Collins was also awarded the first prize for a dozen Japanese blooms. These were Mrs. C. H. Payne, G. C. Schwabe, G. W. Childs, Princess May, Edwin Molyneux, Madame Thérèse Rey, William Seward, Puritan, W. Tricker, Vivand Morel, Mrs. E. W. Clarke, and Sunflower. Mr. F. Winn, gardener to A. H. Hinsley, Esq., Fawshan, Hertford, was second with good blooms; the third prize going to Mr. L. Barnes, gardener to the Hon. Baron Dimsdale, Hatfield.

Mr. W. Morgan, gardener to J. H. Johnson, Esq., Berkhamsted Manor, was placed first for six Japanese blooms in the division open to members of the Society. These were W. H. Lincoln, Vivand Morel, Mdle. Marie Hoste, Edwin Molyneux, Charles Davis, and Miss Anna Hartzhorn. Mr. W. Collins was first in this section with six Japanese blooms of any variety, showing Puritan in splendid condition. Mr. F. Winn was second with Florence Davis, and Mr. J. Turk third with Col. W. B. Smith. Mr. Turk also won with twelve reflexed blooms, staging Cloth of Gold, Peach Christine, James Carter, Elsie, King of Crimson, White Christine, and Cullingfordi in good condition amongst other varieties. Mr. C. Cox was awarded the second prize.

Mr. W. Collins secured the first prize for twenty-four incurved blooms, showing a good stand. The varieties staged were Mons. R. Bahuant, Madame Darier, Mrs. Heale, Emily Dale, Lord Wolseley, Prince Alfred, Mrs. S. Coleman, Refulgens, Emily Dale, Princess Beatrice, Violet Tomlin and Baron Hirsch, the last named receiving a special prize as being the best incurved bloom in the show. It was a grand flower, well coloured and of great depth. Mr. J. Turk was awarded the second prize in this class. The blooms were rather small, but neat and even, and included the following varieties—Queen of England, Madame Darier, Nil Desperandum, Alfred Salter, Jeanne d'Arc, Baron Hirsch, Golden Empress, J. Doughty, Lord Alcester, Violet Tomlin, Princess of Wales, Miss Haggis, and Mons. R. Bahuant. Mr. W. Collins was placed first for twelve incurved blooms in the section restricted to members of the Society. This was an even stand, and comprised Emily Dale, Princess Beatrice, Miss Haggis, Baron Hirsch, Violet Tomlin, Lord Wolseley, Lord Alcester, Madame Darier, Jeanne d'Arc, Mons. R. Bahuant, Mrs. Heale, and Prince Alfred. Miscellaneous plants were rather numerous and well shown. Mr. C. Cox won with six Cyclamens, and Mr. O. Catling for a similar number of Zonal Pelargoniums. Primulas and other plants were good.

Fruit formed a striking feature of the show. Mr. O. Catling, gardener to W. R. Baker, Esq., Bayfordbury, Hertford, won with two bunches of white Grapes, and also for two bunches of black Grapes. Mr. W. L. Bastin secured a special prize for two bunches of black Grapes, showing well-coloured Alicantes. Culinary Apples were well shown by Messrs. G. Fulford, O. Catling, and W. Morgan. Mr. O. Catling won the first prize for six dishes of dessert fruit, showing Grapes, Pears, Apples, Plums, and Oranges in excellent condition. Mr. W. L. Bastin was second, and Mr. F. Winn third. Mr. C. E. Martin, gardener to Viscount Hampden, The Hoo, Welwyn, was placed first for six dishes of dessert Pears, and Mr. A. J. Willscher, gardener to the Rev. Edw. Kirkby, Ware Vicarage, was first for six dishes of dessert Apples. There were several other minor classes for fruit, and in these the produce was of a moderately good character.

Vegetables were numerous and well shown, many of the exhibits being above the average in quality. For a collection of vegetables,

open to members of the Society, Mr. J. Barnes was placed first with a handsome contribution, including fine Celery, Carrots, Onions, Beet, and Tomatoes. Mr. C. E. Martin was a good second, and Mr. H. Caterer third. In the other restricted sections the collections of vegetables were also of excellent quality, the same applying to single dishes, amongst which Potatoes, Cauliflowers, Beet, Onions, and Turnips may be singled out as being worthy of special mention.

Trade exhibits were not so numerous as is usually the case on such occasions, although those shown appeared to attract particular attention. Messrs. W. Edwards & Son, Sherwood, Nottingham, had a large stand of their useful "Edwardian" decorations. These are made in various designs, and are effectively planted with Ferns, Grevillea robusta, and other plants. Being of an unique character and durable nature these decorations are admirably adapted for the embellishment of the dinner table, rooms, bazaars, or for the conservatory. Messrs. W. Cutbush & Sons, Highgate, N., sent a collection of plants which made a good display, and Messrs. Paul & Son, The Old Nurseries, Cheshunt, contributed hardy flowers in variety. Mr. W. Wells, Earlswood Nurseries, Redhill, exhibited plants of his new green Chrysanthemum.

KENT COUNTY.—OCTOBER 31ST AND NOVEMBER 1ST.

THE annual exhibition of the Kent County Chrysanthemum Society opened yesterday (Wednesday) at The Rink, Blackheath. As in former years the large building was filled with exhibits, and the good reputation which this Society has hitherto held was well maintained. Liberal prizes were offered, and these had the effect of inducing some of the most noted southern growers to exhibit. Cut blooms formed the most striking feature of the show, and those staged in the leading class were of excellent quality, this applying rather more to the Japanese varieties than to the incurved flowers. Although not numerous, the groups were attractive, and many of the plants were noted as carrying some fine flowers. Under the supervision of Mr. F. J. Garford, the honorary secretary, the arrangements were carried out in a most creditable manner. It is gratifying to know that this Society is in a flourishing condition, there being an increase of over £25 in the members' subscriptions last year, mainly due to the exertions of Mr. Carvill, the late honorary secretary.

The principal class in the cut bloom section was for thirty-six flowers, half to be Japanese, and the remainder incurved, the first prize being a sum of £6. There were seven competitors, and the fight for the premier position was somewhat keen. Mr. S. B. Wheadon, gardener to R. J. Collier, Esq., Hawthorne, Bickley, Kent, was awarded the first prize for a stand of fine even blooms. The Japanese varieties were fresh and beautiful, and comprised Primrose League, Mrs. F. Jameson, Préfet Robert (grand), E. Molyneux, Mrs. C. H. Payne, Sunflower, Mdle. Marie Hoste, Avalanche, Mrs. E. W. Clarke, G. C. Schwabe (fine), Vivand Morel (excellent), J. Shrimpton, Etoile de Lyon, W. H. Lincoln, Princess May, Charles Davis, and Excelsior. The incurved blooms were also good, many of them being of greater depth than is usually seen at an early show. The varieties were Lord Alcester, Madame Darier, Alfred Salter, Ami Hoste, Mons. R. Bahuant, Jeanne d'Arc, Brookleigh Gem (fine), Mrs. Heale, Madame F. Mistral, Lord Wolseley, Violet Tomlin, Mr. Brunlees, Princess of Wales, Miss M. A. Haggis, Prince Alfred, Baron Hirsch (grand), Alfred Lyne, and John Salter. The second prize went to Mr. C. Payne, gardener to C. J. Whittington, Esq., Elmhurst, Bickley, for an excellent stand. Mr. Leadbetter, gardener to A. G. Hubbuck, Esq., Elmstead Lodge, Chislehurst, was third, and Mr. G. Tutt, Rose Nursery, Ashford, Kent, fourth. From this it will be seen that the whole of the prizes in this class went to Kentish growers—a credit to them, the Society, and the county.

In the class for twenty-four Japanese blooms there were three competitors, and here again Mr. Wheadon proved himself victorious. The flowers staged were even, rich in colour, and well arranged. The varieties were—Mdle. Marie Hoste, Golden Dragon, J. Shrimpton (very fine), W. Tricker, Gloire du Rocher, Col. W. B. Smith, Edwin Molyneux, Good Gracious, Duke of York, W. H. Lincoln, Mrs. E. W. Clarke, Louise (deeper colour than usual), Etoile de Lyon, Beauty of Exmouth, Sunflower, W. Seward, Charles Davis, Excelsior, Mrs. F. Jameson, Mrs. C. H. Payne, G. C. Schwabe, Avalanche, Préfet Robert (of great depth), and Kentish Yellow. Mr. R. Leadbetter was awarded the second prize for a splendid stand of flowers, many of which, however, required a few more days to develop. Mr. A. Tomalin, gardener to Stephen White, Esq., Oakwood, Crayford, Kent, secured the third prize for a stand of fair blooms.

There were six competitors in the class for twelve Japanese blooms, and notwithstanding this Mr. Wheadon was again placed first. The varieties shown in this stand were Etoile de Lyon, J. Shrimpton, G. C. Schwabe, Avalanche, Gloire du Rocher, Beauty of Exmouth, E. Molyneux, W. H. Lincoln, Excelsior, Mdle. Marie Hoste, Préfet Robert, and Mrs. F. Jameson. Mr. C. Twinn, gardener to G. W. Bird, Esq., Manor House, West Wickham, won the second prize for a creditable stand; the third award going to Mr. P. Waterer, Fawkham, Kent, who had rather small but neat flowers, including a splendid bloom of Chas. Davis.

Reflexed varieties were not specially good, although there were five stands in the class for a dozen blooms. Mr. Leadbetter was placed first, with King of the Crimson, Amy Furze, Dr. Sharp, and Cullingfordi as the best flowers. Mr. A. Tomalin was second, and Mr. E. Russell, gardener to T. Pims, Esq., Martens Grove, Crayford, third. Pompons were best shown by Messrs. J. Knapp, A. Tomalin, and E. Russell,

Anemone-flowered varieties were well staged, and in the class for a dozen blooms Messrs. R. Leadbetter, A. Tomalin, and J. Moore won the prizes. The most attractive flowers were Jean Marty, Nelson, and Gladys Spaulding.

The classes for half dozen blooms of one variety of each section were well filled. Mr. R. Filkins, gardener to Miss Alexander, Oakbank, Chislehurst, won with half dozen blooms of any white Japanese, showing Puritan. Mr. J. Pearce, The Gardens, Belmont, Lee, was second with Elaine; and Mr. A. Tomalin third. Mr. C. Payne had the best six coloured Japanese, staging grand flowers of Vivian Morel. Mr. P. Waterer was second with W. Seward; and Mr. Filkins third with International. Mr. C. Payne won with half dozen blooms of one incurved variety, showing Baron Hirsch. Mr. W. Amies was second with Mons. R. Bahuant; and Mr. W. T. Castleman third with Mr. Bunn, all in good condition.

There were only three groups of Chrysanthemums for competition, and here Mr. F. Fox, gardener to Mrs. Penn, The Cedars, Lee, was placed first for a collection of good plants, but too closely arranged. Mr. J. Fulford, gardener to J. Wythes, Esq., Bickley Hall, Bickley, was second with a group of very dwarf plants; Mr. J. Williams, College Park Nursery, Lewisham, being third. Mr. J. Lyne, gardener to H. F. Tiarks, Esq., Foxbury, Chislehurst, was first with a group of miscellaneous plants; Mr. A. Tomalin being second. Both contributions were well arranged, and included many Orchids.

Mr. R. Leadbetter secured the first of the special prizes offered by the President for twenty-four blooms, eight to be Japanese, eight incurved, and eight reflexed. Mr. C. Payne was second, and Mr. F. Moore third. Other special prizes were offered, and won chiefly by the exhibitors mentioned. The classes open to local growers were well filled, the same applying to those for epergnes and baskets of flowers. Mr. D. B. Crane, Highgate, won first prizes for the two latter with charmingly arranged exhibits. Table plants were admirably represented, while Grapes, Apples, and other fruit were well shown in the competitive classes.

Miscellaneous exhibits were not very numerous, but those shown were of excellent quality. Mr. H. J. Jones, Ryecroft Nursery, Lewisham, had a splendid stand of Chrysanthemum blooms cut with long stems, and arranged in handsome vases with Asparagus sprays, Smilax and dried bracken fronds. The whole presented a unique and charming appearance, and may be advantageously imitated by other exhibitors. Messrs. W. Edwards & Sons, Sherwood, Nottingham, had a stand of their "Edwardian" floral decorations, and Messrs. J. Laing and Sons, Forest Hill, sent a fine collection of fruit. Messrs. J. Peed and Sons also staged fruit. Mr. C. Williams, Hammersmith, sent receptacles for holding flowers, and Mr. J. Aley, Hurst Lodge, Lee, had a group of Carnations. Messrs. H. Cannell & Sons, Swanley, had cut blooms of Chrysanthemums, and Mr. J. Williams, Lewisham, sent a group of plants.

The finest Japanese bloom in the show was Mdle. Thérèse Rey, shown by Mr. W. Wells, Earlswood Nurseries, Redhill. Mr. Wells also had the premier incurved bloom, a grand example of Madame Darier.



FRUIT FORCING.

Vines.—*Early Forced Vines in Pots.*—Where thin-skinned Grapes are required in March and April the house intended for the Vines to produce them will now be ready for their reception. The pots should be placed on pillars which will not give way under their weight, or interfere with attending to the fermenting material used for supplying bottom heat, than which nothing answers better than bricks placed to the required height without mortar. Against the pedestals some turves may be placed, and the holes in the pots enlarged, bringing the turf up above these so as to be within easy reach of the roots, which will speedily follow the stimulating food with which the Vines are fed, and the weight and quality of the crop will be materially enhanced. Oak, Beech, or Spanish Chestnut leaves are the best for supplying bottom heat, being of a durable nature, giving out heat and moisture steadily through the early stages of growth, and rich stimulating food from their decay during the swelling of the fruit, when it requires all the support that can be given. Take care that the heat about the pots does not exceed 70° to 75°, supplying water only to keep the soil moderately moist, as a wet condition does not favour speedy and healthy root action.

Allow the canes to fall into a horizontal position over the fermenting material until they have broken, but not permitting them to rest upon the moist and warm bed. Syringe the paths, walls, and canes two or three times a day, but sufficiently early for the last time each day to allow of the canes becoming fairly dry before nightfall. Maintain a temperature of 55° at night, and 60° to 65° in the daytime, with a free circulation of air at and above that temperature, and close early in the afternoon.

Succession Houses.—Push on the pruning as soon as the Vines become clear of foliage, also the cleansing and lime-washing, carefully washing

the rods with soap and water before dressing them with an insecticide. This will be all that is in most cases necessary, few growers now practising the old-fashioned process of peeling, scraping, and painting with a pigment of clay, soot, sulphur, and other substances. Where insects, however, have a strong hold on the Vines it is absolutely necessary to remove the loose bark, but do not injure the living rods, and eradicate the enemy by washing thoroughly with an insecticide. Some strong mixtures, especially those compounded of oils and fats, are more injurious to the Vines than the peeling, and they should be avoided unless used with an equal weight of dry pulverised clay and sufficient water to form a cream readily applicable with a brush.

Midseason Houses.—Any Grapes that are still on the Vines may be cut, as they will keep fresh in bottles of water in a cool, dry room. The Grapes should be cut with all the wood that can be spared for insertion into bottles of rain water, removing the foliage, but not shortening the wood that has been formed beyond the bunch. The Vines should then have the laterals shortened or removed, and the growths generally cut back, so as to plump the pruning buds, but it must be done gradually in the case of vigorous Vines which are disposed to make a late growth, checking their propensity by free ventilation constantly, and where the wood is not brown and hard the heat should be turned on by day, but shutting it off at night only the temperature must not be allowed to fall below 50° at night, until the foliage affords indications of falling. The Vines will derive great benefit from the exposure to the weather so long as it continues mild, guarding against a sudden chill by drawing up the roof lights or closing the house when the nights are likely to be wet or frosty.

Late Hamburgh Houses.—The atmosphere in which bunches of thin-skinned Grapes are hanging cannot be too carefully attended to, as the berries are very susceptible to injury from excessive moisture, while if kept too dry and warm they are liable to shrivel. A gentle movement of the atmosphere will prevent the deposition of moisture on the berries, and when ventilation cannot be given a little warmth in the hot-water pipes will keep the air in motion, and the moisture will be condensed on the glass so long as the external air is cooler than that of the house. A steady temperature of 50°, with a little warmth in the pipes, and liberal ventilation on fine days, will suit the Grapes during the fall of the leaf, when, unless the house is well adapted for keeping them, the bunches may be cut, bottled, and placed in the late houses or a cool, dry room. The border must be kept fairly moist or the Grapes will shrivel even while the leaves are on the Vines.

Late Houses.—Muscats, as a rule, have done well this season, being fine in berry, high in colour, and excellent in quality. This is the outcome of thoroughly ripened wood and stored matter from last year. The Grapes will need a temperature of 50° to 55° until the leaves commence falling, and moisture must be kept from becoming stagnant by a judicious admission of air. Where the Vines have lost their leaves a light shading may be necessary to prevent the berries becoming brown, which is not a tinge esteemed at table nor in the market. Only where the panes of glass are large and the weather bright is this advisable, and a single thickness of pilchard nets drawn over the roof lights will be sufficient shading. The thick-skinned Grapes will still improve in finish and quality, being accorded a temperature of 50° and air freely above that on all favourable occasions.

Though the berries keep well enough in houses where the outside borders are exposed to the weather, it is only when they are high and dry, for a cold saturated soil is not without its baneful effects on the Grapes as well as the roots of the Vines. To prevent such condition the borders should be covered with lights or something that will throw off deluging rains and snow. Lights are the best, as the border then gets the benefit of sun and air; but a covering of dry fern or leaves with a little litter over them is better than nothing. The inside borders will be getting dry at the surface, and should be covered with some dry fern or sweet straw, neatly spreading it over them; this will prevent their cracking and giving off dust, besides improving their appearance. Give daily attention to the removal of ripe foliage as it parts from the Vines, keeping the houses clear of plants requiring water, and thoroughly sweet and clean, removing all faulty berries as they appear.

Cherry House.—The trees having cast their leaves should be pruned. Cut back to within an inch of the base shoots which were made during the summer and stopped at the fifth joint. This applies to all spur growths, but the extensions and growths for forming branches to furnish the trees should not be shortened, unless they have reached the extremity of the trellis, or when it is necessary to multiply the shoots another season. The house should then be thoroughly cleaned, and the trees washed with a tepid solution of soft soap (2 or 3 ozs. to a gallon of water). Then limewash the walls with best fresh lime and a handful of flowers of sulphur in each pailful. Dress the trees with an insecticide—one that will annihilate and prove objectionable to aphides and red spider, and afterwards train and tie them to the trellis. Clear away all prunings and other matter. Remove the loose material, whether mulchings or soil, on the border. If the roots are near the surface and fully occupy the soil a light pointing over may be all that can be done prior to top-dressing with an inch or two thickness of fresh rich loam, but no opportunity should be lost of removing inert soil, and changing it for fresh turfy loam of a calcareous nature. The lights being off they need not be replaced until the time of starting or the approach of severe weather. Under fixed roofs attention will need to be given the borders for watering, keeping them evenly moistened through, ventilating the house fully at all times up to starting.

THE BEE-KEEPER.

APIARIAN NOTES.

FEEDING.

DURING the past week I have given most of my hives several pounds of sugar, which induces the bees to take a thorough cleansing flight before the winter sets in fairly. As I have all my hives cosily packed close on the top of the frames I do not disturb them, as any draught through that cause is liable to ruin a colony. Owing to the lateness of the honey season many bee-keepers are behind time in feeding, for being caught in the middle of it with the low temperature, the bees refused to feed. My advice has been sought in numerous instances, and I have advised arranging the crowns of the hives as above, removing the top feeders, and feed from below. Those who did not succeed used the syrup by far too thick. When this was altered to about equal weights of sugar and water the bees took to it at once.

SWARMING.

As stated in a previous article, my hives intended for swarming and increase of stock are in two divisions, whilst the others are in full-sized hives. It is impossible to prevent swarming from large hives; the bees will swarm although not half full, and at any time during honey gathering and for some time after it. When there is ample breeding space with a young and lately fertilised queen swarming will be postponed, but in these properties the very thing we wish to prevent is hastened after a time. The best course for the bee-keeper to pursue is to keep a strict watch over his bees during the season. Swarms may be expected, and an occasional examination of the interior will show the presence or absence of queen cells, an indication whether swarming is intended or not. The removing of all queen cells may at times prevent or delay swarming for a few days, but cannot be depended on. When there is abundance of honey in the hive about to swarm removing a portion of it in many cases prevents swarming.

HONEY GATHERING IN OCTOBER.

I made a visit to Leadhills and the district on the 27th ult., when I was pleased to learn that bees belonging to the persons who reside there had gathered more honey during October than they had done the two previous months. I saw a small third cast belonging to a courier, which rose 3 lbs. only during August and September, but increased 15 lbs. during October; and it was the prettiest super I had witnessed. It was completely sealed out, although empty on the 22nd September. I left reluctantly the Heather, being still in fine bloom, improved and kept in fine condition by the dry weather.

In my answer to "A. E." (page 393) as to how to make mead, I omitted to say that we always infuse a few hops, adding them to the mead while boiling.—A LANARKSHIRE BEE-KEEPER.

SEASONABLE NOTES.

ALL spare frames of empty combs that have been used for extracting or other purposes should now be stored away for use another season. They keep best in a dry airy place, and care should be taken to prevent the wax moth damaging the combs by placing a few lumps of naphthaline in with them. The combs may be packed in boxes, and if they are covered with calico or a similar material which has been sprinkled with carbolic acid, there will be no danger of the moth getting to them. I prefer boxes for storing them that are mouse-proof, as mice are very fond of the combs, and if they once get access, will in a short time destroy a great number of them. Spare combs are useful for so many purposes that a stock ought always to be kept in hand, but only good clean straight combs should be retained, old black combs being melted for the wax. The frames may be used again. Partly filled sections from which the honey has been extracted should be treated in the same manner, as these will make excellent starters for bees early in the season, as sometimes before the honey is coming in freely there is a difficulty in getting the bees to work in supers.

Contracting hives for winter is still done by some bee-keepers by removing all combs not covered by bees, and drawing the division board close up to the remaining frames. For several years I tried experiments in wintering bees, by taking surplus combs from some of my hives and leaving others with the full number in the body of the hive, with the result that the following spring I could not detect any difference in the various stocks, except that some of those which had not been reduced I thought were stronger than the others. I now leave the full number of frames in all my hives, as when one has a number of stocks it means a saving of

labour, and the less the hives are opened, particularly in the spring, the better. If the bees have abundance of stores, and the hive is not opened more than is necessary, there is no danger of chilled brood. I am not an advocate for spreading the brood, which was strongly recommended not many years ago, and still practised by a few bee keepers. This is done by inserting an empty comb between two frames containing brood, repeating the operation every few days. Should a spell of cold weather set in the brood on the outside combs would be chilled, owing to there not being sufficient bees to keep the brood warm. These would die, and be thrown out of the hive by the bees. Thus, instead of the stock increasing in strength, it would in all probability be much weaker than if left alone. I experimented with several stocks, but could never see any advantage from it.

Contrast these hives with others that had the whole of the frames left in the hive from the previous autumn. As the weather became warmer in the spring the cluster of bees gradually expanded, the queen only laying sufficient eggs that the bees could well attend. There need be no opening of hives or escape of heat, which is so necessary during the process of brood-rearing, uncapping a few cells, which can be done without lifting the frames out of the hive. Lift the quilt and give the bees a puff or two of smoke to drive them down. The sealed stores will be near the top of the frames; a few inches may be uncapped with a thin knife, which will be quite sufficient, as the bees will clear away the cappings. If short of stores feed them with thin syrup, and the result will be when the honey flow comes the hive will be crowded with bees, and these will commence to store in supers at once. Weak stocks are useless, far better to unite them. One strong stock is worth half a dozen weak ones.—AN ENGLISH BEE-KEEPER.



* * All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Loquat and Oranges not Fruiting (*Inquirer*).—Excessive root action in too fertile soil promotes an exuberance of growth that is the reverse of conducive to fruitfulness. Root-pruning would arrest such growth, but would not, in the absence of full light for maturing it, of necessity result in fruitfulness. Both the Loquat and Orange trees would be more likely to produce fruit if grown in tubs and placed in a sunny position in the open air in July, unless the structure in which they are grown is very light, in which case the removal would not be necessary.

Irregularly Swelled Pears (*Effingham*).—The fruit is infested with a fungus (*Glæosporium fructigenum*), which first infests the leaves and produces the conidial stage, and finally the fruits on the surface (here and there) of the Pears. The deformation of the fruit is due to the action of the mycelium of the fungus in the tissues of the Pears, which has penetrated to the core of the fruit and destroyed or damaged the seeds. The fruit is very stringy and gritty, due to the action of the tree in secreting silica. The cause of the disease is the fungus, which must have a fitting medium to grow in, and that the grower must avoid if possible. We advise you to have all the dead wood and spurs removed at once, and the live spurs well thinned. This will to some extent strengthen the blossom buds left, which should be so far apart that the hand can be passed between them. Clear away all the leaves when they fall and burn them with the prunings, and return the ashes to the ground beneath the tree, giving a dressing of manure from the stem outwards and a foot beyond the spread of the branches, leaving it there. If manure is not available, use three parts basic slag powder and two parts kainit, mixed, 4 ozs. per square yard, pointing in very lightly. Spray the tree in spring directly the blossom buds show the least indications of swelling with a solution of sulphate of copper, 1 lb. to 25 gallons of water, and at the same time dress the ground with bone superphosphate two parts, and nitrate of soda powdered one part,

using 2 ozs. per square yard. After the fruit is fairly set spray the tree with permanganate of potash (Condy's fluid) diluted with water to a rose colour, repeating when the fruit is a quarter grown. The thing is to destroy the spores of the fungus, or have the foliage and fruit coated with a substance that will kill the germinal tubes of the spores that alight and fix on them. Repeat the spraying, therefore, two or three times, for there is nothing for it but prevention, as remedy there can be none, as the fungus acts internally of the "host"—the fruit.

The Seckle Pear (Hants).—There is, as you say, only one variety of the true Seckle Pear, and whatever changes may have been noticed in the fruit we should attribute to stock or soil influences. It is possible that some other variety may have been supplied as the Seckle by some small trader in trees who had not the genuine variety, and was too weak to admit the fact. At the Chiswick Pear Congress in 1885 forty-five dishes of the Seckle were staged, to which fifteen votes for excellence were awarded. The following citation from the "Fruit Manual" may possibly be of interest to yourself and other readers:—"The following *morceau* of its history may be relied on as authentic, it having been related by the late venerable Bishop White, whose tenacity of memory is well known. About 1765, when the Bishop was a lad, there was a well-known sportsman and cattle dealer in Philadelphia, who was familiarly known as 'Dutch Jacob.' Every season, early in the autumn, on returning from his shooting excursion, Dutch Jacob regaled his neighbours with Pears of an unusually delicious flavour, the secret of whose place of growth, however, he would never satisfy their curiosity by divulging. At length the Holland Land Company, owning a considerable tract south of the city, disposed of it in parcels, and Dutch Jacob then secured the ground on which his favourite Pear tree stood—a fine strip of land near the Delaware. Not long afterwards it became the farm of Mr. Seckle, who introduced this remarkable fruit to public notice, and it received his name."

Skeletonising Leaves (Amateur).—Nearly all leaves may be skeletonised, but some require a longer time than others to become macerated. For instance, the seed vessels of the Winter Cherry, Henbane, and Poppy require a fortnight or three weeks if the weather be hot. Leaves of *Ficus elastica* (Indiarubber Plant) and *Magnolia grandiflora* require several months; leaves of the Tulip Tree, Poplar, and Maple a fortnight; leaves of the Holly and Ivy two or three weeks. Ferns require a long time, and so do the leaves of Beggar's Broom, Butcher's Broom, the Orange, Lemon, and Camellia. Great care must be taken in choosing the leaves, as the smallest speck spoils one. Many more should be placed in the water than are needed, as not more than one in twenty will be perfect. The time required depends on the weather. Beginners examine them too soon. The leaves should be put into soft water in a sunny situation, taking care that they are covered with water. Evergreen leaves may be skeletonised at any time, but deciduous leaves not before the end of June or beginning of July. Seed vessels must be operated upon when nearly ripe. When quite ready for skeletonising put the leaves into boiling water to remove the offensive smell. Remove the scum from the water. Brush off the pulp with a rather hard brush. If the leaves are tender bump them gently, which removes the pulp without disturbing the nerves of the leaves. Pour clean water over them until quite clean; put them on blotting paper to dry—a piece of glass is useful to brush them on. Tender leaves should be floated in water and caught on a card, as are fine Seaweeds. Bleach with chloride of lime, and then wash them thoroughly with clean water, otherwise they become yellow. It is better not to bleach them until required for setting up. Thistles and Teazels look well when bleached, and aid much in arranging a group.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. *Dessert Pears cannot be named in a hard green state.* (R. P. Stafford).—1, Rotten; 2, Louise Bonne of Jersey; 3, Marie Louise; 4, Not known, specimens inferior. (T. H. C.).—1 and 2, Marie Louise; 3, Aston Town. (J. D.).—1 and 4 (apparent difference due to stock influences), Duchesse d'Angoulême; 2, Beurré Superfin; 3, Pitmaston Duchess; 5, Bergamotte Esperen; 6, Josephine de Malines; 7, Gilogil. (C. H. P.).—1, Maréchal de Cour; 2, Belle Julie; 3, Calabasse; 4, Baronne de Mello. (G. N.).—Both fruits invaded with fungus. 1, Possibly Crasanne; the other not recognisable. (W. C. D.).—Apple Manks Codlin. The Pears are entirely too hard for identification. See the conditions above, to send when approaching ripeness. (G. P.).—Apples: 1, Winter Hawthornden; 2, Winter Greening; 3, Local. Pears: 1, A continental variety that cannot be named; 2 and 3, Not known, worthless. (J. E. K.).—1, Court of Wick; 2, Hollandbury; 3, Hawthornden;

4, Swan's Egg; 5, Unknown, worthless; 6, Bess Pool. (W. A.).—1, Beurré Diel; 2, Probably the same variety changed by stock influences; 3, Half rotten, possibly Beurré d'Amanlis; 4, The Pear is infested with fungus. The Apples very closely resemble Norfolk Stone Pippin. (R. H.).—1, Nonesuch; 2, King of the Pippins; 3, Unknown, probably local; 4, Court of Wick; 5, Huyshe's Victoria; 6, Princess of Wales. (R. P. S.).—Unfortunately we have had many more than one or two boxes of Pears without letters in them, or any means of identification. The fruits are now decayed and it is impossible to name them.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (M. G.).—*Croton interruptus.* (G. J. W.).—1, *Cattleya Bowringiana*; 2, *Odontoglossum grande*; 3, *Oncidium Forbesi*; 4, *Cypripedium Spicerianum*. (D. P.).—*Cattleya Loddigesii.* (B. J.).—1, *Trichomanes trichoides*; 2, *Adiantum farleyense*; 3, *Doodia aspera*; 4, *Asplenium bulbiferum*; 5, *Davallia parvula.* (Orchid).—1, *Lycaste Skinneri*; 2, *Cypripedium insigne*; 3, *Pleione præcox.* (S. K.).—*Viburnum Lantana.*

COVENT GARDEN MARKET.—OCTOBER 31ST.

MARKET quiet.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, per half sieve ..	1	6	to	4	6	Lemons, case ..	10	0	to 15 0
" Nova Scotia, per barrel ..	10	0		15	0	Peaches, per doz. ..	0	0	0 0
Grapes, per lb. ..	0	6		1	6	Plums, half sieve ..	0	0	0 0
Cobs, per 100 lbs. ..	22	6		25	0	St. Michael Pines, each ..	2	0	6 0
						Strawberries per lb. ..	0	0	0 0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per lb. ..	0	6	to	0	0	Mustard and Cress, punnet	0	2	to 0 0
Beet, Red, dozen ..	1	0		0	0	Onions, bushel ..	3	6	4 0
Carrots, bunch ..	0	3		0	4	Parsley, dozen bunches ..	2	0	3 0
Cauliflowers, dozen ..	1	6		3	0	Parsnips, dozen ..	1	0	0 6
Celery, bundle ..	1	0		1	3	Potatoes, per cwt. ..	2	0	4 0
Coleworts, dozen bunches ..	2	0		4	0	Salsafy, bundle ..	1	0	1 5
Cucumbers, dozen ..	1	0		2	6	Scorzonera, bundle ..	1	6	0 0
Endive, dozen ..	1	3		1	6	Shallots, per lb. ..	0	3	0 0
Herbs, bunch ..	0	3		0	0	Spinach, bushel ..	1	6	3 0
Leeks, bunch ..	0	2		0	0	Tomatoes, per lb. ..	0	2	0 6
Lettuce, dozen ..	0	9		1	0	Turnips, bunch ..	0	3	0 4
Mushrooms, punnet ..	0	9		1	0				

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	4	0	to	6	0	Maidenhair Fern, dozen bunches ..	4	0	to 6 0
Asparagus Fern, per bunch ..	2	0		3	0	Mignonette, 12 bunches ..	1	0	3 0
Asters (English) doz. bunches ..	4	0		8	0	Orchids, per dozen blooms ..	1	6	12 0
Bouvardias, bunch ..	0	6		1	0	Pelargoniums, 12 bunches ..	6	0	9 0
Carnations, 12 blooms ..	1	6		2	0	Primula (double), dozen sprays ..	0	6	1 0
" doz. bunches ..	9	0		12	0	Pyrethrum, dozen bunches ..	2	0	4 0
Chrysanthemums ..	3	0		9	0	Roses (indoor), dozen ..	0	6	1 0
" doz. blooms ..	2	0		6	0	" (outdoor), doz. bunches ..	6	0	12 0
Cornflowers, doz. bunches ..	2	0		3	0	" Tea, white, dozen ..	0	6	1 6
Dahlias ..	2	0		4	0	" Yellow, dozen ..	2	0	3 0
Eucharis, dozen ..	2	0		4	0	" Safrano (English), doz. ..	1	0	2 0
Gaillardia, dozen bunches ..	1	0		1	6	" Maréchal Niel, doz. ..	3	0	8 0
Gardenias, per dozen ..	2	0		4	0	Smilax, per bunch ..	2	0	3 0
Geranium, scarlet, doz. bunches ..	4	0		6	0	Stephanotis, dozen sprays ..	4	0	6 0
Glaudiolus, dozen sprays ..	1	6		2	0	Tuberose, 12 blooms ..	0	4	0 6
Lilium longiflorum, dozen ..	6	0		9	0				
Marguerites, 12 bunches ..	1	6		3	0				

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen ..	6	0	to	12	0	Ferns, in variety, dozen ..	4	0	to 18 0
Aspidistra, per dozen ..	18	0		36	0	" (small) per hundred ..	4	0	6 0
Aspidistra, specimen plant ..	5	0		10	6	Foliage plants, var., each ..	2	0	10 6
Asters, dozen pots ..	3	0		4	0	Lilium Harrisii, per dozen ..	12	0	24 0
Chrysanthemums, per doz. ..	3	0		6	0	Lycopodiums, per dozen ..	3	0	4 0
" large, per doz. ..	9	0		18	0	Marguerite Daisy, dozen ..	6	0	12 0
Dracæna, various, dozen ..	18	0		42	0	" yellow, doz. pots ..	6	0	10 0
Dracæna viridis, dozen ..	9	0		24	0	Mignonette, per doz. ..	6	0	0 0
Erica, per dozen ..	12	0		15	0	Myrtles, dozen ..	6	0	9 0
Euonymus, var., dozen ..	6	0		18	0	Palms, in var., each ..	1	0	15 0
Evergreens, in var., dozen ..	6	0		24	0	" (specimens) ..	21	0	63 0
Ficus elastica, each ..	1	0		7	0	Primulas, per dozen ..	4	0	6 0
						Solanums, per dozen ..	10	0	12 0



ROUGH PASTURE.

OF all examples of rough or neglected pasture, that which is embossed with ant hills is so conspicuous as to excite a feeling of wonder that what is so literally a growing evil has

been suffered to attain such gigantic proportions. The ant hills are an outcome of the time when corn-growing was so profitable that pasture was on many a farm left practically uncared for, hence the expression of "land out of cultivation," which has so generally been applied to much of the vast area laid down to permanent pasture during the last decade. They are a hindrance to all good practice, and must be swept away. In doing this let the aim be something more than a level surface, and therefore consider how best to render the pasture rich in an abundance of nutritious herbage alike suitable for grazing or hay. Turn the ant hills to account for this purpose by paring them off level with the surface with sharp spades, carting them to one or more heaps in the meadow, where they are chopped up and mixed with a heavy dressing of lime fresh from the kiln. Turn over the heaps two or three times so as to thoroughly mix lime and soil, and the compost will then be ready for use.

In the clearance of the ant hills it is customary to go sufficiently below the surface to leave a slight hollow in order to destroy the whole of the ants. If the ants have worked down much below the common level and are established there in considerable numbers, the plan may be desirable, but not otherwise. We know some pasture so badly infested, and where the ant hills are so large that their clearance will leave a third or more of the surface bare. This cannot be helped, as to pare the turf off the ant hills and lay it down would involve much labour, and a risk of leaving enough ants behind to establish another colony. Clear off the ant hills in the autumn, chop, and mix them with lime, then in February, or early in March, cart the compost upon the pasture, spread it evenly, sow broadcast from 20 to 30 lbs. of permanent pasture grass and Clover seeds, follow at once with a dressing of chemical manure, then well work soil, seed, and manure together with chain or bush harrows, finishing with a turn or two of the light or heavy rollers. Give an eye to the birds, they sometimes swoop down on newly sown grass seeds by thousands, and it is entirely worth while to have a boy out daily to keep them off till the new growth is visible. If the drainage is sound the result should be satisfactory; if it is not sound there never can be really good pasture, so that sooner or later it would have to be seen to, and it would be altogether best to test the land for water now, so as to avoid all risk of having to cut up the improved pasture subsequently for drainage.

In connection with such work we may point out that had the land been prepared for cultivation in the right way at the first, or in what has been aptly termed "the making of the land," its subsequent cropping and management would have been reduced to a delightfully simple and certain process. But it was not so. Those vital fundamentals, drainage and mechanical division of the soil, were practically ignored. Subsequently the importance of under-drainage obtained recognition, but mechanical division never has had the attention which its importance merits. We call especial attention to it now, in view of land being laid down to grass with a crop of spring corn next year. If the land is at all heavy, and is deficient in small stones, a heavy dressing of fine coal ashes, slag, gravel, or burnt clay, well worked in with a cultivator, will so divide its particles as to render it sufficiently porous for the passage of water through it by filtration, and the free circulation of air in it. It is obvious that this is especially important for land going down to permanent pasture, if we would have full benefit from the habit of early or late growth in the different sorts of grass used, as well as full crops. Equally important is it in regard to the effect of manure. With the land porous, open, and warm, manure acts with promptitude and certainty; with the land inert, sodden, and cold manure is practically wasted upon it. These are truisms applicable to every form of soil tillage, and we are hopeful that the full importance of their influence upon pasture

cultivation is gradually obtaining recognition, and that they will come to be so well applied that inferior pasture will eventually be the exception and good pasture the rule, as long and wide experience has assured us it may be.

WORK ON THE HOME FARM.

On a journey from London to Yorkshire, since writing our last note, we were glad to see much farm work going on briskly. Mangolds were being cleared off the land very generally; much autumn tillage appeared to have been well done; the sowing of winter corn was also being done lightly and well, the land being tender, breaking well under the drill and harrows, and covering the seed. Even sowing and a good seed bed are always desirable, as tending to insure a full plant appearing above the surface in regular growth of uniform height. We are now told that Wheat can be sent to this country from the Argentine Republic and sold for 12s. per quarter at a profit. As the Wheat yield in that prolific country is fast increasing, the tendency of prices may still be downwards, and Wheat growing with us seems likely to cease. Certain under present and prospective prices we fail to see how anyone can venture to sow Wheat under ordinary conditions. It is only the home-farmer and the man who has a profitable market for his straw that can make it answer.

Heavy rain and a fast falling temperature has led to cows and young stock being kept in by night, as they will shortly be also by day. Rough store beasts will clear up what pasture growth there is, and cows will now soon be settled in the yards for the winter. Let the winter dietary have careful consideration, and any change made that is wholesome, nutritious, and unlikely to impart taint to the milk. Green Maize has held out well, and second crop Clover has also been in use throughout October. The supply of Cabbage and Kale is more abundant than usual, as the weather has been so exceptionally favourable for such crops all summer. A common fault is not planting them early enough, the result being a small heart and light weight. A well-grown Drum-head should weigh anything from 40 lbs. to 60 lbs., and have a crisp solid heart. A few pounds of such green food is an important addition to the dietary of dairy cows as they are withdrawn from pasture, tending to prevent an immediate run upon roots. Hold over the Kale, using the Cabbage first, with other home-grown food, and keep well in mind now the wants of the herd for the next three or four months.

OUR LETTER BOX.

Renovating Old Pasture (S. C.).—Yes, all the coarse Grasses may be used, with some Perennial Rye Grass and White Dutch Clover. It is too late to do this now. Wait till next March, also see the fifth article on this subject next week.

BARLEY AT THE BREWERS' EXHIBITION.—In the malting Barley competition held in London recently there were no less than 204 entries for the champion prize, open to the world, and Mr. T. Hayward, of Valley Farm, Sudborne, was declared the winner with a fine sample of Webbs' Golden Grain Barley. The same variety secured first and second prize medals in Class 1, open to the United Kingdom, against 124 competitors. Messrs. Webbs' Barleys also took first prize in Class 3, first and third prizes in Class 4, first, second, and third prizes in Class 5, silver cup in Class 6, eleven prize diplomas in Class 7, and four silver cups in Class 8. Messrs. Webb & Sons inform us that this is the sixth year the champion prize has gone to the credit of their Barley.

METEOROLOGICAL OBSERVATIONS.

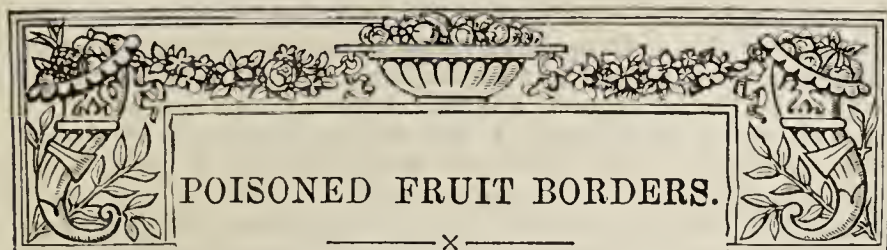
GAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.	
1894. October.		Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.		On Grass.
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday	.. 21	29.464	41.0	42.2	S.W.	47.8	50.0	42.1	75.9	39.0	—
Monday	.. 22	29.809	39.7	37.9	N.E.	46.7	49.2	32.9	61.1	30.1	—
Tuesday	.. 23	30.011	46.6	44.0	E.	45.9	57.1	36.0	61.0	30.9	0.010
Wednesday	24	29.398	56.9	54.3	S.	47.0	59.0	46.4	73.2	43.4	0.738
Thursday	.. 25	29.184	54.6	50.3	S.W.	48.2	59.1	50.4	91.2	44.2	—
Friday	.. 26	29.536	52.7	49.9	W.	48.9	61.7	49.9	91.9	45.0	0.369
Saturday	.. 27	29.257	54.1	51.9	S.W.	49.8	58.0	50.9	85.2	45.2	0.446
		29.523	49.8	47.2		47.8	56.3	44.1	77.1	39.7	1.563.

REMARKS.

- 21st.—Heavy rain from 2 A.M. to 3.30 A.M., and dull and damp till about 9 A.M.; frequent sunshine during day, and fine night.
 22nd.—Fair day, with gleams of sun in afternoon.
 23rd.—Fine and frequently sunny.
 24th.—Dull and damp early; continuous rain from 9.30 A.M. to 1 P.M., then frequent gleams of sun with high wind, but rain again from 2.30 to 3 P.M.
 25th.—Windy and generally sunny. Spots of rain at 9 A.M.
 26th.—Generally sunny till 3 P.M.; showers from 4 P.M., and storm rain from 7 to 7.30 P.M.
 27th.—Dull early; frequent rain from 8.30 A.M. to 2 P.M., and very heavy between 1 and 2 P.M.; generally fair after.
 A wet week, and warmer than the previous one.—G. J. SYMONS.



POISONED FRUIT BORDERS.

AT a time when the thoughts of so many gardeners are largely occupied with the duties connected with Chrysanthemum culture, and when the rich feasts of the "golden flower" which surround them seem to throw bright gleams of sunshine across their path, it is well for them sometimes to spend a few moments in considering their work in other departments to see if they can anticipate, and by so doing avoid, "rocks ahead." Those who are in the habit of housing large numbers of Chrysanthemums in vineries and Peach houses having inside borders must of necessity place their plants rather thickly upon, or on a temporary stage above, the soil in which the Vines or other fruit trees are growing. When the plants are watered the surplus water of course finds its way to the soil below, and as the light and air are to a great extent excluded from this soil it usually gets into rather a sodden condition before the Chrysanthemums are removed.

This wet condition of the soil would not perhaps be productive of any conspicuously evil results if the water used for the Chrysanthemums had been clear, but seeing how highly the plants are fed with chemical and natural fertilisers, the surface soil over a great part of the border must sometimes become so impregnated with powerful manurial constituents as to render it inimical to the multiplication, or, indeed, the preservation, of healthy rootlets. The result of this combination of circumstances is this: many of the fibrous surface roots are destroyed, and the stronger roots near the surface, which under more favourable conditions would send out a multitude of fibres to permeate the upper strata of soil, instead take a downward course, and develop long undesirable roots, which are destitute of those minute feeders which healthy and profitable fruit trees possess. If this sort of thing goes on for a year or two without remedial measures being resorted to, matters become worse—some of these strong roots turn black, and appear quite lifeless on the outside, but if cut through show signs of life in the centre; others become knotted and clubbed, and are quickly attacked by a host of minute insects, which always abound in sour, pasty soil, which cannot be aerated by annual digging or trenching.

The effect of this unsatisfactory state of the roots manifests itself in the top growth. In the case of Peaches or Nectarines, stray shoots, which fail to ripen or set good crops of fruit, are often the first indication of the unsatisfactory state of the roots. After a time the leaves look unhealthy and pale in colour, and some of the lower branches die. Vines also show this unhealthiness in the leaf sometimes, but more often the indications are long-shouldered bunches, which set and colour badly, and frequently shank as well.

I do not mean by the foregoing to infer that it is only when Chrysanthemums have been placed in fruit houses that the unsatisfactory state of affairs above described are apparent, as there comes a time when it is necessary to renovate borders which have received the best of attention, and have been kept entirely free of plants. Under such conditions, however, renovation is less frequently necessary. Since Chrysanthemum growing on an extensive scale has become general many good fruit growers have been considerably puzzled as to the cause of their Vines and Peach trees giving less satisfactory results than formerly, seeing that their general management is precisely the same, but if they consider the suggestions above given, I think in many instances the key to unravel the

mystery will be found. Several years ago the Vines in a house under my charge behaved in the way described, and a neighbouring gardener a few days ago gave me a striking illustration of the effect of the same cause upon his Peach trees.

In dealing with the matter of remedial measures I am not going to suggest that Chrysanthemums ought not to be placed on fruit borders, as I am well aware that in so many gardens no other suitable place can be found for them, and to hint that their culture should therefore be discontinued would arouse the ire of both employer and gardener alike, as both must, and will, have their treasured Chrysanthemums. The matter must be made one of compromise, and there is no doubt that much may be done to remedy the present conditions where they are unsatisfactory, and also to prevent—in a great measure—an occurrence in the future. If head room for the plants can possibly be found, the practice of erecting a temporary stage to arrange the Chrysanthemums upon should always be adopted. This, by allowing a constant circulation of air between the stage and border, does much towards drying and sweetening the surface soil, and moreover is of great benefit to the Chrysanthemums as well. It frequently happens, however, that vineries are low and plants tall, but the general tendency of new varieties to be of dwarf habit is lessening this difficulty every year, and even if the stage can only be raised a few inches above the soil it is vastly better than placing the boards in direct contact with it.

The next point to consider is the best method of sweetening the surface soil and rendering it suitable for the promotion of healthy root action. Much may be done toward the attainment of this object. When the Chrysanthemums are removed an inch or two of the surface soil of the border should then be cleared off and a thin coating of lime (which has been slaked a few days) spread upon it and lightly forked in. This will have the effect of liberating the superabundant gases in the soil, and though a certain amount of plant food will be thus lost, the end in view will be attained; then if a thin coating of fresh loam is placed upon the border, active surface roots may be anticipated the following season, provided of course that the border operated upon was satisfactory, except in regard to the temporary soddening of the surface soil from the causes enumerated. Such measures as these should be taken annually with a view to maintain both borders and roots in good condition. When, however, it is found that the Vines and fruit trees are becoming unsatisfactory, a trench should be cut across the border at the farthest point from where the Vines or fruit trees are planted; then if the soil is pasty and decaying roots are found, nothing short of lifting and relaying them in fresh soil will put the matter right. This should be attended to as soon as it is possible to remove the plants. Many of these when in flower are usually taken to the conservatory, and others are cut for daily use. This will soon lessen the bulk of the plants, and give the opportunity for clearing any house in which the border requires such thorough renovation. Look to it, ye Chrysanthemum growers, that while you are growing your pet flowers to perfection they do not prove a stumbling-block in the way of high-class fruit culture.—VITIS.

CARNATION DISEASES.

I READ all I can on this subject, so I was particularly interested in Mr. Bardney's communication on page 288. Carnations are great favourites here, but unfortunately, of late years, I have had my share of trouble with various diseases, causing me much disappointment. "Rust" in Mrs. Reynolds Hole and Germania, "spot" in Crimson Clove and other varieties, the "brown fungus" in Souvenir de la Malmaisons have all been in evidence. A few years since my plants of the last named were as clean and healthy as possible, and produced blooms as fine as I wish to see, but since the appearance of the fungus known as *Uromyces* I have not had

them even fairly good. I have tried almost everything that has been recommended to destroy the pest, besides making experiments of my own, and once I have cleared out and started with a fresh stock, which was supposed to be clean, but only to have both plants and hopes blighted the following season. Last spring I planted out the whole of my "Malmaisons," and surely there has been enough rain to wash away the spores, to satisfy the most ardent advocate of the syringing system. The plants are, however, in a far worse state at the present time than when they were put out.

For my part, I cannot see how syringing, or any outward application whatever, for the removal or destruction of the spores can stay the progress of the disease when the mycelium is established in the tissue of the host plant. It is as reasonable to suppose that the removal of every Mushroom from a bed while in the "button" stage would prevent the spawn running. I have for some time past had an idea that if we could add something to the soil or water that the plants could take up without injury, say some compound containing sulphur (dissolved bone or sulphate of iron for example), the juices of the plant might be rendered obnoxious to the mycelium. Perhaps Mr. Abbey will tell us if there is a probability of such being the case.

Sometimes Carnations are healthy in the country, particularly near the sea; but very often they are the reverse. I could name places where "Malmaisons" are affected with *Uromyces* and *Crimson Clove* with *Helminthosporium*; but so far as I have observed in Bristol these and other Carnations are, without exception, in robust health. The accounts which have recently appeared in these pages of the Red Braes and other suburban collections confirm me in this. The question naturally arises, Why are Carnations not always healthy in the country while they are invariably so in town? The first answer that presents itself is the continual deposition of soot renders the plants externally, and perhaps internally too, unsuited to the germination of fungi spores. I shall be glad to know what other observers have to say about the health of town-grown Carnations as compared with country grown plants, and if they have found the former are the better to what they attribute the cause.

I fully agree with Mr. Bardney that these fungoid diseases must be traced to some other source than that of the soil. Are not the spores floating in the air like those of other fungi? Then why should they not settle and germinate on the first Carnation plants that come in their way? This appears to me to explain why healthy stocks of Malmaisons which I have known, and in good hands too, have succumbed to this dreaded disease.—T. S., *Henbury Hill*.

LIMITED COLLECTIONS OF FRUIT.

If the action of the Royal Horticultural Society in limiting the collections of fruit shown under its auspices to fifty dishes will lead to higher quality fruit being exhibited then it will do much to advance fruit culture. Exhibitions are at the root of the evil why so many comparatively worthless varieties are grown, especially of Pears. As long as a variety is large and showy that is enough for exhibitors. If exhibitions are to be educational, as they certainly should be, they should not encourage these large, showy, but worthless varieties. Many owners of gardens as well as gardeners visit these exhibitions for acquiring information on the best varieties to plant. They come to a first prize collection, and very likely every name is written down carefully, fruits which happens to be extra large and showy being particularly noticed. What a snare and delusion such exhibits are as followed by planters who require fruits better than sweet Turnips!

On looking over the names in the winning collections at the recent Crystal Palace show, what do I find? Almost the whole lot practically useless from a quality point of view. As long as Mr. So-and-so has secured a first prize, that is enough. Visitors flock around, note-books in hand, and when they arrive home the gardener is informed of the wonderful Pears which have been seen. His own fruits are not to be compared with them. Nurserymen would be only too pleased to see the list pared down. What is wanted is a higher standard of excellence. Judges should know the varieties, and make a rigorous stand against mere size if quality is lacking. It is of no use one man setting his face against it; there must be a combination of all the principal exhibitors, and the Royal Horticultural Society should take the lead. It should be remembered that not only "for market," but fruits which will be appreciated on a gentleman's table should also be considered.

I note that "Fruitman" (page 403) makes mention of the Gloucester Root, Fruit, and Grain Society, which encourages unlimited collections of culinary and dessert Apples, also Pears.

I will mention an instance even at that exhibition, where quality with a limited number of dishes proved victorious over much larger collections. It occurred upwards of a dozen years ago, and I was the exhibitor. I was a stranger to Gloucester and its shows, but wishing to exhibit I made my entries, but was not aware that it was usual for exhibitors to stage unlimited collections. I set up twelve dishes of culinary Apples, eighteen dishes of Pears, and eighteen dishes of dessert Apples. Although my opponents had from eighty to 100 dishes, I was awarded first for Pears and culinary Apples, and second for dessert Apples, a good record I took it against such tremendous odds. It was the high quality of the fruit, especially of the Pears, which gained us the victory. I remember after the judging and the public were admitted one of the officials going up to the Judges (Mr. Coleman was one of them) and asked him if some mistake had not been made? "Why," he said, "look at these large collections." "Yes," replied the Judge, "but the higher quality fruit is in the collection we have placed first."

That is the only instance I remember where a judge had the courage of his opinions, and placed quality before mere bulk and against such a large number of dishes. If some such stand was made generally, worthless varieties would soon be expunged from our gardens and trade lists. I know perfectly well it would not be fair to place poor culture over high culture, even though the varieties were known to be of higher quality. Size, with the fruits well developed for the variety, with high quality combined, is what should be the aim of both cultivators for home use or exhibitions. High quality Pears, when well grown, have a much greater charm, and are far more meritorious from a cultivator's point of view than such huge, worthless kinds as *Beurré Bachelier*, *Beurré Clairgeau*, *Triomphe de Jodoigne*, and many others I could name. A few of the good ones are *Josephine de Malines*, *Winter Nelis*, *Marie Louise*, *Beurré d'Aremberg*, *Emile d'Heyst*, *Doyenné du Comice*, *Glou Morceau*, *Thompson's*, *Beurré Hardy*, *Beurré Superfin*, *Bergamotte Esperen*, and *Marie Benoist*. There are others I could name, but these illustrate my estimate of what a good Pear is.—A. YOUNG.

SEASONABLE HINTS ON FLORISTS' FLOWERS.

AURICULAS.

THERE can be little doubt, I think, from what I have seen in my own small collection and from what I have heard from others, that the cool and moist weather we have experienced, however unfavourable to some descriptions of flowers, has suited the *Auricula* well—that is, where frames have been carefully looked after, and drip has not been allowed to fall upon the pots. The percentage of those which produced autumn trusses has been with me very small, and so I hear it has been with others. There are some varieties such as *Acme* which are more prone to do this than others, and I believe it makes very little difference in this respect whether they are potted early or late. Now is the time for removing all the old leaves as they become sere and yellow. The very mild weather that we are experiencing makes the probability of aphides getting on the plants greater. They should be carefully examined, and if there be any trace of them, where the collection is small they may be brushed off with a soft brush; where this is too tedious a process fumigation may be made use of. Of course, the pots should be carefully examined to see that there is no derangement of the drainage; weeds should be removed, and the surface of the pots gently stirred. During the next two months water must be very sparingly given, not allowing the soil to become dust dry, although some go even to this length. Now will be the time to make any additions of new varieties that may seem to be desirable to have, but in truth there are very few of these; it takes some years even when a good seedling is produced to get up anything like a stock of it, except in the case of selfs, which are much more prolific than the edge varieties, and although we see flowers obtaining first-class certificates and other awards, yet, except in the raiser's hands, they disappear from sight for some years, and sometimes do not reappear.

Many attempts have been made to give us additions to our green edge class. Mr. Simonite's *Rev. F. D. Horner*, which can hardly now be classed as a novelty, has been a valuable addition. *Abtë Lizst* raised by Mr. J. Douglas, is a fine green edge, and should it retain its character, of which there seems every probability, it will be a very valuable addition. This will, I believe, be let out in May by Mr. Douglas, so that it is not yet in commerce. *Talisman*, another of Mr. Simonite's raising, I do not think a great deal of, while of the other flowers which have been exhibited and certificated, as there does not seem to be much probability of their being soon distributed, nothing need be said. In greys we have nothing that has equalled *George Lightbody*, and it seems more

than probable that it will still continue *facile princeps* of this section.

In white edges the best flower of the last few years, Mr. Horner's Magpie, does not seem likely to be distributed just yet, and Woodhead's Mrs. Dodwell is without doubt the best addition to this class that has been made lately. Woodhead's George Rudd and Rachael are sometimes good white edges, but more often occupy that borderland where the edges are not either quite white or quite grey. Since the advent of Mrs. Potts, Heroine, and Black Bess there has been nothing remarkable to chronicle in the class of selfs, although in a batch of seedlings a great proportion of plants are sure to belong to it. With these, and such flowers as Guppin, Pizarro, and Lord of Lorne, a grower may very well be contented to wait for anything better.

CARNATIONS AND PICOTEEES.

My experience with these this year has been somewhat unusual. I grow mine in the open, and I have found great difficulty in getting the grass into a fit condition for layering. The continued rain kept it in a growing and "lishy" state, and it was not until very late that I could complete the layering; the consequence is that I have been obliged to leave a number of the layers attached to the plants until the spring, and the ground is now in so wet and sodden a state that it is almost impossible to do anything. Where they have been grown in pots of course the case is entirely different, but while that mode of cultivation is in many respects preferable I have been obliged from want of time to give it up. Mr. Martin R. Smith was good enough to distribute amongst the members of the National Carnation and Picotee Society some packets of his carefully hybridised seed; of these he sent me twenty seeds. Every seed germinated, and I have now a grand set of most healthy looking plants. It seems to me very doubtful whether I shall be able to make a bed of them this autumn, and if not I must leave them where they have been pricked out until the spring. I think it is by far the safest plan, even when these flowers are grown in the open, to keep them in small pots during the winter. Care should be taken that plants do not become damp, and so spot be engendered, which is the most fatal plague for them. As in the case of Auriculas, they should be kept dry, pots free from weeds, and but little water given during the next two months.—D., Deal.



STANHOPEA RANDI.

THIS very distinct species was sent in alcohol, by E. S. Rand, Esq., Pará, Brazil, who describes it as a very beautiful species, unlike any he has ever seen, and the only Brazilian one he knows which grows above the Amazonian delta. It is obviously allied to *S. eburnea*, Lindl., though the flowers are far smaller, and the fleshy part of the lip, formed by the united hypochil and mesochil, only half as long as in that species. The mouth is also reduced to a small transverse opening, half a line long by two lines broad, while the two horns are erect and situated at the extreme base. The flowers are described as ivory-white, with a faint shade of yellow on the lip, and very sweet-scented, with a perfume like "winter-green." The contraction of the mouth of the hypochil is evidently correlated in some way with the insect which fertilises the flower, as the cavity inside is crowded with small papillæ, which Crueger has shown, in the case of an allied species, to be attractive to bumble bees, though here it is exceptionally well protected against mauraders by the contracted mouth and the two horns at the sides. It would be very interesting to ascertain what insect fertilises it.—("Kew Bulletin.")

STANHOPEA NIGRIPES.

THIS is a very handsome species, allied to *S. Wardi*, Lodd., and *S. Ruckeri*, Lindl., though markedly different in the details of the lip. The sepals and petals are yellow, with many small purple blotches, and the lip and column whitish yellow, with many small purple spots on the base, the epichil, the middle of the column, and lower part of the wings. According to the "Kew Bulletin" the hypochil bears a large, very dark purple black eye-like spot on either side, while the interior of the cavity is almost entirely of the same colour, in allusion to which the name is given. *S. florida*, Rehb. f., is also a near ally, but, besides differences in the lip, the ground colour of the flower is described as white. It was pur-

chased at a sale in 1892, beyond which nothing is known of its origin. It flowered at Kew in August, 1893, and again a year later.

SAPONARIA BOISSIERI.

THE plant from which our engraving (fig. 65) was made flowered in the Alpine house at Kew last July. Not much is known of its history, except, as we are informed, that two specimens were sent over early in the year by Sunderman of Innsbruck, under this name, but how he came possessed of them is not known. Whether it is a garden hybrid or a new species has not yet been determined by English botanists, to whom the specific name is new. It is a very charming plant with bright pure pink petals the flowers in numerous clusters, borne upon prostrate stems. It is more dwarf than the allied *S. ocymoides*, which has been known in the rock garden for many years. Another species is *S. cæspitosa*, which



FIG. 65.—SAPONARIA BOISSIERI.

bears its leaves in dense tufts. The English species is the common Soapwort (*S. officinalis*), found most plentifully in Devon and Cornwall; but also near dwellings in many other parts of Great Britain and Ireland, presumably as an escape from cultivation. *S. vaccaria* is also found occasionally wild in our southern cornfields, brought over from the continent with seed.

RIPENED WOOD.

I DO not purpose taking part in the present contention as to the ripening of wood or otherwise having effect upon fruit crops or the free flowering of shrubs and trees. I would, however, like "Sceptic" to say how it is that trees like *Cupressus Lawsoniana*, for example, are bearing such an exceptionally heavy crop of seed this year if it is not the ripening of the wood so perfectly during last autumn that is responsible? I have just swept up off the path beside one of these trees fully a gallon of seed which the recent gale scattered on the ground below.—E. M.

THAT is a transparent "tale" about the mealy bug that "A Sceptic" tells on page 402 last week. Of course he cannot expect any

reasonable person to believe it is anything else but a peculiar literary touch in his peculiar article, unless he is able to say he has given the name of his nobleman to the Editor. We are at least entitled to that evidence of good faith. Clearly "A Sceptic" is not a gardener, and that will account to some extent for his ripe wood nonsense. If he is a gentleman he will frankly say whether he has sent the Editor the name and address of this nobleman or not.—A GARDENER.

YOUR correspondent's ("A Sceptic") story of Lord So-and-so is an insult to your readers. "A Sceptic" says, "The splendid range of vineries elicited a chorus of admiration from the guests." So far, well; but what I want to know is why "A Sceptic" concludes his rambling letter by saying that this very man, who by his abilities as a cultivator "elicited a chorus of admiration," is sneeringly called an "unsuccessful employé?"—W. CLARK.

THE continual amplification of the word "fudge" by "Sceptic," proves nothing. He does not advance a single substantiated fact in support of his views, nor yet does he even give the vestige of a name for what he would set up in the place of ripened wood. He declares that there is no such thing as ripened wood, and any reference to it he dubs as "hysterical gush." Then he states that wood is efficiently ripened this year, and dares any assertion to the contrary. After this he discovers that it is a difficult problem to solve, whether or not, that there is such a thing as ripened wood and continually "begs the question," for of logical argument we have not a trace from him.

If inconsistency can be carried further, he does not fail us in this respect, when comparing "J. A.'s" valuable article (page 381) with my own, written on popular lines, describing the elaboration of starch, &c. (page 380). After he practically accepts the principles laid down by "J. A.," "Sceptic" rushes blindly upon his fate by a wholesale condemnation of my simple description, wherein there is not a single point advanced by myself but what "J. A.'s" more scientific article covers and verifies, and I venture to affirm that no one will more enjoy the laugh at "Sceptic's" presumption than will "J. A." himself. "Sceptic's" nonsense *re* the "luminous envelope" of the sun is only worthy of the man who takes a dizzy flight beyond the regions of space in search of the law of gravity, and then with "gravity" informing us that the sum total of solar influences *is* gravity; no wonder after this he confounds the actinic properties of light with "solar radiation." I opine the readers of the Journal, along with myself, will decline to be put right in their physiology by "Sceptic" as decidedly as they object to his unripened wood nonsense.

Evidently "Sceptic's" scientific disquisitions are on a par with his practical knowledge, and his sneers at German science and Sach's experiments only emphasise his folly by starting a crusade against a theory which has been thoroughly tested and verified, and will stand long after "Sceptic" has become ashamed of his myth without a name or substance to give to it a shadow of plausibility.

"Sceptic" confesses to fits of disgust, and on the same lines charges me with being indignant at his scepticism. I can safely assert that if ever my feelings rose to the above perfervid condition they would have subsided into quite a different state after reading his precious mealy bug story (page 402), which every sensible reader of the Journal will accept as an insult to his intelligence. It is too obviously paltry to need refutation.—AZOTO.

HOWEVER undesirable it is to repeat previous statements, it appears to be imperative to do so in this case. One locality specially favoured cannot afford the basis for a subject which is at least as broad as the British Isles are wide. My experience, whatever it may be worth, is derived from many seasons and various localities, stretching from "sunny Kent" to "the Land o' Green." "Sceptic" asks, "Will I assert that wood this year is not sufficiently ripened?" Aye, will I! I know it to my cost already, in spite of especial means taken to obtain the benefits of each straggling ray. This reply should have been given last week, but I waited to see what he had to give us this week. Alas! instead of bread, I find he has flung a stone at us in the anecdote of "Lord So-and-so's vineries," but which points no moral, and it is a question whether it adorns a tale.

From a gardener's point of view "Azoto's" article (page 380) appears to cover the whole question, and the scientific matter from the pen of "J. A." should satisfy those desirous of penetrating the secrets of Nature. From the latter "Sceptic" has apparently gathered some crumbs of comfort, but wherein does it differ from the former in substance?

It cannot be but a matter for regret with those interested that "A Sceptic" still withholds a definition of his ideas, but has rather

shown some ingenuity in evading the main points. His line of argument crosses and recrosses in a perplexing manner. One week the "intelligent foreigner" is held up for our edification, the next week to be condemned for "scientific opinions made in Germany." Not only does he attack the whole body of British gardeners, but will "not be surprised" if the teachings of science "are exploded before long." Well, we will wait for the explosion, and only hope that "A Sceptic" will live to build up something better from the *débris* than the too laboured effusion on mealy bugs.—E. K., *Dublin*

PROBABLY never before in the history of fruit growing have so many Pears been produced in England as during the present season. In nurseries and private gardens, subject to exceptions from local causes, trees have been laden, thousands of them much too heavily, with fruit. Markets have been supplied with home-grown Pears in such bountiful prodigality as has never been seen before, and prices have never been so low in consequence.

The maturation of the wood or its storage with nutrient matter, under the influence of the proverbially fine summer and favourable autumn of last year, conducted directly to the formation of fruit buds, and the weather being favourable during the blossoming period, crops set well. Moreover, the Pears having fairly commenced swelling, as well as being materially protected by expanded foliage on the 20th of May, passed through the memorable frost to which Apples, then blossoming or setting, were more fully exposed at a critical time, and the crops were therefore ruined.

Apple blossom was as abundant as Pear blossom, and for the same reason, and Apples would have been as plentiful as Pears this year but for that terrible frost, except in the case of exhausted trees and consequent imperfect blossoms. On healthy and well managed trees the crops would have been as abundant as they were on orchard house trees, of which the wood was exceptionally well matured and the blossoms protected.

After visiting nurseries and fruit gardens in many districts, also adjudicating at various shows, I am satisfied as to the abundance of Pears and the paucity of Apples, also that unripe wood did not *produce* the Pears nor matured wood *prevent* the Apples. Is it not better to recognise facts than to indulge in wholly needless epithets and unworthy insinuations, the usual betrayers of a weak case?—A JUDGE.

JOHN DOWNIE CRAB.

THIS excellent variety is not yet so generally known as its great merits deserve, and so far a knowledge of it is confined more to the Midland counties, of which Staffordshire is a centre. It was raised in the Whittington Nurseries, Lichfield, some few years since by that very much respected old nurseryman, Mr. Holmes, formerly of the well-known firm of Messrs. Fisher & Holmes (now Fisher, Son, and Sibray), Handsworth Nurseries, Sheffield. I saw more than once the original tree in bearing in the nurseries, and was astonished with its beauty as an ornamental fruit bearing tree, with its large acorn-shaped fruit so bright in colour, and so profuse a bearer. The Whittington Nurseries have ceased to exist, and Mr. Holmes has joined the great majority, and at the clearance sales trees were purchased by local nurserymen and private growers, therefore this fine variety is now in the collections of all the leading trade cultivators.

I saw recently two trees in full bearing in the gardens belonging to the Sheriff of Lichfield, and they were truly beautiful objects, loaded with fine fruit and brilliant in colour. Since then I saw trees in full bearing in Mr. White's Nurseries at Worcester, where our leading hardy fruits receive full attention. I draw attention to this variety at this planting season because I think our shrubberies may be made more ornamental and useful by planting the better kinds of Crabs and Damsons instead of the commoner trees so generally used. What can be more beautiful than the old scarlet Siberian Crab when in fruit and richly coloured? Then the fruit of John Downie, which is large and fleshy, makes admirable jam, and is by no means to be despised at dessert.—W. D.

PROGRESS OF GARDENING—IMPROVEMENT OF POTATOES.

IN Mr. Pettigrew's dictum on the "Progress of Gardening," page 397, it seems strange to me that he should lay down the law so adversely as to points of quality appertaining to our present race of Potatoes. His decision caused me to rub my eyes, and to wonder whether my life's work anent the improvement of the noble tuber has been all a myth. Mr. Pettigrew cannot have tasted my improvements in the esculent. I well knew the old Dons, both Early, Striped, and Late, and if Mr. Rintoul was alive to eat and compare them with, let me say briefly Ringleader, Early Regent, and Fiftyfold, three of my seedlings in commerce at the present day, I feel quite a different conclusion would be given from that of Mr. Pettigrew. I will further say that the majority of our English Potatoes *are* up to date, and can take their place for progress, comparatively, with *any* of the other horticultural

productions on which Mr. Pettigrew has so flatteringly, scientifically, and fluently discoursed.

I think I knew all the varieties of auld lang syne long before "the days of the Potato disease." What are left of them can almost be counted upon the fingers of one hand. But the gone and nearly forgotten ones are handed down by cross-breeding; their blood, so to speak, can be found in my seedlings analogous to the pedigree of a British racehorse. This allegory holds good for present day Potatoes, and I shall feel glad to make it known to Mr. Pettigrew that he cannot partake of an English Potato without being directly, or of late years indirectly, beholden to me. I say of "late years," because many people are following in the lead—crossing, unfortunately, my sorts with others indiscriminately for the attainment merely of vulgar size, for show, or otherwise to fill a sack—considerations only for their breeches' pocket, or, as Mr. Pettigrew tritely writes it, "filthy lucre;" Shakespeare called it "trash." That is where I heartily agree with your able correspondent, whose article I have read with the pleasure it created; but where he writes "the only exception," apart from "improvement" in the whole range of horticulture lies in the Potato, I feel he touches, without being aware of it, the good name of—ROBT. FENN.



THE NATIONAL ROSE SOCIETY.—THE TROPHY QUESTION.

I SHOULD have thought your correspondent "W. R. Raillem" (page 412) would hardly give up a discussion on such a poor plea as that of "personality," when in reality there was none. I might with equal reason have said I declined to argue with one who gave an incorrect version of what I had written, even if it be not absolutely correct to call mangled copy of what I wrote "misquotation." I confess to a real disappointment, as I thought "W. R. Raillem" would stand to his guns. It is to be hoped he will reconsider his determination. We are all looking forward to Mr. Mawley's explanation of his analysis. I shall be pleased to see it, as the analysis has always been a puzzle to me.

THE ROSE SEASON OF 1894.

Everything that "D., Deal," writes has a freshness which makes even a subject otherwise trite appear to be almost novel. I therefore read his review of the past season (page 412) with much pleasure.

I would like to refer to a topic or two in that letter. I have been at many shows in 1894 without taking Roses, but acting as a judge, and I think that the custom he decries of employing local judges has not been as much apparent as in other years. I think that the system, although economical, is not advantageous, and with the best intentions to act with absolute impartiality, it is better not to know whose flowers one is judging. The knowledge that a box, in reality slightly inferior to that of another candidate, belongs to a grower of far greater reputation may cause infinite trouble to judges. There were two cases this year that I remember where ignorance of the real position resulted in bliss to, and a right judgment in favour of, the conqueror; but it might have been otherwise with the local knowledge of which "D., Deal," speaks.

I cannot see how dressing Roses is to be done away with. I agree with "D., Deal," that the practice has a tendency to be overdone, and it may become necessary for judges to act with greater stringency; but as an exhibitor my leaning is certainly in favour of some slight dressing being allowed. I think that many Roses require some assistance, although in others the saying about Nature unadorned certainly applies.

My experience of the autumnal blooms of 1894 has oddly enough been the opposite of that of "D., Deal," as I have this October cut some beautiful flowers of Mrs. John Laing, Victor Hugo, Charles Lefebvre, La France, Augustine Guinoisseau, and other Hybrid Perpetuals, as well as many Teas; yesterday (1st November) I cut a good Charles Lefebvre. Only for the deluge of rain which we have had in the last ten days Roses would still be in abundance and of fair quality—a rare experience to me in November.

I thoroughly agree with the remarks on the "dear old garden Roses." They are mostly akin to rubbish when they have to be relegated from the exhibition standard to the inferior position inferentially assigned to them by the National Rose Society as "Garden Roses."—CHARLES J. GRAHAME.

ROSE ANALYSIS.

LET your readers imagine for a moment that after each of the last nine metropolitan exhibitions of the National Rose Society, nearly every prizewinner had sent me all the exhibition labels in his prize stands, and that I have before me over 16,000 of these labels. Then suppose that from this huge pile of labels I picked out all those having La France written on them, and that they amounted to 320. That there were also about 310 A. K. Williams, 280 Marie Baumanns, 220 Madame Cusin, 200 Hon. Edith Giffords, 170 Louis Van Houttes, the same number of Madame Bravys, and so on. Now considering the high positions in the

Rose world occupied by most of the exhibitors who are supposed to have sent me the above mentioned labels, the numerous districts and the variety of soils and situations their flowers represent, to say nothing of the different characters of the past nine Rose seasons, surely under these circumstances I might consider myself provided with splendid materials for framing something like a really trustworthy and practical Rose analysis.

Truth to tell these are the very same materials, although not obtained after the same easy manner, that I now have at my disposal. Moreover, if a table were drawn up placing each Rose according to the total number of times its name had appeared in the prize stands, most of the varieties would arrange themselves practically in the order I have given them in my last analysis.

In the first analysis which appeared in 1886 the actual numbers in which each variety had been shown in the exhibition of that year regulated its place in the tables. After the second year I was, however, able to insert the average number of times the different Roses had been staged at the three preceding shows, and thus year by year the varieties were arranged in their relative positions with increasing accuracy.

At last the time came when I had sufficient evidence to enable me to see that averages calculated after this purely arithmetical fashion, although in the main correct, were in exceptional cases more or less misleading. This brings me to the explanations given last year, which were as follows:—

1, In the first place I found that certain old favourites were being more or less superseded by better and newer sorts of a similar colour, and that by calculating their averages for the whole series of years they were made to occupy and retain higher positions than they were entitled to. For instance, Captain Christy was shown on an average in twenty-seven stands at the first four exhibitions, but in only 12·2 stands at the remaining five shows, consequently the latter average has been given it as better representing its present position among exhibition Roses. I may here add that the only other sorts now on the tables which have been similarly treated, and which show any decided symptoms of decline as exhibition varieties, are Lady Mary Fitzwilliam, Marie Rady, Xavier Olibo, Duchesse de Vallombrosa, Monsieur Noman, and Marguerite de St. Amand; and among the Teas, Etoile de Lyon, Souvenir de Paul Neyron, La Boule d'Or, and Madame H. Jamain. On the contrary, the records of those Roses which have, to a great extent, superseded these declining kinds, are every year being staged in larger numbers, and must therefore receive just the opposite treatment if they are to take their proper places in the analysis. I may instance the premier H.P., Mrs. John Laing, which is given an average for only four years, 45·5. If the average were calculated for the full six years that it is entered on my own tables it would be lowered to 37·3.

2, Abnormal seasons also often play sad havoc with certain sorts, while unduly favouring others. Consequently, when calculating the averages for varieties seriously affected in this way, the number of times they were staged under such exceptional conditions has in fairness to be omitted. Otherwise, as pointed out by "Y. B. A. Z." last year, they would stand either higher or lower than they should. For example, La France was shown on an average in 37·6 stands at eight exhibitions, but in only fourteen stands in 1893. If this adverse record of fourteen were included, and it were given its average for the full nine years, it would come out as 35·0, and consequently instead of being at No. 3 it would find a place just below Ulrich Brunner. On the other hand as an instance of a Rose specially favoured I may name Senateur Vaisse, which was staged in twenty-one stands in 1888, but on an average only seven times at the remaining shows, and never more than eleven times at any one of these. I have therefore estimated its proper average as 7 for eight exhibitions instead of 8·6 for the nine.

3, Then the newer sorts gave some trouble at first, and still continue to do so, but a little consideration showed me that if they were to appear at all in the tables, and they can never, as a rule, expect to compete on anything like equal terms with their more largely grown brethren—the established kinds—they must find places in accordance with their doings at the most recent exhibitions alone. For example, Caroline Testout (1890) was shown in three stands in 1893 and in thirteen in 1891, but the latter value alone is taken as a guide to placing it in the table. With Roses of rather earlier introduction like Ethel Brownlow (1887), an average for two or more years is of course preferable, and wherever the figures warrant it this is given instead. Knowing the disadvantage at which these newer Roses are mostly placed in the tables on account of their youth, I always deal separately with their recent doings in the remarks accompanying each analysis, so that a better idea may be formed of their relative merits.

4, Then again the varying number of Roses tabulated each year was found to have a more or less disturbing influence when comparing the records for the different years. But this difficulty has been easily overcome by calculating all the averages for a show, or rather analysis, of average extent. For instance, the actual figures for A. K. Williams for the nine years are 35, 34, 35, 30, 44, 36, 38, 23, and 33—average 34·2. When corrected they come out as follows: 39, 35, 34, 30, 37, 36, 40, 25, and 32—average 34·2. It will be noticed that correcting the individual averages in this way does not in the least affect the positions accorded the different Roses in the tables.

I can assure your readers that I have done my very best to make all the foregoing explanations as clear as I possibly could; but without the help of the comparative tables I work from it is rather like trying to describe in detail some simple piece of machinery unaided by any

sufficient model or illustration. Setting aside, however, all minor considerations, what I claim for these analyses are—

1, That the materials upon which they are based are the most reliable that have ever been collected together, because they represent the opinions of a large number of rosarians, including all our leading exhibitors as exemplified by their practice and by that alone.

2, That for the treatment of these materials no hard and fast rules whatever have been laid down, the performances of each variety, whether new or old, alone serving as a guide to placing it in the tables. This common sense method is, in my opinion, the only fair and reasonable way to deal with statistics dependent upon so many different influences, if the best and truest results are to be obtained from them.

3, I further claim that the relative positions of a very large majority of the varieties in the tables are there given with greater accuracy than in any other lists of the kind that have as yet appeared.—E. M., *Berkhamsted*.

I CAN hardly understand "E. M.'s" few lines in last week's issue (page 412). It seems to me that I specially selected Margaret Dickson and asked for an explanation of its position; in fact, I should like to see how often it has been exhibited in each year in winning stands since it first found its way into the analysis. I am glad to see that Mr. Grahame mentions this same Rose amongst the seven or eight that he names.

In the analysis this Rose is said to have been exhibited (I hope I am stating rightly, but having lent the number of the Journal I am only writing from memory) twenty-five times this 1894 season. Incidentally Mr. Mawley tells us of the strides it has made, saying it was only exhibited five times in 1893. Well, to my intellect the average of these two years would be fifteen, and I went on to remark that to bring the average up to twenty-five, which, if memory serves me, was its average in this 1894 analysis, it must have been exhibited seventy times in the two previous seasons, a most improbable result at its early introduction. Without the data it is impossible for outsiders to say whether this is an error or not. I only surmised, and sought to have the enigma explained. Surely this was something "definite to answer" (Mr. Mawley says "there was nothing definite to answer.") I know only too well the trouble and labour of such analysis or election, but to be of any use it must approach correctness. Mr. Mawley's own figures led me into the suspicion of error.

I have not a word to say against that gem of my old friend Bennett's raising—Mrs. J. Laing—heading the list. She deserves every praise, and must under any form of election come out near the head; but I think there are several Roses far more exalted than their merits can place them when looking at the best exhibition Roses. In such an analysis a bad season just before these exhibitions on which the analysis depends must of necessity greatly disturb the calculation, and a number of Roses, especially some of the light ones, are certain not to appear on the board, and as a consequence not in print. This does not destroy the interest of such an analysis, and I thank Mr. Mawley and his helpers. If it were carried out over the whole season—a great labour, I grant—through some fifteen or more of the leading exhibitions, it would be far more valuable, and I for one should not be surprised at many alterations in position. I shall be curious—and so, I expect, will others—to see Mr. Mawley's reply as to the Roses named by Mr. Grahame.—Y. B. A. Z.

GRAPE GROWING IN SCOTLAND.

It seems very remarkable that so many fine Grapes are seen of finest quality in the leading fruiterers' shops in our large towns this season, and so many on exhibition tables which could not, with close inspection, be said to be of higher merit than second or third rate. It seems ridiculous to read some reports lauding Grapes as being of great excellence while censors were lamenting their unfitness for exhibition. This has been the case in many of the newspapers where untutored reporters have to take notes. It is some years since we listened to so much untoward criticism as we have this season. The two finest varieties of Grapes (Muscats and Black Hamburgs) have come in for the largest share of severe criticism. There was little the matter with the former except in lack of finish; bunches and berries generally fair, while less than a third of what we have seen at shows have been of the desired golden tint. The latter have been generally small in berry (in many cases lamentably so) loose, and badly coloured.

I think for exhibitions held in August some limit to the lightest weight of bunch should be made for exhibiting purposes. A bunch under 1 lb. with small half-sized berries, though ever so finely coloured, is unfit for the exhibition table. Alicantes have been generally of first-rate appearance, and though only a third-rate Grape is esteemed by many by reason of its easy cultivation. Gros Maroc, though very large in berry, and bunches averaging 3 lbs. on exhibition tables, have been below par generally in colour. This Grape takes capitally in market, is productive, and of easy cultivation; but its tough skin and coarse flavour has caused its eradication in many private gardens of late years. Gros Colman and Lady Downe's have been scarcely represented at any of our large northern exhibitions this year. Though of these I know some of the finest ever seen in Scotland are plentiful in a number of market establishments.

At Clovenfords I hear from visitors (and I also have seen some of the fruit) that the crops are equal to former years, and the quality is of the highest order. Most people who have seen the very remarkable crops which the Vines at that great emporium have produced for many years past are astonished at the vigour of the Vines and excellence of

the fruit. At Kippen the Messrs. Buchanan are rising rapidly as market men. They do their work simply, and with pure soil, and liberal applications of Thomson's manure. I expect to see and hear more of their produce from their 1800 feet of houses.—M. TEMPLE, *Carron, N.B.*

EARLY PEACHES.

It is questionable if the somewhat new Peaches that originated in America will continue to find so much favour in the future as they have done during the past few years. Their greatest recommendation is their remarkable earliness, which enables us to obtain ripe fruit from warm outside walls by the end of June or early in July. In such positions the trees bear good crops of large and very handsome fruit of a fair quality, but when the same varieties are forced early under glass the conditions are altered, and, as a rule, not so satisfactory.

Alexander has been very largely planted in the earliest Peach houses in many private and market gardens, but is being rooted out in many places, as it is an uncertain bearer, much given to casting its buds, and although the fruit is large and handsome the flavour is infinitely inferior to our English varieties that are a week or two later in ripening. This variety is becoming well known to our leading fruiterers, many of them not being anxious to purchase it if other and better flavoured sorts can be obtained. Amsden June and Waterloo may be termed fairly free bearers in the early house, but like the preceding variety the flavour is by no means excellent, and a large fruiterer that I send our surplus Peaches to from the middle of May onwards always gives a lower price for the three varieties named than for such sorts as Dagmar, Crimson Galande, Dymond, Hale's Early, Early York, and Early Silver, all of which are only a week or ten days behind the varieties named first. Under good management the latter half dozen sorts will crop freely and produce large and handsome fruit of a delicious flavour that will always sell at a high price, as purchasers of Peaches are beginning to appreciate good flavour, and are willing to pay a trifle more for the same than for fruit lacking in that desirable element.

There are two more varieties that have never failed to force admirably in the early house—viz., Royal George and Bellegarde. These are not much behind the others in earliness, always bear full crops of large and highly coloured fruit, and have paid me better than any other varieties over a number of years.—FRUITMAN.



EVENTS OF THE WEEK.—During the ensuing week horticulturists will be busy in various parts of the country. The Committees of the Royal Horticultural Society meet at the Drill Hall, James Street, Westminster, on Tuesday the 13th inst., when a special display of Chrysanthemums is expected. On the same day exhibitions open at Kingston, Kidderminster, Plymouth and Farnham, among other places, continuing the following day. Chrysanthemum shows will also be held at Hull, Birmingham, South Shields, York, Hereford, Bristol, and Rugby on the 14th and 15th inst. On the last mentioned day exhibitions will likewise open at Birkenhead and Winchester.

— THE WEATHER IN LONDON.—The past week has again been characterised by changeable weather in the metropolis. Much rain has fallen since publishing our last issue, and the weather has been generally dull. Sunday was fine, however, and Monday opened similarly, but it rained in the afternoon. Tuesday morning was foggy, but it cleared as the day advanced, and on Wednesday the weather was favourable.

— ROYAL HORTICULTURAL SOCIETY.—At the next meeting of this Society, which takes place in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday next the 13th, special prizes are offered for Chrysanthemums, and a large show of these flowers is anticipated. At 3 P.M. a lecture on "Chrysanthemums" will be given by Mr. C. E. Shea, F.R.H.S.

— WE have received the third fasciculus of the *Index Kewensis*, which brings the work down to PSIDIUM. The same care that was bestowed on the earlier portions is manifest in this latter, and the rapidity with which those concerned in its production have worked is worthy of the highest commendation.

— DEATH OF MR. HENRY SIBRAY.—We regret to hear of the death, which occurred on the 24th ult. at his residence, The Hollies, Handsworth, of Mr. Henry Sibray, of the firm of Messrs. Fisher, Son, and Sibray, Handsworth Nurseries. The deceased was fifty-seven

years of age. When only a lad Mr. Sibray joined the firm of Messrs. Fisher, Holmes, & Co., and devoted much painstaking attention to the interests of the firm, subsequently becoming a partner in the business. At one time he was a churchwarden at Handsworth Church, and took an active part in the restoration scheme. He leaves one son, Mr. E. E. Sibray.

— THE ROYAL GARDENERS' ORPHAN FUND.—At a meeting of the Committee held recently the Honorary Secretary presented a cash statement to date which was of a highly satisfactory character, and a resolution was passed authorising the investing in Consols of a further sum of £500. The Chairman announced that Mr. Harry J. Veitch had kindly consented to preside at the next annual summer festival of the Fund.

— ROYAL BOTANIC SOCIETY.—At a recent meeting of the Council of this Society the subject of opening the gardens to the public was considered; but seeing that all students have free admission, as well as all persons seeking information relative to the many vegetable products in connection with the arts, sciences, and manufactures, that others can obtain admission by tickets from Fellows of the Society, and the high rent, rates, and taxes, the Council regretted they could not afford general admission to the public, but that the experiment would be made on one day next season, probably Whit Monday.

— THE "KEW BULLETIN."—We have received a copy of the "Kew Bulletin" for October, and as usual this publication contains much interesting matter. The contents include articles on "Lathyrus Fodder," "Minor Industries," "Decades Kewenses—X," "Madagascar Piassava," "Three New Species of Treculia," "New Orchids—10," "St. Vincent Botanic Station," "Bhabur Grass," "Bulbous Violet in the Himalayas," and various miscellaneous notes.

— GALASHIELS HORTICULTURAL SOCIETY. — At a recent meeting of this Society, Mr. John Thomson, Tweedside Vineries, gave an excellent address on the "Horticultural Outlook." The present-day horticulturist, he said, had many advantages in the present day denied to his predecessor. The structures were much superior in ventilation and heating, and this had greatly improved the produce. Great strides had been made in the methods of culture of all kinds of fruits, flowers, and vegetables, and the varieties had been greatly increased. Horticultural exhibitions were now becoming very common, and much valuable information was usually given and circulated in the gardening journals, so that it was accessible to all interested in it. The usual vote of thanks was accorded Mr. Thomson for his admirable lecture.

— THE WINTER MOTH.—The first specimen of the season made its appearance on the 1st inst., and the male insects are gradually becoming more numerous, but so far no females or pairs have been seen on the trunks of the trees. For five winters I have wanted to prove what we are told, that they fly in pairs over the grease-bands, and although I have seen some thousands of pairs no specimens appeared to be able to fly in such condition. As this theory is, I believe, being circulated by the Board of Agriculture by leaflets I would respectfully ask if any reader can vouch for the accuracy from personal observation? I consider it important to have confirmation or otherwise.—JAS. HAM, *Astwood Bank*.

— CULTIVATION OF VEGETABLES AND FLOWERS IN BERMUDA. —The small colony of the Bermudas or Somers Islands in the North Atlantic (about 600 miles from the coast of the United States) furnishes also an instance how much may be done with small industries. According to the "Kew Bulletin," Bermuda furnishes New York with a large portion of the "Spring Onions" and young Potatoes consumed in that city. It also grows Lily bulbs (*Lilium Harrisii*) for both the United States and Europe, and the value of these exported last year was over £21,000. The best quality of arrowroot is obtained only from Bermuda. Altogether its small industries in 1893 furnished exports to the value of nearly £120,000. These and other particulars are more fully set forth in the annual report published by the Colonial Office (Colonial Reports, No. 105), lately presented to Parliament. The following extract gives the exports:—The principal export to the United Kingdom in 1893 was arrowroot, valued at £989. The principal exports to Canada were Lily bulbs valued at £1,209, and Onions, £956; and to the United States Lily bulbs valued at £21,050, Onions at £59,870, Potatoes £26,622, specie £6000, and cut flowers £1367. The prices obtained for the crops in the season of 1893 were about the same as in the preceding year.

— THE WEATHER IN HERTFORDSHIRE. — Mr. E. Wallis, The Gardens, Hamels Park, Buntingford, Herts, writes:—"The weather here during the past month has been exceptionally dull, being composed of fogs and rain. There was not one real bright day during the whole month; but the temperature has been very even, for Dahlias are still blooming outside. Rain has fallen upon nineteen days during the past month. Maximum in any twenty-four hours was 0·62, on the 28th; minimum in any twenty-four hours 0·01, on the 25th. Total during the whole month 2·56, against 3·07 of 1893."

— THE TOTAL RAINFALL AT ABBOTS LEIGH, HAYWARDS HEATH, SUSSEX, for the past month was 4·33 inches, being 0·38 above the average. The heaviest fall was 1·02 inch on the 30th. Rain fell on nineteen days. The maximum temperature in the shade was 65° on the 11th, the minimum 29° on 17th. Mean maximum, 56·12°; mean minimum, 43·18°; mean temperature, 49·65°, which is 1·39° above the average. A fine, comparatively dry month up to the 20th, the last ten days wet and stormy—3·56 inches falling in that time, and remarkably mild; the mean temperature in shade for the same period being 31·3°. During the storms that prevailed from 24th to 27th the mean temperature was 54°.—R. I.

— THE HESSLE GARDENERS' MUTUAL IMPROVEMENT SOCIETY. —At a recent meeting of this Society, a paper, entitled "Gossips on Plant Life and its Various Forms," was read by Mr. C. Lawton, gardener to Col. Broadley, Welton House. Commencing with the general structure of plants, Mr. Lawton described the germination of seeds and the different classes of plants. At a subsequent meeting a paper on "The Season's Influence upon Horticulture Generally," was read by Mr. P. Leadbetter, gardener to A. Wilson, Esq., Tranby Croft. Mr. Leadbetter arranged his subject under three heads—fruits, flowers, and vegetables, pointing out the effects of the season upon the different subjects, and spoke of the effect the excessive heat and drought of 1893 had upon the different crops of the present season.—F. L. T.

— JAMAICA WALNUT. — Concerning this Walnut Dr. I. Urban, who has made a special study of the Flora of the West Indies, writes to the effect that there are valid differences between the fruits of *Juglans jamaicensis*, *C.D.C.*, and *J. insularis*, *Griseb.* He further expresses his conviction that in this instance, at least, Descourtilz's figure is an original and genuine one. We have not seen fruits of either the Portorico or Cuban Walnut; therefore, we are not in a position to verify Dr. Urban's conclusions; but, as we stated before, judging from the leaves, we can find no character to separate them. Perhaps this notice may be the means of our obtaining more complete material. Mr. Fawcett, the Director of the Public Gardens of Jamaica, who is now in England, intends making a special search for the reputed Jamaica Walnut, which Dr. Urban thinks may still exist, as several other trees have recently been re-discovered, though they had not previously been collected since the time of Browne or Swartz.—("Kew Bulletin.")

— BANANA CULTIVATION IN JAMAICA.—The Banana cultivation in Jamaica, says the "Kew Bulletin," may be cited as a most striking and remarkable instance of how a comparatively "minor industry" may, under suitable encouragement, attain to the rank of a staple product. Twenty-five years ago the value of the Bananas exported from Jamaica was practically nothing. People grew them for their own use but never thought of shipping them. In the year 1892-3 the value of Bananas exported from Jamaica reached over £400,000. It exceeded that of either sugar, rum, coffee, or dye woods. In this case a minor industry of a comparatively unpromising character has been called into existence, and so advanced in value as to overtop old industries carried on for more than a hundred years. Banana cultivation in Jamaica has been of benefit also to other industries. Underneath the shade of the Banana trees numerous plants have been grown likely to increase in the future the exports of Coffee, Cocoa, Oranges, and spices, Not only so, but "ready money" to the extent of nearly £200,000 annually has been circulated amongst small cultivators, who are the chief Banana growers, and their material prosperity and consequently their purchasing power have been increased. Further, land everywhere has enhanced in value, and a larger demand has taken place for cattle, mules, and horses, which are raised on "pens" in the interior. Practically, therefore, all classes of the community have been benefited and the general resources of the Government for public works and other undertakings improved. The foundations of this prosperity in Jamaica were laid mainly by the enlightened efforts of two able Governors (Sir John Peter Grant and Sir Anthony Musgrave), both of whom laboured most consistently for this end for many years.

— MESSRS. SUTTON & SONS' POTATOES.—The Potato disease being very prevalent this year, the Messrs. Sutton & Sons' display of disease-resisting Potatoes at the National Chrysanthemum Society's show which opened at the Royal Aquarium, Westminster, on Tuesday last, was inspected with much interest. Among other varieties introduced by the firm and staged were Windsor Castle, Satisfaction, and Magnum Bonum, which, it is said, have been untouched by the disease. Many other heavy cropping early sorts, valuable as being ready to lift before the disease sets in, were also exhibited, there being twenty-nine varieties arranged in imposing heaps.

— OCTOBER WEATHER IN SOUTH WALES.—The following is a summary of the weather here for the past month. Sunshine, sixty-one hours five minutes; number of sunless days, nine. Number of days on which rain fell, fifteen. Total depth, 8.54 inches. Maximum, 1.99 inch on the 26th; minimum, 0.01 inch on the 11th. The month was very dry till the 22nd, 0.47 inch of rain only having fallen up till then, but from the 23rd to the 26th inclusive, 4.73 inches were registered, and from the 23rd to the 31st, 8.07 inches. Cold easterly winds prevailed until the rain came, since which the wind has been in a westerly direction.—W. MABBOTT, *The Gardens Gwerllwyn House, Glamorgan*.

— BULBOUS VIOLET IN THE HIMALAYAS.—A very interesting addition to the Flora of British India is due to Mr. J. H. Lace, to whose zeal the herbarium at Kew owes many valuable contributions from Baluchistan and the North-western Himalaya. It consists, says the "Kew Bulletin," in the discovery of a curious little bulbous Violet in Bussahir, at an elevation of about 10,500 feet. It is not a new species, and it has even been collected before within the limits of the Flora of British India. It was, however, mixed up by Dr. T. Thomson in the Flora of British India with another species, and so completely lost sight of that it has since been described twice under different names. The specimens referred to above, as gathered within the limits of the Flora of British India, were collected by Griffith, probably in Bhootan, and by Sir Joseph Hooker, near Lachen, in Sikkim, at 12,000 feet. Griffith's locality is not ascertainable with certainty, as the labels belonging to his specimens have evidently been mixed. The plant is called *Viola bulbosa*, and the flowers are said to be white, lower petals striated with purple.

— GREEN STUFFS.—Up to the present everything points to a mild damp winter. In any case the heavy mild rains are not conducive to hardening of the Brassica tribe, and should some severe frosts come presently, as they may, it is feared that green stuffs will suffer materially. The present appearance of every sort or kind is one of great luxuriance. It could hardly be otherwise, seeing that the whole season has been remarkably favourable to growth. Autumn Giant Cauliflowers are both fine and very abundant. Unless a severe check comes these will probably hold out to the end of the month. Then Brussels Sprouts are wonderfully plentiful, though rather looser or coarser yet than last year, but we shall have better sprouts a little later on. Savoy's are all too early, indeed only very late plantings bid fair to be of much use. Then there are numerous White Cabbages and Coleworts, whilst Spinach is abundant and Turnips in great plenty. On the whole there is, for profit, far too much of these things just at present, and market growers would, for that reason, welcome some hard weather that would thus help to send up prices.—A. D.

— SOME SPRING HARDY FOLIAGE PLANTS.—How very little use is made in flower gardens in the spring of real hardy foliage plants. Take for example the golden-tipped Stonecrop, or *Sedum acre aureum*. This is a very beautiful carpeting plant, and may be grown anywhere. The points of the shoots come of a creamy white hue in the late winter and spring, and because of that variegation the plants do not bloom. It will bear transplanting bodily or anyhow else, or even pieces of the shoots broken off and dibbled in thickly soon leads to the formation of a dense carpet. *Sedum glaucum* is also useful for similar purposes. Then there are the variegated Arabises. The most free grower is the silvery albida, which has hairy leaves, and the prettiest and most compact is lucida variegata, which has smooth glossy leafage of a golden hue. This is a capital edging plant, and stands well for two or three years. The golden blotched double Daisies seem now to have very much fallen out of cultivation, and yet they are wonderfully pretty, and a good blotched form of the double red is when in bloom very effective. The golden-tipped Thyme is dwarf, spreading, hardy, and very easily increased. The Golden Balm, too, is very useful, though that is much taller. A very striking plant is the Golden Valerian; this is hardy, its pleasing leafage turning to a rich golden yellow late

in the winter, and remains so for some two or three months. It is a hardy perennial, but useful only in the spring. The blood red leaved Sweet William also may be used as a companion plant. It is hardy, easily raised from seed, and has effective dark coloured foliage that is unusually fine. Seed should be sown the preceding May or June.—A. D.

— EVERGREEN OAKS.—It is stated that in South America among the mountains the Evergreen Oak begins to appear at about 5500 feet, and is found up to the limit of the continuous forest, which is about 10,000 feet. The valuable Cinchona tree, from which Peruvian bark is obtained, has a range of elevation on the mountain slopes running from 4900 to 9500 feet.

— NATIONAL AMATEUR GARDENERS' ASSOCIATION.—At the monthly meeting of this Association, held under the presidency of Mr. T. W. Sanders at the Memorial Hall, Farringdon Street, E.C., on Tuesday last, Mr. Brian Wynne gave an excellent lecture, dealing primarily with gardening and noted horticulturists of the past three decades. There was a fair attendance of members, who appeared to be interested in the many incidents that were mentioned. Chrysanthemums and fruit made a good display at the exhibition held in connection with this meeting, and silver medals were won by Mrs. D. B. Crane of Highgate, and Mr. H. A. Needs, Woking.

— WEATHER IN OCTOBER AT BROUGHTY FERRY.—The first half of the month was pleasant, although we had showers almost daily from the 4th to 13th. On the morning of the 19th there was a keen frost, the thermometer on the grass going down to 19°, indicating 13° of frost, which blackened all tender vegetation; and on the morning of the 23rd 11° of frost was registered. The mean temperature of the month was 45.3°, being 2° below the average of the last twenty years. The rainfall for the month was 3.50 inches, being 0.85 inch above the average of the last twenty years. Rainfall for the ten months of 1894, 26.30 inches, being fully 2 inches above the average for the first ten months of the year.—J. M.

— PHYSALIS ALKEKENGII.—"A. D." (page 404) has done a timely service in praising this plant. It is not, however, the "Cape Gooseberry" but the "Winter Cherry" which is the English name of the plant, which, by the way, the French call *Cerise en Chemise*. The Cape Gooseberry is *P. peruviana* or *P. edulis*, which seems now to be considered only a variety of *peruviana*. "A. D.'s" note reminds me that the new Winter Cherry figured in the *Journal of Horticulture* (page 343) as *P. Alkekengi* Franchetti is in some of your contemporaries described as an annual. *P. Alkekengi* is perennial, and the new variety should also be of perennial habit.—S. ARNOTT. [*Physalis Alkekengi* Franchetti is a perennial.]

— THE WEATHER LAST MONTH.—October was showery all through. There were only five days on which no rain was recorded. We had no frost worth mentioning until the night of the 21st, when 9° were registered, which cleared off Dahlias, Heliotrope, and all tender flowers, also French Beans, and caused a large number of leaves to fall from forest trees. The wind was in a northerly direction nineteen days. Total rainfall was 3.11 inches, which fell on twenty-six days, the greatest daily fall being 0.56 inches on 26th. Barometer—Highest, 30.266 at 9 A.M. on 1st; lowest, 28.784 at 10.45 P.M. on 24th. Temperature—Highest in shade, 63° on 12th; lowest, 23° on 22nd. Mean daily maximum, 54.03°; mean daily minimum, 41.29°. Mean temperature of the month, 47.66°; lowest on grass, 19° on 22nd; highest in sun, 110° on 8th. Mean temperature of earth at 3 feet from surface, 50.93°. Total sunshine, sixty-six hours forty-five minutes. Four days were sunless.—W. H. DIVERS, *The Gardens, Belvoir Castle, Grantham*.

— NOVEMBER PEAS AND "NEW" POTATOES.—I herewith send a few Green Peas picked on the 5th of November for our first shooting party. Having read two years ago in the *Journal of Horticulture* of a Pea named Success as being a good late variety, I secured some seed. I have grown this Pea for two seasons, and can fully testify to its good quality and usefulness as a late variety. I also enclose a sample of new Potatoes from seed harvested the beginning of last May. The weather here has been mild up to this date, with the exception of 2° of frost on two successive nights, the 22nd and 23rd of October.—W. ROBERTS, *Peniarth, Towy*. [We have never seen Peas in November equal to the sample sent. The pods are large, green, and scimitar shaped, most of them containing eight seeds, some nine, and one of them ten peas, green and in excellent cooking condition. The Potatoes resemble samples dug from frames in May.]



CHRYSANTHEMUM SHOWS.

As is usual at this time of the year we have received numerous intimations of Chrysanthemum shows which are to be held during the ensuing season. Space, however, can only be found for mentioning those that have been advertised in our columns up to date, of which the following is a list. We append the names and addresses of the respective secretaries.

- Nov. 13th and 14th.—KINGSTON AND SURBITON.—F. J. Hayward, High Street, Kingston.
- „ 13th and 14th.—KIDDERMINSTER (St. George's Institute).—H. Turley.
- „ 13th and 14th.—PLYMOUTH (West of England).—C. Wilson, 4, North Hill.
- „ 13th and 14th.—FARNEHAM.—F. Weller-Poley, Waverley Abbey, Farnham.
- „ 14th.—READING.—W. L. Walker.
- „ 14th and 15th.—BARNSELY.—W. Earle, 20, Grove Street, Barnsley.
- „ 14th and 15th.—HULL AND EAST RIDING.—E. Harland and J. Dixon, Manor Street, Hull.
- „ 14th and 15th.—BIRMINGHAM.—J. Hughes, High Street, Harborne, Birmingham.
- „ 14th and 15th.—SOUTH SHIELDS AND NORTHERN COUNTIES.—B. Cowan, Harton, South Shields.
- „ 14th and 15th.—HEREFORDSHIRE.—J. Ough, 7, Clifford Street, Hereford.
- „ 14th and 15th.—BRISTOL.—E. G. Cooper.
- „ 14th and 15th.—RUGBY.—William Bryant, 8, Barby Road, Rugby.
- „ 14th, 15th, and 16th.—YORK.—J. Lazenby, 13, Feasgate, York.
- „ 15th.—BIRKENHEAD AND WIRRAL.—W. Bassett, 23, Grove Road, Rock Ferry.
- „ 15th and 16th.—WINCHESTER.—Chaloner Shenton, Westgate Chambers, Winchester.
- „ 16th and 17th.—BOLTON.—James Hicks, Markland Hill Lane, Heaton, Bolton.
- „ 16th and 17th.—CHESTERFIELD.—A. H. Johnson, New Square, Chesterfield.
- „ 16th and 17th.—ECCLES, PATRICROFT, PENDLETON AND DISTRICT.—H. Huber, Hazeldene, Winton, Patricroft.
- „ 16th and 17th.—BRADFORD AND DISTRICT.—H. R. Barraclough, 383, Bowling Old Lane, Bradford.
- „ 16th and 17th.—SHEFFIELD.—W. Houseley, 177, Cemetery Road.
- „ 20th and 21st.—WOKING.—H. W. Robertson, Somerset Villa, Woking.
- „ 20th and 21st.—TWICKENHAM.—Edward F. Green, Lincoln Lodge, East Twickenham.

CHRYSANTHEMUMS AND PAPER COLLARS.

Now that the exhibition season is in progress I trust exhibitors will not continue the practice of staging their blooms with incongruous paper collars under them. I am glad to find that the practice is fast becoming obsolete. Still it does exist, for I saw last season far too many blooms with this foreign accompaniment at a noted Northern show. Twenty years since very few blooms were staged at Liverpool without frill papers. Now there is not one to be seen at this celebrated autumn exhibition.—E. M.

CHRYSANTHEMUM BARON HIRSCH.

THIS is one of the best incurved varieties which have been recently introduced. The plant is a good grower, and produces splendid blooms from both crown and terminal buds. The only fault in the variety that I know of is its earliness; but, unlike most of the chestnut and bronze-coloured kinds, this one keeps fresh for a long time after it is fully opened. A large number of blooms open freely, few indeed being malformed, and it is therefore to be depended on. Where this grand Chrysanthemum is exhibited in its best condition it will run other varieties hard for the position of premier bloom in the show.—G. GARNER.

DISQUALIFIED.

THIS is not a gratifying word to meet the eyes of an exhibitor when entering a show after the judges have made their awards. Such was my case at Kent County Chrysanthemum show on Wednesday, October 31st, and again at Battersea on Friday, November 2nd. In the first instance the

judges had awarded the second prize in the large open class, which contained also the two premier blooms (Japanese and incurved) in the show; but I was disqualified for using 7-inch boards. Now, I will not make any comment upon this, but will ask anyone who saw them if those blooms could have been seen to advantage on a 6-inch board? for most of them were 8-inch blooms. The judges would not disqualify them, but the Committee did. Regulation 8 says, "Exhibitors are requested to have their stands made in accordance with the metropolitan plan," &c. What does this mean? If anyone can unriddle this for me I shall be much obliged.

Then again at Battersea this comforting word was very prominent. In this case it was the judges who had disqualified this. This society is affiliated with the National Chrysanthemum Society, and as the regulations say the boards must be 24 inches long and 18 inches wide, I wrote to the Secretary, and his reply was as follows:—"You may exhibit under exactly the same conditions as prevail in the N.C.S." This I did. My blooms were far superior to any others in the class, and could not have been crowded on a small board. I should really be very glad to know from good authority what I had better do under the circumstances.—W. WELLS, *Earlwood Nurseries, Red Hill*.

SPECIALITIES IN SCHEDULES.

SINCE the article on "Specialities in Schedules" was written by Mr. Molyneux and published on page 409 of our last issue, we have received several notifications, with advertisements, of Chrysanthemum shows to be held in due course. These include the York exhibition, which is to take place on the 14th, 15th, and 16th inst. Some unusually good prizes are offered, and include a £20 added challenge prize, now held by a metropolitan exhibitor; £10 challenge prize, for local exhibitors; £45, and other special prizes, with tolerably substantial prizes in general items. York show has been considered by competent authorities to rank amongst the best in the country. The promoters are the Ancient Society of York Florists, and their efforts are directed to the encouragement, not only of the Chrysanthemum, but all other florists' flowers. It may be mentioned, too, that Sheffield show takes place on the 16th and 17th, Woking and Twickenham on the 20th and 21st inst, and Reading exhibition on the 14th inst.

SINGLE EARLY CHRYSANTHEMUMS.

THE early flowering Chrysanthemums are so valuable and so beautiful in the flower garden that they should receive every encouragement. The perusal of Mr. W. Piercy's article on page 411 induces me to write in favour of a further development of the early Chrysanthemum by the introduction of single varieties. I do not in the least disparage the charming double flowers we have already; these occupy an unassailable position and need no commendation. I think, however, that a class of single flowered varieties will be exceedingly useful, not only in the garden but for cut blooms where lightness of arrangement is a desideratum.

So far I do not know of any early flowering single Chrysanthemums being offered by the trade, and I think raisers of seedlings might direct some of their attention to supplying the want. We have now a large number of late flowering singles, and single Dahlias, single Pyrethrums and others have their admirers. Why not, then, have single early Chrysanthemums which would come into flower, say from July, and be useful for many purposes? Many of the best of our autumn flowering yellow Composites, such as the Sunflowers, are of little use for cut flowers, and we want some blooms of moderate or small size of bright colours to keep us going until the Michaelmas Daisies come into flower. An early flowering Jane or Admiral Sir T. Symonds would always find admirers, and single flowers the size of the Pompons would be exceedingly valuable. I hope some of your readers will give their views on this question when the pressure on your space caused by the shows has been removed. What does Mr. Piercy say to it?—S. ARNOTT.

DULWICH CHRYSANTHEMUM SHOW.

THE first show of this Society was held on November 5th and 6th in the Constitutional Hall, East Dulwich, and was as an initial effort a great success. Groups were decidedly the best feature, but some creditable Japanese blooms were noticeable. Incurved varieties made but a poor display, and this was the case with some other sections. Messrs. J. Peyton, G. Smith, A. M. Falkner, H. Wells, J. Bertenshaw, T. F. Davison, F. Collins, P. Waterer, and C. J. Bennett were the most successful exhibitors. Miscellaneous exhibits were not numerous, and included a handsome group of Chrysanthemums from Mr. Witty, and a good collection of Apples from Messrs. J. Peed & Sons. The success of the show was doubtless largely due to the indefatigable efforts of Mr. A. M. Falkner, the Honorary Secretary.

CHRYSANTHEMUM LOUISE.

WHEN this fine variety was certificated by the National Chrysanthemum Society it was considered to be one of great promise, and it has obviously proved itself to be of some value. Already Louise has found its way into many trade and private collections, and on the 23rd ult. awards of merit were adjudged for it by the Floral Committee of the Royal Horticultural Society. The engraving (fig. 66) which has been reduced from the photograph of a flower cut from Messrs. J. Veitch & Sons' collection at the Royal Exotic Nursery, Chelsea, depicts the character of the flower. The florets are broad, incurving, and of great substance, the bloom being massive in build, of gigantic proportions, yet not coarse when well grown. It is white, tinted blush, in the lower florets. This variety has already figured in several prizewinning stands this year, and it may be regarded as an acquisition to the exhibition Chrysanthemums.

MAIDEN'S BLUSH SPORTING.

WITH regard to the query of "P." in your last issue, page 408, as to whether Maiden's Blush Chrysanthemum had already sported, I may say that it has sported with me, and the sport is now carrying some very fair blooms of a canary yellow colour. This makes the third year of its flowering. I have not sent it out, but have thought of sending a sample to one of our growers to test its value, if any.—F. T.

FLORAL COMMITTEE MEETING—CERTIFICATED CHRYSANTHEMUMS.

THE Floral Committee of the National Chrysanthemum Society held a meeting at the Royal Aquarium yesterday (Wednesday). A large number of members were present, and Mr. W. Herbert Fowler occupied the chair. The exhibits, which were of a high average quality, were numerous, and the principal novelties came from Messrs. Cannell & Sons, W. J. Godfrey, Shea, Ernest Calvat, W. Wells, Edwin Molyneux, Owen, and Jones. First-class certificates were awarded as follows:—

M. Pankoucke.—A very large Japanese with long drooping florets; colour rich golden yellow. Shown by Mr. Dinsmore.

J. Agate.—An incurved variety, very large in size, semi-globular in form, with a fine round tip to the florets; colour white. Staged by Mr. Myers of Hinchbrook.

Wilfrid Marshall.—A Japanese, being very large and globular in form, with grooved florets; colour rich pale canary yellow. Exhibited by Mr. W. J. Godfrey.

Duchess of Wellington.—This is another full sized exhibition Japanese of a yellow shade; the colour is rich; the florets are somewhat incurving and of great length. An exhibitor's bloom, also shown by Mr. Godfrey.

Miss Maggie Blenkiron.—Another very large yellow Japanese of a rich golden hue; in this case the flower is of the incurved type, very solid, and a good show flower. From Mr. C. E. Shea.

Miss Rita Schroeder.—A large Japanese, incurving centre, florets of medium width, pale lilac centre tinted yellow. Shown by Mr. C. E. Shea.

W. G. Newitt.—A fine pure white Japanese, florets long and drooping, a capital bloom for the showboard; staged by Mr. W. Wells.

Florence Carr.—This is a charming little Pompon, very close and compact in form; colour chestnut bronze; raised and exhibited by Mr. W. E. Carr.

C. Curtis.—A large incurved bloom of the old type, but as shown was rather flat. The florets are narrow, very pointed but numerous, making up a large solid flower; colour rich golden yellow; exhibited by Mr. H. J. Jones of Lewisham.

Caledonia.—A fine Anemone. The guard florets are white, slightly incurving, the centre being lilac mauve; raised by Mr. R. Owen, who was the exhibitor.

Owen's Perfection.—This is an Anemone with long guard florets, with a centre of lilac mauve shaded gold. Another from Mr. Owen.

Niveus.—A truly grand novelty from America, and one bound to make its mark. It belongs to the Japanese type, and the colour is the purest paper white. It is deep, compact, and the florets of good width. This came from Mr. H. J. Jones.

The Queen.—Another white Japanese, very large in size, and the blooms solid, florets curly and notched at the tips, and of great length. Shown by Mr. H. J. Jones.

Junon.—As an old show Anemone this promises to take a high place. The colour is delicate pale blush, and the centre high and fine. Also staged by Mr. Jones.

Globe d'Or.—A solid-looking incurve; colour rich bronze buff, with centre rather lighter; outer florets tinged rosy bronze. This came from Messrs. H. Cannell & Sons.

Some excellent varieties nearly secured the coveted distinction of a first-class certificate, and some of the Committee desired to see them on a future occasion. Chief among the varieties passed over must be mentioned Mrs. Chas. Shea, which will probably be the largest white Japanese in existence; a seedling from Condor and Boule d'Or, raised by Mr. C. E. Shea. Ernest Feriers was another fine white Japanese. Calvat, a yellow seedling with a whitish reverse, was also good. Mrs. E. Seward, a short-petalled reflexed Japanese, a charming mingling of deep orange and bronze, was commended. Préfet Robert was also presented again in good form, but without success. Madame O. Mirbeau and Enirlande, both promising Japanese, were also highly thought of. Beauty of Teignmouth, rather a heavier bloom in build than Préfet Robert, was also in good form, but the greatest novelty of the meeting

was undoubtedly Mrs. Walter Butters, raised from seed sent from Japan a curious white Japanese with forked and lacinated florets that aroused much interest.

There were more new Anemone varieties shown at this meeting than we remember seeing for a very long time.

OLDFIELD NURSERIES, ALTRINCHAM.

AT the time of my visit to Messrs. W. Clibran & Sons, Oldfield Nurseries, the Chrysanthemums were scarcely at their best, a week later would have found many more fully developed. The collection is a remarkably fine one, their large show house being 210 feet long and 30 feet wide, and in it were many of the novelties. The first to attract my attention was Wm. Firkins which this firm are distributing for the first time this season. A splendid acquisition it is, being a clear yellow sport from Bouquet des Dames, of high built form and massive substance. Van den Heede was also of enormous size, and Triomphe de St. Laurent is a rich orange yellow of requisite size and depth, which surpasses Golden Wedding. Wilfred Marshall, a glorious lemon yellow of fine form, must be specially noted. Mrs. E. G. Hill is a fine variety recently awarded a certificate of merit. Madame Edouard Rey is one of the best of the pink incurved Japanese, and Mr. R. W. E. Murray is a handsome, high built flower of a rich lemon shade. Thomas Wilkins is a grand chrome yellow, and Sir Edwin Saunders is an extra fine, rich orange, buff flower. President W. R. Smith is pure self pink, fine for cutting or exhibition. Wm. Bolia is a distinct and beautiful flower of great depth and substance, colour bright crimson maroon, suffused with silvery lake. Le Prince du Bois is a fine golden yellow after style of Florence Davis. Other good varieties include Souvenir de Jambon, Mrs. Jno. Eyerman, Edith Rowbottom, Le Drac, Duke of York, Mdlle. Thérèse Rey, Louise, Eda Prass, Charles Davis, Vivian Morel, Wm. Seward, Col. Chase, Jno. Shrimpton, Vicomtesse Hambleton, Mrs. C. H. Payne, M. Pankoucke, Rose Wynne, and Primrose League, all of which were seen in large numbers developing flowers of the highest quality. In addition to the foregoing Messrs. Clibran had some splendid seedlings, of which we shall hear more another season.

The incurved section are alike excellent, Lord Rosebery and Baron Hirsch being strong and promising. Mabel Simpkins and M. P. Martignac must be noted for another season; the former is an immense pure white high built flower, the latter a neat pale coloured yellow, perfect. Anemones, such as John Bunyan and Mdlle. Nathalie Brun, should also be secured. Singles are here a speciality also, but far and away the best I have ever seen are three of their own seedlings—viz., Mr. F. W. Travers, rich dark velvety crimson; Mrs. F. W. Travers, delicate shade of puce, changing to blush; and Mrs. W. J. Crossley, pure white, with narrow circle of rosy pink round disc.—A VISITOR.

EARLSWOOD NURSERIES.

IF anyone is desirous of seeing Chrysanthemums everywhere they had better go to the Earlswood Nurseries of Mr. W. Wells, and assuredly they will be satisfied, for there is practically nothing else to see. There are Chrysanthemums by the thousand, a large houseful of singles here, another of the green-flowered Ethel Amsden there, and last, but not least, a very long span-roofed structure containing plants of varieties, new and old, some grown for trial, others for affording the handsome show flowers for which this grower is so justly celebrated. A curious point in connection with this collection is the few plants of the incurved section that are grown for show purposes, a hundred being about the number, while of Japanese there must be something very nearly approaching two thousand.

All the novelties that can be had find their way to Earlswood in a very short time, and thus the collection is kept right abreast of the times. In addition to these there is always a very great number of seedlings on show just at this season of the year, and thus the interest is much extended. Some of course turn out failures, and are promptly discarded, whilst others which show good points are marked for trial another year, when if they stand the test of a severely critical examination and comparison with standard sorts they are put in commerce, and if not they follow the fate of those previously mentioned, and are consigned to the rubbish heap. That some turn out acquisitions is proved by the variety Frank Wells, which was recently figured in the pages of the Journal.

Time and space being so short at this busy season of the year a very hurried glance over the collection had to suffice, but it was amply sufficient to see some remarkably handsome flowers, and a few of the best will be mentioned, though it is very difficult to know where to make a start, but one cannot go very far astray in placing Souvenir de la Petite Amie at the head of the list, because it is certainly one of the very best. The blooms are solid and of good shape, and this description might quite safely be applied to a large number of those grown here. A grand white variety, with a delicate creamy centre, is W. G. Newitt, which though of only recent introduction has already secured a number of admirers. Another creamy white of merit is Mrs. Jeremiah Colman, and to form a quartet of whites Madame Carnot may be added.

Turning now to brighter colours, we see Chas. Davis in pure yellow and in bronze, equally handsome in either colour; Duke of York, very deep crimson in colour with a silvery reverse, is broad and stout in the floret, and makes a massive incurved Japanese bloom. Col. W. B. Smith everyone knows and most admire; while the hirsute Mrs. Alpheus Hardy still retains its quota of admirers. Of the very dark varieties J. Shrimpton was one of the finest, though it is closely followed by

numerous others. The delicately coloured Viscountess Hambledon is very beautiful, as also is the now extremely popular Mdle. Thérèse Rey. Other varieties include Vivand Morel, Eda Prass, Amos Perry, G. C. Schwabe, W. W. Coles, Golden Beauty, Princess May, and Madame Calvat.

Of the incurved, Baron Hirsch, Mons. R. Bahuant, Madame Darier, Gloria Mundi, Brookleigh Gem, and Empress of India are the best at present in flower, but several others promise remarkably well. The

these flowers are not very frequently seen at our great exhibitions, they usually secure a prominent position when they are staged. This fact is in itself a proof of merit, as from such a comparatively small collection as 1000 plants, this number including all shapes of plants and all sections, it is no small credit to show successfully against growers of 3000 and upwards of plants.

The plants are arranged in two lean-to houses, there being a big bank with a path along the front of each. Standing at the end of

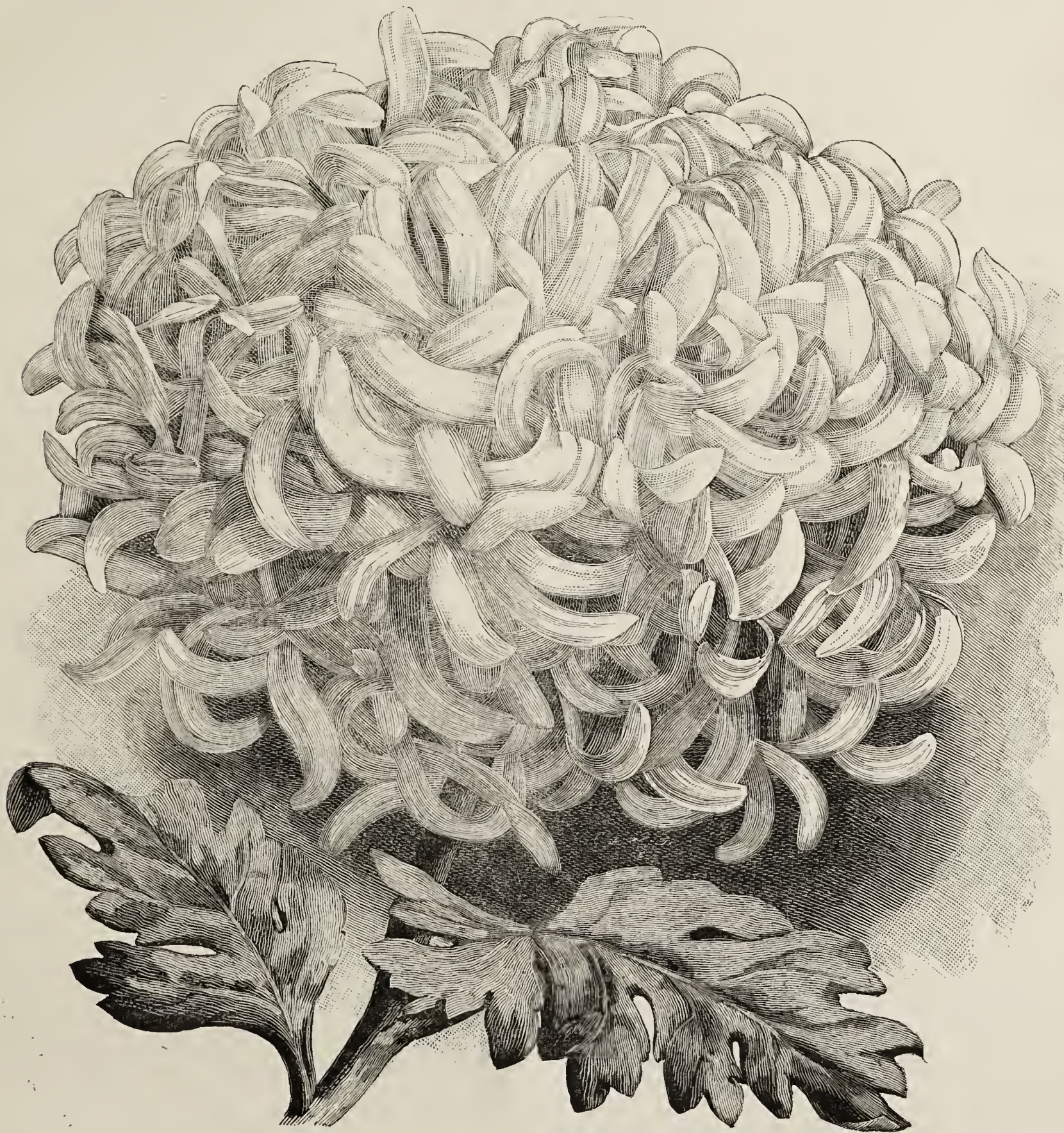


FIG. 66.—CHRYSANTHEMUM LOUISE.

single varieties make a very bright display, and it is somewhat surprising that they are not much more extensively grown than is the case at present. Though this list of sorts is necessarily short more cannot be named, and in its place the advice to go and see them may be tendered to all who may peruse these notes. Mr. Wells will receive them courteously, and they are sure to see much to interest and instruct in an hour or two spent at this home of Chrysanthemums.

WOODHATCH LODGE.

THE names of T. B. Hayward, Esq., and Woodhatch Lodge, Reigate, are usually associated with Orchids, but Chrysanthemums must also be included, for the collection grown is a splendid one, and in the able hands of Mr. C. J. Salter it improves every season. Though blooms of

either of these structures the effect produced is decidedly handsome, the colours having been placed with a view to the best possible effect. Another noticeable feature is the manner of naming in vogue in these gardens, every variety being accorded a clearly printed label, which can be readily seen for some considerable distance, thus obviating the necessity of pushing and craning amongst the plants when it is desired to know the name of any particular sort. This is an example that might well be followed by other gentlemen, if only for their own convenience and that of their visitors, as the interest is by this simple means greatly enhanced without the good effect of the flowers being in the least detracted from.

Contrary to the custom of most growers for exhibition blooms Mr. Salter almost invariably leaves four buds on a plant, and judging by

the flowers now to be seen little, if anything, is lost as regards size and finish, while of course the number of blooms is very materially increased thereby, and this consideration being borne in mind it is a wonder more growers than is at present the case do not, at any rate, give the system a trial. The depth and intensity of the colouration of the flowers at Woodhatch is really wonderful, some of the varieties being so altered as to be almost unrecognisable except under a very close scrutiny. All the plants have grown exceptionally tall this year, but the wood is stout and the foliage firm and green, so that they are none the worse for this, except perhaps for appearance. It is difficult to say which section is the best, both the Japanese and the Anemone flowered being exceptionally fine both in size, colour, and finish. The reflexed kinds follow closely, with the incurved last, though these are well up to the average merit of the season.

As may be imagined, the varieties are very numerous, almost all of the older sorts being splendidly represented. In naming a few of the best in the Japanese section a beginning may be made with Mrs. C. Harman Payne, which is very fine. The blooms are large without being coarse, while the colour is, as with many others, remarkable. Lord Brooke is very beautiful, and the same may well be said of Chas. Davis, J. Shrimpton, Col. W. B. Smith, G. C. Schwabe, Viviani Morel, Etoile de Lyon, Madame Hoste, Miss Anna Hartshorn, W. H. Lincoln, Commandant Blusset, Préfet Robert, and Florence Davis. As has been said, the Anemone-flowered varieties are superb, the form and the size of the flowers being perfect. Nouvelle Alveole, Minnie Chater, Cincinnati, Jean Marty, Sabine, Mrs. Jules Benedict, and Delaware being a septet of the most noticeable.

The incurved section is not so extensive, but many grand flowers and varieties were to be seen, though not of course in nearly such an advanced stage as the sections previously named. Baron Hirsch was in capital form, as also was Jeanne d'Arc. Madame Darier wanted a few days to finish, while Mons. R. Bahuant was going over. Other prominent kinds were Brookleigh Gem, Robert Petfield, and Richard Parker. Mention cannot be made of any particular varieties amongst the reflexed, and it must be sufficient to say that all the leading sorts are grown in splendid form, and with the others produce a display which is in every way a credit to Mr. Salter and everyone concerned in their culture and management.

ROYAL GARDENS, WINDSOR.

LIKE so many other occupants of our gardens and greenhouses, Chrysanthemums are extensively and well grown at these gardens, but not exactly the same as in other places. Here they are made to supply cut flowers from the end of September until February—a period of five months; whereas in others they may be said to be practically over in about two months. Nor are the plants all grown on one system. Some are grown for affording large blooms, others for affording masses of flowers for cutting, for which latter purpose a few especially suitable varieties only are grown. This time of five months may appear to some readers a very long one in which to have a constant supply of these most popular flowers; but it must be borne in mind that upwards of 5000 plants are grown, and these being divided into sections of early, midseason, and late, the time, it will be readily acknowledged, may be covered.

As one might very naturally expect from such an extensive collection, all the leading varieties are cultivated and the latest introductions added if their merits render them worthy a place. Not that the older kinds are neglected or entirely discarded, for large numbers of tried favourites are to be seen, and very handsome some of them look, even amongst the beauties of the last season or two. Of course the best and most complete display of large blooms is to be seen just now, the larger proportion of the early flowering kinds being quite over, while the later ones are only just in bud, and will not be required for several weeks. Some of the plants are in cold houses, others in warm ones, according as they are desired to flower. The large conservatory is at present gay with them, while other span-roofed structures are entirely given up to them. The vineries, too, are called into use, and thus it will be seen that Chrysanthemums of various sizes, shapes, and colours are to be found almost everywhere.

For Christmas flowering Mr. O. Thomas, the talented gardener, pins his faith on two varieties only. Hinde's White is one and Golden Gem the other, both telling their colour by their names. Several scores of these are grown as bush plants, and are now covered with buds which will afford hundreds of flowers at the required time. Another kind grown on this system is Harvest Queen, of which the cuttings are rooted in 3-inch pots during the early part of June. The plants are pinched once, allowed to break, then placed in 6-inch pots and kept growing without a check. So grown thousands of flowers are produced which for decorative purposes are of the utmost value.

Having mentioned, if only briefly, the plants grown for small flowers in large numbers, attention may now be directed to those cultivated for large blooms in smaller numbers. These number about 3000, and are in splendid health, carrying, in many instances, large and perfectly formed flowers. As has been said, the collection is kept quite up to date, as is proved by the appearance of Hairy Wonder, of which some very fine blooms are just now open, and Colonel Chase, creamy centre, with rose coloured outer florets, both of which cannot yet be seen in many good collections. Though Vice-President Darquier has somewhat flat blooms the size is good, and the colour, rosy pink, is sure to be admired. A trio in grand form are Edwin Molyneux, William Tricker, and William Seward, each of which is worthy of a place in all collec-

tions. The bright yellow W. H. Lincoln was very conspicuous, as also was the chastely beautiful Mdle. Thérèse Ray. Pearl Beauty, ivory white, may become popular, but the flower is not such as to claim universal admiration.

A plant of Mrs. C. Harman Payne, carrying seven flowers, each of good size, at once arrests notice, as do several others, such as Charles Davis, Viviani Morel, Alberic Lunden, Coronet, Mrs. E. W. Clarke, Etoile de Lyon, Miss Anna Hartshorn, Sarah Owen, Miss Dorothea Shea, and Mdle. Lacroix. A favourite variety of Mr. Thomas is Duchess of Devonshire, which has dark rose coloured narrow florets. Placed here and there among the more massive kinds it is very charming, and should be more extensively grown. Gaspard Rozain is a charming variety with good flowers, which are first rosy and shade off to pure white. The incurved, reflexed, and Anemone-flowered section receive the same excellent attention as is accorded to the Japanese, but they are not grown in such large numbers, not being found to meet so much favour, or to be of such general utility. Space will not allow mention to be made of more, and it but remains to say that the Chrysanthemums are in every way worthy of Mr. Thomas and their Royal home.

CHRYSANTHEMUM SHOWS.

LIVERPOOL.—NOVEMBER 7TH AND 8TH.

NOTWITHSTANDING the early date a very fine show was opened yesterday (Wednesday) in St. George's Hall, Liverpool. The Japanese cut blooms were very fine, incurved not quite so good. There was also a grand display of fruit.

In the class for twenty-four Japanese and twenty-four incurved blooms, Mr. Forbes, gardener to Alfred Holt, Esq., Crofton, Aigburth, was first, thus winning £10. Second, Mr. Haigh, gardener to W. H. Tate, Esq., Highfield, Woolton; third, Mr. Jellicoe, gardener to F. H. Gossage, Esq., Camp Hill, Woolton; fourth, Mr. Edwards, gardener to Henry Tate, Esq., jun., Allerton Beeches. For thirty-six blooms Mr. H. Howard, gardener to A. S. Mather, Esq., Woolton, was first; Mr. Wharton, gardener to J. Findlay, Esq., Sefton Park, second; and Mr. Pinnington, gardener to Mrs. Banner, Blacklow House, Roby, third.

The first prize for eighteen Japanese blooms was won by Mr. W. Muchlme, gardener to A. S. McLeod, Esq., Windmere. Mr. G. Dutton was first for eighteen incurved blooms. For six dishes of fruit, Mr. Elsworthy, gardener to A. R. Gladstone, Esq., Court Hey, Roby, was first. We shall publish a detailed report of this show in our next issue.

HIGHGATE.—NOVEMBER 1ST AND 2ND.

FOR some years past the Highgate and District Chrysanthemum Society has annually provided a good exhibition, and that which was held in the Northfield Hall, Highgate, on the above dates was no exception to the rule. As usual, the building was crowded with exhibits, so much so that it would have been better had a little more space been at disposal. Cut blooms formed the principal feature of the show, and these were admirably represented, considering that most of the exhibitors were local growers. Groups and trained plants, both in the gardeners' and amateurs' sections, were equal to those seen at any similar displays. Mr. W. E. Boyce is the Secretary, and being assisted by an efficient Committee, the arrangements at the show were as complete as they could possibly be for a local society.

In the division open to members of the Society the principal class was for twenty-four Japanese blooms in distinct varieties. There were apparently only two competitors here, but Mr. E. Rowbottom, gardener to H. R. Williams, Esq., The Priory, Hornsey, was an easy first. This exhibitor had a fine even stand of good blooms, well arranged as regards colour. The varieties were Mdle. Marie Hoste, Charles Shrimpton, Mdle. Thérèse Ray, Préfet Robert (very fine), Avalanche, Mons. Panckouke (good), G. C. Schwabe, Col. W. B. Smith, Marquise de Paris, Stanstead White, Louise (grand), Gloire du Rocher, President Borel, Madame Isaacs, Sunflower (excellent), Miss Anna Hartshorn, Mrs. F. Jameson, Mrs. W. H. Fowler, Mrs. Dr. Ward, Violetta (a beautiful flower), Etoile de Lyon, W. Seward, and Viscountess Hambleton. Mr. J. Sandford, gardener to G. W. Wright-Ingle Esq., Wood House, North Finchley, was second with smaller but neat flowers, amongst which Avalanche, Chas. Davis, Gloire du Rocher, and President Borel were specially noteworthy.

Numerous special prizes were offered by patrons of this Society, and the exhibits these brought forth assisted materially to crowd the room. The chief class in this section was for thirty-six distinct blooms, half to be Japanese and the remainder incurved. Mr. W. J. Burch, gardener to J. Smith, Esq., Mill Hill, won with a stand of excellent flowers. The Japanese were Primrose League, Mrs. E. W. Clarke, Avalanche, Charles Davis, C. Shrimpton, Sunflower, Mrs. C. H. Payne, Eda Prass, Excelsior, Princess Victoria, J. Shrimpton, Mdle. Thérèse Ray (very fine), Edith Rowbottom, Louise, The Tribune, Viviani Morel (grand), President Borel, and W. Tricker. The incurved flowers were of a good size and depth, and comprised John Lambert, Jeanne d'Arc, Lady Dorothy, Alfred Lynne, Baron Hirsch, Mrs. Heale, Empress of India (very large), Novelty, Madame Darier, John Doughty, Golden Empress, Lord Wolseley, Lord Alcester, John Salter, Princess of Teck, Mons. R. Bahuant, Miss M. A. Haggas, and Hero of Stoke Newington. Mr. E. Rowbottom was a good second with excellent flowers.

The incurved blooms made a good display, there being many stands of them on the tables. For a dozen blooms in six varieties Mr. J. H. Walker was first, showing Madame Darier, Prince Alfred, Baron Hirsch,

Jeanne d'Arc, Brookleigh Gem, and Mons. R. Bahuant in splendid condition. Mr. H. A. Page, gardener to J. Crisp, Esq., White House, New Southgate, was second, and Mr. J. Sandford third. Mr. W. J. Burch secured the premier award in a class for a dozen incurved blooms, distinct, the best of these being Baron Hirsch, Prince Alfred, Mrs. S. Coleman, Empress of India, John Lambert, and Lord Alcester. Mr. H. A. Page was second, and Mr. E. Rowbottom third. Mr. J. M. Hayler won the first prize for six blooms of any one incurved variety, showing Jeanne d'Arc. Mr. J. H. Walker was second with Madame Darier, and Mr. H. A. Page third with Jeanne d'Arc.

Mr. E. Rowbottom won the first prize for twelve bunches of Chrysanthemums arranged with Ferns and other foliage. Mr. S. J. Cook, gardener to J. H. Hartridge, Esq., Holmewood, Hendon, was second. Pompon varieties were well shown by Mr. J. L. Turk, who secured the first prize for thirty-six bunches. Mr. J. Sandford won in the class for twelve Anemone blooms, the second and third prizes going to Messrs. S. J. Cook and Mr. A. Page, both showing well.

Trained plants are always well staged at this show, and the first prize for six specimens of large-flowering kinds went to Mr. J. Brookes. Mr. H. Eason, gardener to B. Noakes, Esq., North Hill, Highgate, was second. The last named exhibitor was first for six trained Pompon plants, and the second award went to Mr. J. Brookes, both staging good specimens. Groups of plants were not numerous, and Mr. J. Brookes won in the open section with plants carrying large flowers. Bouquets and baskets of flowers were also well shown, the same applying to table plants, fruit, and vegetables.

Miscellaneous exhibits included a group of plants sent by Messrs. B. S. Williams & Sons, Upper Holloway, and some plants from Messrs. W. Cutbush & Sons, Highgate. Messrs. W. Hunt & Sons, Highgate, had a collection of fruit, and Messrs. Pearce & Heatley, Holloway Road, models of greenhouses and heating apparatus.

BATTERSEA.—NOVEMBER 2ND AND 3RD.

THE fourth annual show of the Battersea and District Society was held in the New Town Hall, Lavender Hill, and was an unqualified success. For the first time since its establishment the Society provided open classes and offered really good prizes. The show is primarily, of course, an amateur's one, but the classes mentioned brought some handsome flowers and plants, though the number of competitors was not so large as might have been wished and expected. Perhaps next year there will be a material improvement, at any rate it is to be hoped so, as the Society is worthy of much support, not only from growers within the district, but also from those residing in more distant parts. The number of open classes was four, and we append the prizewinners in these, space not permitting of our doing so in the amateurs' division which was far more extensive.

The principal class was for thirty-six Japanese, in not less than eighteen distinct varieties, and the competition was very keen. The premier position was accorded to Mr. C. Payne, Bickley, Kent, who arranged a highly creditable stand, comprising Mdle. Marie Hoste (2), Duke of York (2), Sunflower (2), Mrs. C. Harman Payne (2), Mons. Panckoucke (2), Mrs. E. W. Clarke, Viviani Morel (2), Avalanche (2), Etoile de Lyon, Mrs. Falconer Jameson (2), Thomas Dennis, Charles Davis (2), Préfet Robert, Mdle. Thérèse Rey, William Tricker, Colonel W. B. Smith (2), Stanstead White, Excelsior, Louise (2), Edwin Molyneux, W. H. Lincoln, Souvenir de la Petite Amie, Kentish Yellow, and President Borel (2). Mr. G. Wythes, The Gardens, Sion House, Brentford, was second, with a fair stand, the best blooms in which were William Seward, Mdle. Marie Hoste, Mrs. Falconer Jameson, W. H. Lincoln, Colonel W. B. Smith, and Avalanche. Mr. T. Osman, The Gardens, Ottershaw Park, Chertsey, was a fair third. It was unfortunate that, through a misunderstanding, Mr. W. Wells, Earlswood Nurseries, Red Hill, exceeded the regulation size of stands, and could, therefore, only be accorded a special prize. In point of merit the blooms were far superior to any others staged in the show, and doubtless Mr. Wells will bear the misadventure in mind when sending next year. His stand comprised Charles Davis, W. H. Lincoln, William Seward, Mrs. E. W. Clarke, Vice-President Calvat, Eda Prass, Colonel W. B. Smith, Etoile de Lyon, Princess May, Alice Seward, Amos Perry, Duke of York, Cleopatra, Miss Dorothy Franklin, Mdle. Thérèse Rey, Viviani Morel, Mrs. A. G. Hubbuck, W. H. Lincoln, Mrs. S. Coleman, Mrs. C. W. Wheeler, C. Shrimpton, Colonel Chase, Golden Beauty, W. Seward, Sunflower, President Borel, and Mrs. C. Harman Payne. Some of those were in duplicate, but the stand was a superb one.

In the class for twelve distinct incurved blooms, Mr. A. Rope, gardener to Mrs. Coles, Elmfield Gardens, Streatham, was first, and Mr. T. Osman second. The premier stand comprised Nil Desperandum, Mons. R. Bahuant, Golden Empress, Prince Alfred (2), Mrs. Heale, Lord Wolseley, Violet Tomlin, Jardin des Plantes, Lord Alcester, Queen of England, and Beauty of Hull. The blooms were rather small, but as a rule well finished.

For twelve Japanese, distinct, Mr. T. Osman was a good first with Col. W. B. Smith, Alberic Lunden, Avalanche, W. H. Lincoln, Gloire du Rocher, Charles Davis, Utopia, Mons. C. Audiguier, Sunflower, Sarah Owen, Excelsior, and Viviani Morel. Mr. Ashby, The Chestnuts, Leigham Court Road, Streatham, was a fair second, and Mr. A. Rope a poor third.

The amateurs' classes brought very keen competition, and a large number of exhibitors. Considering the very limited space at the disposal of most of the members, and the impure atmosphere, the flowers shown were in every way excellent, and the greatest credit is reflected

on all concerned in their culture. Groups were a great feature, and that of Mr. Bolton, which gained the first prize and the tradesmen's cup, was in all respects good, the plants being dwarf, well covered with foliage, and the flowers of fair size and capital shape. Mr. Herman Kloss staged some splendid examples in the cut bloom classes, as also, in fact, did many others.

The non-competitive exhibits formed a very fine display, and undoubtedly enhanced the good effect of the whole. Mr. R. Neal, Wandsworth Common, sent Palms and other plants which were arranged on the platform, and also a small but interesting collection of Apples and Pears. Mr. Fischer, Clapham, sent a group of foliage plants, including Palms, Dracenas and others, all capitally grown. Cut flowers also came from the same source. Mr. N. Davis, Camberwell, arranged an imposing collection of Chrysanthemums in pots, and Mr. A. Larke, Kensington, showed some tastefully arranged epergnes of Chrysanthemums and autumn foliage. Mr. W. Welsford, South Lambeth, S.E., staged a group of well grown Chrysanthemums in pots. Besides those mentioned there were other exhibits, but these will suffice to prove that the show was an extensive and highly attractive one, and it is hoped that it would prove as great a financial as it is floral success. A word of praise is due to Mr. J. O. Langrish, Honorary Secretary, Mr. Charman, and other members of the Committee for the admirable manner in which all the arrangements were carried out.

CRYSTAL PALACE.—NOVEMBER 2ND AND 3RD.

THE exhibition of Chrysanthemums held annually at the Crystal Palace is usually regarded as one of the finest in the south of England, and so far as the blooms were concerned, that which took place on the above dates fulfilled the expectations of the most enthusiastic exhibitors. Some spare tabling was noticeable, consequent on several of the classes not being well filled, but the cause of this may be traced to the lateness of the flowers in many collections. Even in the stands that were forthcoming it could plainly be seen that numerous blooms required a few more days to develop, and it was quite as apparent that many had been subjected to a little forcing in order to bring them to a suitable condition for exhibiting. Regarded as a whole, however, the blooms were of excellent quality, the Japanese being perhaps better than the incurved. Some of the former were rather deficient in size, but generally good in colour and form. With the exception of two or three stands the incurved flowers, too, were flat, and needed finish, but the Anemone-flowered varieties were splendid. It is seldom that such fine blooms of this section are staged, and several of the classes were well filled. The groups were not numerous, but equal to those seen on previous occasions, the one arranged by Mr. W. Wells being deserving of special mention. This was a pleasing departure from the orthodox method, and one which should be more frequently seen. Trained plants were not so fine as we have seen them, and the entries in these classes were not particularly numerous. Collectively, however, the Chrysanthemums made a fine display, and the arrangements were, as usual, admirably carried out by Mr. W. G. Head, the garden superintendent.

The principal class of the show was for forty-eight blooms, twenty-four incurved and twenty-four Japanese, not less than eighteen varieties to be staged of each. Five stands were staged, and Mr. N. Molyneux, gardener to J. Carpenter Garnier, Esq., Rookbury Park, Wickham, Hants, was placed first. His blooms were remarkably fresh, well coloured, and of fine substance. The incurved exhibited were Lord Alcester, Mons. R. Bahuant (2), Empress of India, Queen of England (2), Baron Hirsch, John Lambert (2), Amie Hoste, Novelty (2), Robert Petfield (2), Princess of Wales (2), Beauty, Alfred Lync, Lord Wolseley, Brookleigh Gem, White Venus, Princess Beatrice, Lucy Kendal, and Madame Darier. Japanese: International (2), President Borel, Madame Chas. Molin (2), Edwin Molyneux, Amos Perry, Mrs. C. Harman Payne (2), Chas. Davis (2), Mdle. Marie Hoste, Alberic Lunden, G. W. Childs, Viviani Morel, Madame Chas. Capitaut, Souvenir de la Petite Amie (2), Mons. Panckoucke (2), Eda Prass, Colonel W. B. Smith, Louise, and Etoile de Lyon. Mr. W. H. Lees, gardener to F. A. Bevan, Esq., Trent Park, New Barnet, was deservedly accorded the second position with a highly creditable stand. His best Japanese were Duke of York, Madame J. Beylie, Sunflower, Mons. A. Giroud, Mrs. W. H. Lees, Etoile de Lyon, Avalanche, and Mrs. C. Harman Payne, all of which were splendidly coloured. Amongst the incurved Miss Violet Tomlin, Queen of England, Brookleigh Gem, Mrs. S. Coleman, and John Lambert were the most noticeable. Mr. C. J. Salter, gardener to T. B. Haywood, Esq., Woodhatch Lodge, Reigate, was a fair third, many of his blooms lacking substance, though exceptionally fine in colour. His best Japanese were Mrs. C. Harman Payne, Viviani Morel, Avalanche, Mdle. Marie Hoste, Louise, Duke of York, and Miss Anna Hartshorn. Of the incurved in this exhibit Baron Hirsch, Madame Darier, Brookleigh Gem, Lord Wolseley, Lord Alcester, and Alfred Salter were the most noticeable.

In the class for eighteen incurved, distinct varieties, there were five competitors. Mr. Thos. Robinson, gardener to W. Lawrence, Esq., Elsfeld House, Hollingbourne, was placed first with a stand of even, well-finished blooms, only a few of which were up to first-class form for size. The varieties represented were Bronze Queen, John Lambert, Mrs. Heale, Lucy Kendall, Jeanne d'Arc, Mrs. S. Coleman, Empress of India, Lord Wolseley, Lord Alcester, Queen of England, Miss M. A. Haggas, Prince Alfred, Madame Nante, John Salter, Brookleigh Gem, Camille Flammarion, Madame Darier, and White Venus. Mr. Jupp, gardener to G. Boulton, Esq., Torfield, Upperton, Eastbourne, was a fair second, his best blooms being Princess of Wales, Mons. R. Bahuant,

Brookleigh Gem, Lady Hardinge, and Lord Alcester. Mr. W. Lees, gardener to F. A. Bevan, Esq., Trent Park, New Barnet, was third. Miss M. A. Haggis, Princess of Wales, Violet Tomlin, and Madame Darrier were the best blooms staged.

Mr. W. Collins, gardener to J. W. Carlisle, Esq., Ponsbourne Park, Hertford, was accorded the premier position in the class for twelve distinct incurved with Emily Dale, Mons. R. Bahuant, Queen of England, John Doughty, Violet Tomlin, Lord Alcester, Madame Darier, Prince Alfred, Miss M. A. Haggis, Princess Beatrice, Mrs. Heale and Baron Hirsch, each of which were shown in fair condition. Mr. A. Jones, gardener to Miss Wyburn, Hadley Manor, Barnet, was second with Empress of India, John Doughty, Queen of England and Violet Tomlin as his best. Mr. W. E. Tidy, Brockhampton Nurseries, Havant, was third with Baron Hirsch, Violet Tomlin and Lord Wolesley in good form. There were eight competitors in this class. Nine stands were staged in the class for six incurved blooms of any one variety, Mr. W. Jupp being placed first with even, well finished examples of Jeanne d'Arc; Mr. M. E. Mills, gardener to F. Lloyd, Esq., Coombe House, Croydon, second with Baron Hirsch, in good form, and Mr. W. E. Tidy third, with Jeanne d'Arc.

For eighteen blooms of Japanese, in distinct varieties, eight stands were in competition, and the first prize went to Mr. W. Collins, who showed handsome examples of Mrs. C. Harman Payne, Edwin Molyneux, Vivian Morel, Mrs. E. W. Clarke, Mrs. Falconer Jameson, Etoile de Lyon, Colonel W. B. Smith, Puritan, President Borel, Princess May, William Tricker, Avalanche, Colonel Chase, Sunflower, Mdlle. Thérèse Rey, Chas. Davis, Mdlle. Marie Hoste, and G. W. Childs. Mr. W. H. Lees was second, Sunflower, Mrs. E. W. Clarke, Edwin Molyneux, Mrs. Falconer Jameson, Mons. A. Giraud, William Tricker, Souvenir de la Petite Amie, and W. H. Lincoln were amongst the best. Mr. G. Elphick, gardener to Major Hardmans, Hurstwood, Haywards Heath, Sussex, with W. H. Lincoln, Vivian Morel, Marie Hoste, Colonel W. B. Smith, and others, was placed third.

Fifteen stands were exhibited in the class for twelve Japanese, distinct, and some grand flowers were shown. The blooms that gained the premier award for Mr. G. Smith, gardener to W. R. Inglis, Esq., Craigendowie, Reigate Hill, were splendidly coloured and finished. The following varieties were represented—Duke of York, Edwin Molyneux, Princess May, Vivian Morel, Charles Davis, Sunflower, Mrs. C. Harman Payne, Mdlle. Marie Hoste, Mdlle. Thérèse Rey, Excelsior, Lady E. Saunders, and William Tricker. Mr. E. Tickner, gardener to J. Watney, Esq., Shermanbury House, Reigate, was a capital second with good examples of Col. W. B. Smith, W. H. Lincoln, Mdlle. Marie Hoste, and Stanstead White. Mr. W. Slowgrove, gardener to Mrs. Crawford, Gatton, Reigate, was placed third; his best being Sunflower, Vivian Morel, W. H. Lincoln, and Avalanche. For six blooms of any Japanese variety there were fifteen competitors, Mr. W. Slowgrove with G. C. Schwabe in superb condition being placed first. Mr. G. Steer, gardener to A. Morden, Esq., The Stone House, Reigate, was second with Mdlle. Marie Hoste; and Mr. G. Elphick third with Vivian Morel.

Mr. C. J. Salter was a splendid first in the class for eighteen reflexed and Japanese reflexed with a grand exhibit. The blooms staged were Vivian Morel, Mdlle. Louise Leroy, W. Seward, W. H. Fowler, John Shrimpton, Chas. Davis, Jeanne Delaux, Ernest Asmils, La Triomphante, Val d'Andorre, Eynsford White, James Lynch, Clara Jeal, Phidias, Chevalier Damage, Emperor of China, King of Crimson, and Cloth of Gold. Mr. W. Jupp was second with John Shrimpton, Mrs. Ramsay, Pink Christine, Chevalier Damage, and others. Mr. R. C. Notcutt, Broughton Road Nursery, Ipswich, was third.

There were three exhibitors in the class for a dozen Pompons, three blooms of each. Mr. C. J. Salter was placed first with a stand of clean fresh flowers of Black Douglas, Adele Presette, Nellie Rainford, Elsie Dordan, Golden M. Marthe, Eynsford Gem, Prince of Orange, Rosenante, Souvenir de Jersey, Pigmalion, Curiosity, and Toussaint Maurisot. Mr. J. Knapps, Croydon, was second, and Mr. H. Harris, Horsham, third, both showing well. In the class for twelve Pompon Anemones, distinct, Mr. C. J. Salter was an easy first with Faninette, Perle, Madame Montels, Emily Rowbottom (2), Antonius (2), Briolus, Bessie Flight, Aglaia, and Madame Seuter. Mr. Harris, gardener to Mrs. Eversfield, Denne Park, Horsham, the only other competitor, was accorded the second prize.

Anemone-flowered varieties were well shown, there being eleven competitors in the class for eighteen blooms. Mr. John Justice, gardener to Sir Richard Temple, Bart., M.P., The Nash, Kempsey, Worcester, was placed first for a stand of fine blooms. These were Sœur Dorothee Souille, John Bunyan, Beauty of Eynsford, Delaware, Cincinnati, John Weston, Jeanne Martz, Nelson, Sabine, Mons. Dupanloup, Sœur de Marie, La Deuil, Madame Lawton, Mons. Pankowke, Minnie Chate, Mrs. Judge Benedict, Marguerite Solville, and Mons. C. Lebocqz. Mr. C. J. Salter was second with a stand of excellent flowers, including grand specimens of Delaware and Jean Martz. Mr. Walter Jinks, gardener to W. M. Grant, Esq., Fair Lawn, Cobham, Surrey, was third. Mr. R. C. Notcutt, Broughton Road Nursery, Ipswich, secured the first prize for twelve Japanese Anemone-flowered blooms. The varieties shown were M. Dupanloup, Madame R. Owen, Minnie Chate, Rodolpho, Rogiomeri, Margaret Solville, Mons. Charles Lebocqz, Jeanne Martz, John Bunyan, Sœur Dorothee Souille, Nelson, Sir Walter Raleigh, and Sabine. Mr. John Justice was second, and Mr. J. Milner, gardener to Mr. W. A. Higgs, Willenhall Park, Barnet, was third. The first prize in the class for twelve single varieties, three blooms of each, went to Mr. G. Carpenter, gardener to Major Collis Browne, Broad Oaks, Byfleet, with a charming stand. The varieties included Miss Mary Anderson,

Rev. Remfrey, Yellow Jane, Princess May, Purity, Dolly Varden, D. Windsor, Jane, Miss M. Wilde, Lady Churchill, Miss Crissey, and Mrs. D. B. Crane. There was apparently only one competitor in this class.

For a group of Chrysanthemums, arranged for effect in not less than 100 square feet, Japanese varieties only admitted, Mr. W. Wells, Earlswood Nurseries, Red Hill, was awarded the first prize. As previously hinted, this group was of a unique character, and was much admired by many visitors. A departure from the usual custom of arranging is specially pleasing, and Mr. Wells has obviously made a move in the right direction. The group was arranged in an irregular manner, the surface being undulating, which compared favourably with those of a more flat appearance. It was a harmony of green, yellow, and crimson. The rich yellow flowers of W. H. Lincoln and the dark blooms of W. Seward were toned down in a most charming manner by the judicious use of Mr. Wells's novelty, the green Chrysanthemum Ethel Amsden. This is absolutely a green, a whitish appearance being shown only occasionally in some of the florets, and when employed with the varieties mentioned is most effective. A few blooms of the new white Souvenir de la Petite Amie and Col. W. B. Smith were also used to advantage in this group, the same applying to Chas. Davis in its varied character. The whole of the flowers were remarkably fine, and the plants very dwarf. A deep margin of Ferns of various kinds completed the group. Messrs. J. Carter & Co., High Holborn, were placed second for a group arranged in the ordinary manner. Messrs. J. Mobsby & Sons, Thornton Heath, were awarded the third prize for a group of plants very compactly arranged.

Mr. W. Baker, gardener to C. J. W. Rabbits, Esq., J.P., Westwood House, secured the first prize for a collection of Chrysanthemums in pots, arranged for effect in a group of not less than 50 square feet, this class being open to amateurs only. The group was in the form of a bank, with a very formal appearance. The flowers were good, and so far as could be seen from the close manner in which they were packed the plants well grown. It seems a pity that such beautiful flowers, so varied in colour and form as the Chrysanthemums, are not put to better advantage in arranging them in groups. Mr. C. Twain, gardener to G. W. Bird, Esq., The Manor House, West Wickham, Kent, secured the second prize for a less closely arranged group of plants, bearing much finer flowers than those in the first-prize contribution. Particularly fine were Vivian Morel, W. Seward, G. C. Schwabe, and Kentish Yellow. Mr. T. W. Wells, gardener to C. Ralph, Esq., Cranbrook Villa, Upper Norwood, secured the third prize in this class.

Trained plants were by no means so fine as is usually seen at this show. In the class for twelve standard trained specimens—four Japanese, four incurved, and four Pompons—on stems not exceeding 3 feet, and grown in pots 12 inches or less in diameter, Mr. G. H. Cooper, Sydenham Road, Croydon, was placed first. This exhibitor had Vivian Morel, Mdlle. Lacroix, W. Tricker, La Triomphante, Barbara, Mrs. G. Rundle, Mrs. Dixon, James Forsythe, Madame Chalonge, St. Michael, and Black Douglas. Mr. J. Carpenter, gardener to — Pursord, Esq., Broad Water, Lower Tooting, S.W., was awarded the third prize for stiffly trained plants, the best of which were La Triomphe, Elaine, President, and new Golden Madame Marthe. Mr. W. Wesker, gardener to A. Heaner, Esq., Streatham Elms, Tooting Bec, S.W., was apparently the only exhibitor of six trained specimens of Japanese varieties, and the second prize was awarded. The varieties shown were Margot, Col. W. B. Smith, La Triomphante, Florence Davis, Madame B. Randatler, and Stanstead Surprise. Mr. Wesker was also awarded the second prize for four trained specimens of incurved varieties, showing Prince of Wales, Mrs. Dixon, Mrs. G. Rundle, and Mons. R. Bahuant. The same exhibitor was given the third prize for six trained Pompons, staging Sunset, President, St. Michael, White Cedo Nulli, Black Douglas, and Maroon Model.

The class for a table of cut Chrysanthemum blooms, arranged for effect with small Ferns, Palms, or autumn-tinted foliage, brought forth two exhibits. The first prize was secured by Mr. W. D. Aspland, florist, Crystal Palace, for a charmingly arranged table. The flowers used were white, yellow, old gold colour, and pink, and these were mixed with grasses and branches of the Sweet Chestnut. The front of the table was draped with yellow art muslin, which harmonised with the flowers. Mr. Wells was awarded the third prize for an arrangement which was good in its way, but rather dull and heavy.

Miscellaneous exhibits were by no means so numerous as is usual at this show. Messrs. J. Laing & Sons, Stanstead Nurseries, Forest Hill, sent a collection of plants, including Chrysanthemums, Palms, Crotons, Salvias, Nepenthes, and Dracenas. The same firm contributed dwarf Apple trees in pots bearing fruit, and another group of miscellaneous plants. Miss Mary Jackson, Weston Hill, Upper Norwood, had bouquets and wreaths of Chrysanthemums in variety, and Mr. A. W. Young, Holmesdale Nurseries, Stevenage, Herts, sent a collection of cut blooms of Chrysanthemums of various types. Messrs. W. Miles and Co., West Brighton Nursery, Hove, had a number of plants of Solanum, and a fine white double Primula named gigantea. Messrs. H. Cannell & Sons, Swanley, Kent, contributed cut blooms of new Chrysanthemums and dwarf plants in pots. This firm secured a first-class certificate for a very promising incurved variety named Globe d'Or. It is of good size, and rich yellow colour, suffused red in the lower florets. A certificate was also given to John Machar, an improved W. H. Lincoln, shown by Messrs. Cannell & Sons. Other good varieties in this stand were Major Downes, Col. Curzon, and Charlie Parsons, all seedlings of this year. Mr. H. Briscoe Ironside, Cedar Lodge, Burgess Hill, Sussex, sent a

number of new seedlings which he had raised, and a certificate was awarded for Miss Florence Lum, a rich purplish rose reflexed variety. Other excellent blooms shown by Mr. Briscoe Ironside were Miss Ellen E. Gorham, Bolongardo, and Louise Bierman. Mr. C. J. Salter, gardener to T. B. Haywood, Esq., Woodhatch, Reigate, secured a first-class certificate for a fine white reflexed variety named Clara Jeal. This exhibitor also staged James Lynch, a rich crimson reflexed bloom of great promise. Mr. R. Owen, Maidenhead, sent a number of new varieties, but no awards were made. The best of the kinds shown were Queen of Bufts and Eva Knowles. Mr. Springthorpe had a number of his new tubes and cups, and a stand of Ichthemic guano was noticeable.

HAVANT.—NOVEMBER 2ND AND 3RD.

THIS show in question was not a large one, but the exhibits throughout were of excellent quality. The arrangements were quite perfect. The secretarial duties were ably carried out by Mr. J. Horril.

Cut blooms formed by far the most important part of the exhibition. The principal class was that for thirty-six Japanese, not less than twenty-four varieties, not to include more than two blooms of one variety. Mr. J. Agate, the Nurseries, Havant, won premier honour, staging large, fully developed and richly coloured blooms, including Charles Davis, Mdle. Thérèse Rey, Excelsior, Madame Octavie Mirabeau, International, Violetta, Madame C. H. Payne, Edwin Molyneux, Vivian Morel, Princess May, Wilfred Marshall, President Borel, E. W. Child, Richard Dean, and Florence Davis. Mr. H. Parrott, gardener to Mrs. Kincaid Smith, Wood End, Chichester, was a good second. For twenty-four Japanese, not less than eighteen varieties, there was strong competition. Mr. Steptoe, gardener to G. A. Gale, Esq., Horndean, just managed to win first prize with excellent examples of leading varieties. Mr. F. Suter, gardener to — Lascelles, Esq., Funtington, was an exceedingly close second; Mr. A. W. Howard, gardener to E. G. Boucher, Esq., Sennicotts, Chichester, being third. The class for twelve distinct Japanese brought out some praiseworthy blooms, in fact the winning stand from Mr. J. Agate was the best in the show. These were Mrs. George Gordon (very fine), Col. Chase, Miss Ethel Addison, International, Handsome, Rose Wynne, Mons. Pankoucke (rich yellow), Bride of Maidenhead, C. Davis, Mrs. E. G. Hill, Icendrie, Wilfred Marshall and Mdle. Thérèse Rey. Mr. Steptoe an excellent second.

For the earliness of the show and the lateness of the season the incurred blooms were remarkably good in point of quality. For twenty-four, in not less than eighteen varieties, Mr. F. Suter was an easy first, staging large well finished specimens of Queen of England, Golden Queen of England, Alfred Salter, Lord Wolseley, Mrs. S. Coleman, Lucy Kendall, Brookleigh Gem, and Violet Tomlin. Mr. Steptoe second with even neat blooms but smaller. Mr. Agate was third. For twelve, Mr. J. Pannett was leading prizewinner with an even neat stand, although they were not large blooms. Mr. Agate was second, and Mr. A. Humphrey, gardener to Miss Micklar, Bedhampton, third.

Anemone blooms were well shown by Mr. Steptoe and Mr. Agate, the prizes going in the order named. Reflexed varieties were really well represented. Mr. Woodfine, gardener to Major Boyd, Emsworth, winning first prize with a stand of large even well coloured examples, Mr. Steptoe being second. Pompons were staged meritoriously, Mr. Agate winning. Mr. Agate also won first prize for a stand of twelve bunches of single varieties with magnificent flowers.

Amateurs staged most creditably, Mr. A. Holmes, The Fort, Gosport, won with both Japanese and incurred, twelve blooms of each. Prize medals were offered for a dinner table decoration, Chrysanthemums only, with any kind of foliage, the competition being limited to ladies only. Mrs. E. Stubbs won leading honours with a pretty arrangement. Mrs. Teacher was second, and Miss C. Stubbs third.

Groups of Chrysanthemums adorned the corners of the Hall. The best came from Mr. Agate, Mr. White, florist, Havant, second. Fruit and vegetables were well shown. The National Chrysanthemum Society's certificates were awarded to Messrs. Suter and Agate. To the former for his incurred blooms, and the latter for his stand of twelve Japanese flowers.

NATIONAL CHRYSANTHEMUM SOCIETY.

NOVEMBER 6TH, 7TH, AND 8TH.

THE great exhibition of Chrysanthemums was held at the Royal Aquarium, Westminster, on the above dates under favourable auspices. Opinions varied as to whether the show was equal to those held in previous years, some experts giving a negative reply. Collectively this may have been so, for as much space as usual did not appear to be occupied; but regarded individually there could be no doubt about the quality of the exhibits. The Japanese blooms were, on the whole, fine and well coloured, and the incurred flowers, with few exceptions, were well finished. Most of the classes appeared well filled, and the competition in a few particular instances in the open section was very keen. The principal class was, as usual, open to horticultural societies, and much interest is always created by these exhibits. The Holmes' Memorial challenge cups, too, generally excite considerable interest, and many of the leading growers compete in these classes.

OPEN CLASSES.

One of the chief classes in the show was for the challenge trophy for forty-eight blooms, to consist of twenty-four each, Japanese and incurred, and open for competition to Chrysanthemum and Horticultural Societies only. The first prize was gained by the Bromley Chrysanthemum Society with a superb exhibit. The various flowers were contributed

by Messrs. J. Blackburn, R. Filkins, W. Harvey, R. Leadbetter, J. Lyne, W. Pascoe, C. Payne, S. B. Wheadon, and F. Tapper. The Japanese blooms shown were Etoile de Lyon, Mdle. Hoste, E. Molyneux, Stanstead White, Mrs. Falconer Jameson, Vivian Morel, Boule d'Or, Mrs. C. Harman Payne, Princess May, Duke of York, Sunflower, Col. W. B. Smith, Florence Davis, Charles Davis, John Shrimpton, Mdle. Thérèse Rey, Kentish Yellow, Gloire du Rocher, Eda Prass, Avalanche, Miss Muriel Scott, Mons. Pankoucke, Louis Boehmer, and G. C. Schwabe. The incurred were not quite so good as the Japanese, but were still highly creditable. The following varieties were staged:—John Doughty, Lord Alcester, Baron Hirsch, Queen of England, Golden Empress, John Salter, Bella Wilson, Empress of India, M. P. Martignat, Mons. R. Bahuant, Mrs. Colman, Violet Tomlin, Lord Wolseley, Guernsey Nugget, Mr. Brunlees, Princess of Wales, Nil Desperandum, Miss M. A. Haggas, Alfred Lyne, Jardin des Plantes, Madame Darier, Brookleigh Gem, Mrs. Heale, and Prince Alfred. The second prize went to the Havant Chrysanthemum Society, which had a fair exhibit. Messrs. C. Penford, J. Agate, W. Woodfine, and C. J. Steptoe contributed the blooms, which included amongst others, Mrs. C. Harman Payne, Etoile de Lyon, Colonel W. B. Smith, Sunflower, and Princess May, Japanese, with Golden Empress, Lord Alcester, Mrs. J. Gardiner, White Empress, Lucy Kendall, Princess of Wales, and Alfred Salter, incurred. The St. Neot's Amateur and Cottage Horticultural Society was placed third. All the blooms in this exhibited were apparently grown by Mr. J. Myers, Hinchbrook—Viscountess Hambledon, Duke of York, Mrs. E. W. Clarke, W. H. Lincoln, Mrs. C. Harman Payne, Florence Davis, and Princess May, Japanese; and Empress of India, Golden Empress, Baron Hirsch, Flora Macdonald, and Nil Desperandum incurred, were a few of the best shown.

Japanese Blooms.—In the class for forty-eight distinct Japanese Mr. W. H. Lees, gardener to F. A. Bevan, Esq., Trent Park, New Barnet, was a splendid first out of the ten stands that were exhibited; the Holmes Memorial cup went with the first prize. The blooms shown were remarkably fresh, of good size and colouration. The varieties comprised Vivian Morel, Miss Dorothea Shea, Madame Carnot, Etoile de Lyon, Mrs. W. H. Lees, Edwin Molyneux, Viscountess Hambledon, Chas. Davis, Primrose League, Duke of York, Sunflower, Commandant Blussett, Madame A. Chatin, Mrs. E. W. Clarke, W. H. Lincoln, Mrs. C. Harman Payne, Florence Davis, Wm. Tricker, Mons. A. Giroud, Madame Calvat, Mdle. Hoste, John Shrimpton, Mrs. D. Wheeler, Mons. Pankoucke, Mdle. Thérèse Rey, Madame Octave Mirabeau, Mons. Bernard, Henri Jacotot Fils, Stanstead White, Amos Perry, Mrs. Dr. Ward, Pearl Beauty, Madame J. Beylie, Beauté Toulousaine, Niveus, Beauty of Castlewood, Cecil Wray, Mr. E. G. Whittle, Col. W. B. Smith, Souvenir de la Petite Amie, Mons. E. A. Carrière, G. C. Childs, Mrs. Falconer Jameson, Puritan, Madame Chas. Capitante, Mrs. E. S. Trafford, H. W. Sunderbruck and Avalanche. Mr. W. Mease, gardener to A. Tate, Esq., Downside, Leatherhead, was an exceptionally close second, the colour in many of his flowers being remarkable. Amongst the best were J. Stanborough Dibben, Mdle. Thérèse Rey, Miss Dorothy Shea, H. L. Sunderbruck, Stanstead White, Sunflower, Eda Prass, Etoile de Lyon, Mrs. Falconer Jameson, Viscountess Hambledon, Princess May, and Le Prince du Bois. The third prize was accorded to W. H. Fowler, Esq., Claremont, Taunton, who had a stand of even, fresh blooms, the noticeable of which were Chas. Davis, Etoile de Lyon, Mrs. E. W. Clarke, Vivian Morel, Violet Rose, Mrs. Falconer Jameson, and Viscountess Hambledon. Mr. W. Wells, Earlswood Nurseries, Red Hill, was assigned the fourth position with an exhibit that was somewhat weak in places. Miss Dorothy Frankland, G. C. Schwabe, Etoile de Lyon, Madame Calvat, Louise, Madame de Moulin, Vivian Morel, Wm. Seward, and W. H. Lincoln were the most prominent.

A silver cup, offered by Major A. Collis-Browne, for twenty-four Japanese, distinct, was won by Mr. W. H. Lees, with an almost perfect exhibit. The varieties represented were Vivian Morel, Edwin Molyneux, Madame Carnot, Mrs. C. Harman Payne, Primrose League, Duke of York, Sunflower, Chas. Davis, H. L. Sunderbruck, Viscountess Hambledon, Mrs. E. W. Clarke, Mons. E. A. Carrière, Mons. A. Giroud, Avalanche, Etoile de Lyon, Mdle. Thérèse Rey, Madame A. Chatin, Wm. Tricker, Souvenir de la Petite Amie, Mons. Pankoucke, Madame J. Beylie, Mrs. E. R. Trafford, Madame Chas. Capitante, and W. H. Lincoln. Mr. W. Allan, gardener to Lord Suffield, Gunton Park, Norwich, was a fair second. Amongst his best were Vivian Morel, Duke of York, Chas. Davis, Wm. Tricker, Florence Davis, J. P. Kendall, Coronet, and Mrs. E. W. Clarke. Mr. W. Higgs, gardener to J. B. Hankey, Esq., Fetcham Park, Leatherhead, was a good third. Etoile de Lyon, Boule d'Or, Avalanche, Duke of York, and Col. W. B. Smith were the most noticeable. Mr. Collins, gardener to J. W. Carlile, Esq., Ponsbourne Park, Hertford, was fourth. Twelve stands were exhibited in this class, and the competition was very keen.

There were thirteen competitors in the class for six white Japanese, any variety. Mr. J. Sandford, gardener to G. W. Wright-Ingle, Esq., North Finchley, with superb examples of Avalanche, being first; Mr. B. Calvert, with Stanstead White, second; and Mr. R. Jones, gardener to C. A. Smith-Ryland, Esq., Barford Hall, Warwick, with Mdle. Thérèse Rey, third. Seventeen stands were staged in the class for six blooms of any coloured Japanese, Mr. J. Sandford being first with splendidly coloured Charles Davis; Mr. W. Mease, with Sunflower in perfect form, second; and Mr. C. Cox, gardener to John Trotter, Esq., Hertford, with Edwin Molyneux, third.

Mr. A. J. Driver, gardener to Mrs. Davies, Bridgen House, Stonehaven, was first for six incurred Japanese, distinct, with Stanstead

White, Edwin Molyneux, Waban, Thunberg, Lord Brooke, and Robert Owen, all in creditable form. Mr. B. Calvert, gardener to Colonel A. Houlton, Bishop's Stortford, whose best were William Tricker, Edwin Molyneux, and Louis Boehmer. The third position was taken by Mr. H. Lodge, gardener to the Rev. J. Menet, Hocknell, Bishop's Stortford. There were only four competitors in this class.

There was apparently only one entry in the class for six hairy petalled varieties, distinct, and the first prize was awarded to Mr. G. Plumb, gardener to G. J. Beer, Esq., Langley Park, Watford, Herts, who showed Louis Boehmer, Hairy Wonder, Mrs. Trelease, Louis Boehmer, Mrs. Alpheus Hardy, and W. A. Manda.

Incurved Blooms.—The class for thirty-six incurved blooms, distinct, brought out four exhibitors, and the competition was very keen. Mr. W. Mease, gardener to A. Tate, Esq., Downside, Leatherhead, however, was placed first, winning the prize of £10 and the Holmes' Memorial cup. The blooms staged by this exhibitor were of great depth, even, and well finished. The varieties staged were Queen of England, Lucy Kendall, Lady Dorothy, Empress of India, John Salter, J. Kearn, Alfred Salter, Mrs. Heale, Prince Alfred, John Doughty, Ami Hoste, Mrs. W. Shipman, C. B. Whitnal, Empress Eugenie, Baron Hirsch, Noel Pragnell, Camille Flammarion, Brookleigh Gem, John Lambert, Mrs. S. Coleman, Princess Teck, Lord Alcester, Madame Darier, Mrs. N. Davis, Mons. R. Bahuant, Jeanne d'Arc, Lord Wolseley, Princess of Wales, Robert Cannell, Lady Hardinge, Violet Tomlin, Miss M. A. Haggas, Mrs. Mitchell, Golden Empress, Robert Petfield, and Mrs. Robinson King. It was thought by some whose opinion is not to be disputed that this stand was one of the best of incurved flowers seen. Mr. W. H. Lees, gardener to F. A. Bevan, Esq., Trent Park, New Barnet, was placed second with smaller but neat flowers, the best of these being Lord Alcester, Madame Darier, Mrs. Heale, Violet Tomlin, Empress of India, and Robert Petfield. The third prize went to Mr. J. Myers, gardener to the Earl of Sandwich, Hinchbrook, Huntingdon, and the fourth to Messrs. W. Ray & Co., Mount Pleasant Nursery, Teynham, Kent.

There were no less than seventeen stands of twelve incurved blooms, and from this it will be apparent to all that the fight for the premier award was a hard one. Mr. W. Higgs, gardener to J. B. Hankey, Esq., Fetcham Park, Leatherhead, was placed first for a stand of very fine flowers. There were Baron Hirsch, Golden Empress, Alfred Salter, Empress of India, Brookleigh Gem, Miss M. A. Haggas, Mons. R. Bahuant, John Lambert, Prince Alfred, Queen of England, Beauty, and John Doughty. The second prize went to Mr. B. Calvat, gardener to Colonel Archer Houlton, Hallingbury Place, Bishop's Stortford, who also had a good stand. Mr. A. Page, gardener to F. Crisp, Esq., White House, New Southgate, N., was third, and Mr. A. Jones, gardener to Miss Leyburn, Hadley Manor, Barnet, fourth, all showing well.

There was a good display of stands containing six blooms of one incurved variety, and here Mr. W. Collins, gardener to J. W. Carlile, Esq., Ponsbourne Park, Hertford, won with Queen of England. These were grand flowers of great depth and substance. Mr. B. Calvat secured the second prize for half dozen splendid blooms of Miss M. A. Haggas. Mr. A. Jones was third with Golden Empress in good condition.

Only three stands were noticeable in the class for twenty-four incurved blooms, and the flowers were not so fine as those shown in other classes. Mr. G. King, gardener to M. Jenks, Esq., Canons Park, Edgware, Middlesex, won the premier award with rather small but even flowers. The varieties shown were Camille Flammarion, Emily Dale, M. F. Mistral, Jardin des Plantes, Lord Wolseley, Princess of Wales, Refulgence, Miss M. A. Haggas, Golden Eagle, Jeanne d'Arc, Princess Alfred, Mr. Bunn, Golden Empress, Madame Darier, John Doughty, Baron Hirsch, Alfred Salter, Mrs. Heales, Empress of India, Mrs. Coleman, Barbara, Brookleigh Gem, Lord Alcester, and Violet Tomlin. Mr. Thomas Robinson, gardener to W. Lawrence, Esq., J.P., Elsfeld House, Hollingbourne, Maidstone, won the second prize; and Messrs. Hobday and Son, nurserymen, Cambridge, secured the third prize.

Mr. G. Petfield, gardener to A. J. Thornhill, Esq., Huntingdon, won the first prize for half a dozen incurved varieties sent out in 1892 or 1893. The varieties shown were Mrs. J. Eyerma, Madame Darier, Sir Titus, Robert Petfield, Baron Hirsch, and Brookleigh Gem. Mr. J. Agate, Havant, was second.

Anemones, Pompons, and Singles.—Anemone-flowered varieties were admirably represented. In the class for twenty-four blooms Mr. W. Skeggs, gardener to A. Moseley, Esq., West Lodge, Barnet, won with a stand of splendid flowers. The varieties were Queen Elizabeth, Duchess of Westminster, Gluck, Nelson, Mrs. Judge Benedict, Cincinnati, Mrs. Liven, Miss Margaret, Marie Loylaize, Jean Martz, Delaware, John Bunyan, M. Dupanloup, W. W. Astor, Empress, Mdle. Nathalie Brun, M. Charles Lebocqz, Sœur Dorothee Souille, Mons. Pankoucke, Madame Lawson, Gladys Spaulding, Mdle. Cabral, Sabine, and Grande Alveole. Mr. John Milner, gardener to Mrs. W. A. Higgs, Willenhall Park, Barnet, won the second prize with an excellent stand; the third award going to Mr. A. Ives, gardener to E. C. Jukes, Esq., Hadley Lodge, Barnet. There were five competitors in this class.

In the class for twelve large Anemone blooms, Japanese excluded, Mr. A. Ives secured the leading award. The flowers staged were good, and comprised Madame Nathalie Brun, Lady Margaret, Thorpe, Jun., Grande Alveole, Gladys Spaulding, Miss Margaret, Miss Annie Lowe, Cincinnati, Gluck, Delaware, Mrs. Judge Benedict, and Lumière d'Argent. Mr. W. Skeggs secured the second prize, and Mr. Charles Brown, gardener to R. Henty, Esq., Langley House, Abbot's Langley,

Herts, was third. There were eight competitors in this class. Mr. J. Myers secured the premier award for a dozen bunches of Anemone Pompons. The flowers were fresh and beautiful, and the best varieties were Francis Boyce, Mr. Astie, Pearle, Magenta King, and Mrs. Myers. Mr. W. Alridge, gardener to G. Lacey, Esq., Palmer's Green, N., was second, and Mr. C. Brown third. Pompons were not very numerous, there being only two stands of a dozen bunches. Mr. C. Brown, gardener to R. Henty, Esq., Langley House, Abbot's Langley, Herts, secured the first prize, the second award going to Mr. T. L. Turk, Highgate.

There were four stands of single blooms to be shown in twelve bunches. Mr. Agate was awarded the first prize for a splendid exhibit, the best blooms being Mrs. D. B. Crane, Florence, Admiral Sir T. Symonds, and Ethel Suter. Mr. W. Wells was second, and Mr. G. Carpenter, Byfleet, third.

Only three stands were staged in the class for twelve large-flowered reflexed in not less than nine varieties. Mr. W. Collins was placed first with an excellent exhibit, comprising Dr. Sharpe, Chevalier Domage, White Christine, Cloth of Gold, Phidias, Cullingfordi, Golden Christine, King of the Crimsons, and Pink Christine. Mr. C. Cox was second, and Mr. A. Felgate third.

Trained Plants.—Mr. W. Davey, gardener to C. C. Paine, Esq., Stamford Hill, was first for four trained specimens with well grown plants of Elsie, Col. W. B. Smith, Margot, and Dr. Sharpe. He was apparently the only competitor in the class. For six trained specimens Mr. W. Davey was again first with excellent grown examples of Elsie, Stanstead Surprise, W. Tricker, Cleopatra, Col. W. B. Smith, and Madame B. Rendatler. Mr. E. Easey, gardener to C. Mills, Esq., Highbury New Park, was second. For six trained specimens, including large flowered varieties, Mr. D. Donald, gardener to J. G. Barclay, Esq., Leyton, was a splendid first, and Mr. Easey second. Mr. D. Donald was given the first prize for six trained specimen Pompons with St. Thais, Antonius, Wm. Kennedy, Dupont de l'Eure, Sœur Melaine, and Black Douglas. There was only one competitor. In the class for four trained specimens Mr. D. Donald was awarded the first prize for handsome plants, and was apparently the only exhibitor.

AMATEURS' CLASSES.

In this section one of the leading classes was for twenty-four Japanese blooms in not less than eighteen varieties, the first prize including an electro silver-plated tea service. This was won by Mr. John Horril, Havant, Hants, who had a stand of grand flowers. The varieties were Vivian Morel (2), Stanstead White, Chas. Davis (2), Col. W. B. Smith (2), Golden Wreath, Mdle. T. Rey, Condor (2), William Seward, Florence Davis (2), J. Stanborough Dibbins, Avalanche, Etoile de Lyon, Mdle. Marie Hoste, Sunflower, Miss Dorothea Shea, W. G. Newitt, Stanstead White, W. H. Lincoln, and Gloire du Rocher. Mr. Henry Love, Sandown, Isle of Wight, was a good second, and Mr. Alfred Holmes, Fort Grange, Gosport, third. This was a very strong class, ten competitors staging flowers, all of good quality.

There were five stands in the class for twelve Japanese blooms, and here Mr. H. Love secured the premier award. The flowers shown by this exhibitor were fresh and beautiful, and comprised among others Duke of York, Vivian Morel, W. Seward, President Borel, Avalanche, G. C. Schwabe, Charles Davis, and Madame Octavie Mirbeau. Mr. Arthur Stammers, Knowles, Maldon, Essex, was second; and Mr. James Stredwick, Silver Hill, St. Leonards-on-Sea, third, both exhibitors showing excellent blooms.

Mr. F. Durrant, 4, New Road, Ware, won the first prize for six distinct incurved blooms, staging Jeanne d'Arc, Lord Wolseley, Lord Alcester, Prince Alfred, White Empress of India, and Golden Empress of India. Mr. Alfred Holmes, Gosport, was second; and Mr. E. W. Wilkins, Swanley, Kent, third. There were five competitors in this class.

Mr. G. E. Piddington, Orchard House, Leigh, Essex, won the first prize for Japanese blooms, which included grand flowers of Vivian Morel and Chas. Davis. Mr. Harry Lee, Gosport, was second, and Mr. G. Peek, King's Lynn, third. Mr. Henry Love was first with six blooms of any Japanese variety, showing Sunflower in grand condition. Messrs. J. Stredwick and W. Batten were second and third with Avalanche. The other amateurs and single-handed gardeners' classes were also well filled.

The classes open to metropolitan growers were fairly well filled, and the blooms staged were of good quality. Mr. F. Bingham, Stoke Newington, N., won the first prize for twelve incurved blooms, Mr. G. Bury, Tewkesbury Lodge, Forest Hill, being second, and Mr. E. Easey, Highbury New Park, being third. Mr. W. Davis, Devonshire House, Stamford Hill, won the first prize for a dozen Japanese, and Mr. F. Bingham was second.

TABLE DECORATIONS—VEGETABLES AND FRUIT.

A valuable piece of plate was offered by Sir Edwin Saunders, the President of the Society, for a table of cut blooms of Chrysanthemums, shown in any style with foliage, and open to nurserymen only. Here Mr. H. J. Jones, Ryecroft Nursery, Lewisham, put forth his best efforts, and with admirable results, securing the first prize. It was generally admitted that this was a most wonderful display of Chrysanthemums, doubtless the best ever seen in this country. It was a magnificent yet pleasing harmony of white, pink, yellow, bronze, crimson and green. Want of space prevents a detailed description of this display, which was the feature of the show. Mr. Davis was second. Mr. D. M. Hayler, Hendor, N.W., secured the first prize for twenty-four Japanese

blooms staged with Ferns and Grasses, second prize going to Mr. W. H. Lees, Trent Park Gardens. Bouquets, epergnes, and baskets of flowers were also admirably shown.

Vegetables were, as usual, very extensively shown, but the extreme pressure on our space precludes a detailed report of these exhibits. Messrs. C. J. Waite, T. W. Wilkins, R. Lye, and T. Haines won the special prizes offered by Messrs. Sutton & Sons in order of their names. Mr. Lye was awarded the first prize given by Messrs. H. Cannell and Sons. Grapes were well shown by Messrs. J. Bury, W. Harman, and C. Griffin. Messrs. W. Allan, R. Potter, and H. Liney won the leading prizes for Pears, the first named having some magnificent examples. Mr. A. Axell, Sittingbourne, won with six dishes culinary Apples, and Mr. R. Potter with dessert varieties, the second prize in the latter class going to Mr. Richard Dean, Ealing.

MISCELLANEOUS.

The miscellaneous exhibits were very numerous, and included Chrysanthemums in variety from Mr. W. J. Godfrey, Exmouth; table decorations from Mr. A. Larke, Kensington; vases and other ornaments of Chrysanthemums and autumn foliage from Messrs. Perkins and Sons, Coventry; Orchids and foliage plants from Messrs. B. S. Williams and Son, Upper Holloway; fruits, plants, and flowers from Messrs. Cutbush & Sons, Highgate; Bedfordshire peat from Mr. J. Arnold, Leighton Buzzard; cut Chrysanthemums from Messrs. H. J. Jones, Lewisham, T. S. Ware, Tottenham, Clibran & Sons, Altrincham, and A. W. Young, Stevenage; Ichthemic guano from Mr. Wm. Colchester, Ipswich; fruits from Messrs. J. Cheal & Sons, Crawley; Carrots from Mr. J. Empson, Ampthill; horticultural sundries with a basket of handsome Grapes from Mr. J. George, Putney; Chrysanthemums from Messrs. Jas. Veitch & Sons, Chelsea; and Zonal Pelargoniums from Messrs. H. Cannell & Sons.

BRIGHTON.—NOVEMBER 6TH AND 7TH.

As usual, the annual autumn exhibition of the Brighton and Sussex "New" Horticultural Society was held in the Dome, of the Royal Pavilion, the Corn Exchange being required also for the exhibits. In all sections and classes devoted to Chrysanthemums there was a manifest improvement. The competition was exceedingly keen, while the quality of the exhibits left little to be desired.

The specimen plants of Chrysanthemums were arranged in the Dome, the trained plants occupying a position in front of the orchestra, the standard and pyramid-trained plants being arranged under the gallery. The cut blooms were shown to great advantage on tables in the Corn Exchange. Fruit and vegetables made a grand display so plentifully were they staged. The management was, as usual, quite of the best kind, everything being in order at the appointed time, reflecting great credit upon the Committee, so ably led by Mr. Mark Longhurst, the Secretary.

Groups of Chrysanthemums have always been well represented at the shows of this Society, this year being no exception to the rule. For a circular group, 14 feet by 8 feet, Mr. Head, The Drive Nursery, Hove, was an easy winner with a grand bank of plants, comprising mainly Japanese varieties. Mr. J. Hill, gardener to M. Wallis, Esq., Springfield, Withdeane, was second, with an arrangement in an undulated manner; the blooms, though, lacked the quality of the premier award. Third, Mr. G. Miles, Victoria Nursery, Brighton. For a group of 11 feet by 6 feet of Chrysanthemum and foliage plants, Mr. Miles won easily with half-specimen plants, carrying grand blooms, lightly arranged. Mr. J. Turner, gardener to Sir Greville Smyth, Wick Hall, Hove, was a good second. For four standards Mr. Meachen, gardener to Mrs. Armstrong, was first with good plants. Mr. J. Hill was first for one standard. For four pyramids Mr. Hill was first, and Mr. Scutt, gardener to Mrs. A. Levett Jenkins, Burgess Hill, second. The last-named was first for dwarf-trained plants, Mr. Hill second, both showing well.

Cut blooms were staged in immense numbers. Fourteen exhibitors competed in the class for thirty-six Japanese, in not less than twenty-four varieties. Mr. Martin Standing, gardener to Mrs. Joad, Patching, Worthing, was distinctly first with large, fully developed blooms of Vivian Morel, E. Molyneux, W. H. Lincoln, J. Shrimpton, Sunflower, Puritan, Stanstead White, Sunflower, Princess May, Mrs. Jameson, Avalanche, T. W. Sanders, and Col. W. B. Smith, amongst others. Mr. Neville, gardener to F. W. Flight, Esq., Winchester, was second with smaller, but fresh and good blooms, and Mr. Wells, Earlswood Nurseries, third. For twenty-four Japanese, distinct, Mr. Standing repeated his former success with a similar stand of blooms. Mr. James Hopkins, gardener to Mrs. Thornton, High Cross, Framfield, was second, and Mr. A. Payne, gardener to Mrs. Ewald Smith, The Oaks, Emsworth, third, with a really good stand of blooms.

In the class for twelve Japanese, distinct, no less than sixteen competed. Mr. Horscroft won the premier award with heavy, well coloured examples of Col. W. B. Smith, Charles Davis, Boule d'Or, G. C. Schwabe, Vivian Morel, E. Molyneux, and white Louis Boehmer. Mr. G. Elphick, gardener to Major Hardman, Hurstwood, Hayward's Heath, was close second, and Mr. F. Suter third.

Anemone flowered varieties were well shown by Mr. Heasman in the class for six; he had Gluck, J. Marty, M. Lebocqz, and Nelson. Mr. W. Jupp, gardener to G. Boulton, Esq., Torfields, Eastbourne, followed.

Incurved blooms were not so numerous as the Japanese, but the quality was uniformly good. For twenty-four, in not less than eighteen varieties, Mr. A. Payne was an easy first. The blooms were

not large, but of good quality and neatly finished. Golden Empress, Empress of India, Lord Alcester, Mrs. S. Coleman, Miss Haggas, Lucy Kendall, Violet Tomlin, Mrs. Heale, Jardin des Plantes, and Jeanne d'Arc were amongst the best. Mr. Heasman, gardener to Mrs. Oxley, Fern Place, Turner's Hill, was second with good blooms. Third, Mr. James Hopkins. Mr. F. Suter was an easy winner in the class for twelve incurved with large, well developed blooms. Mr. S. Horscroft, gardener to T. Potter, Esq., Hapstead House, Ardingley, was second, smaller, but good flowers. Third, Mr. C. Fowler, gardener to Mrs. Hall, Barrow Hill, Henfield. For six incurved, one variety, Mr. Suter was first with Queen of England; Mr. W. Jupp second with Jeanne d'Arc; and Mr. Horscroft third with B. Hirsch.

For six Japanese of one variety, white, Mr. Standing first with Avalanche; second, Mdle. Marie Hoste belonging to Mr. Suter; third, Mr. Elphick, Mdle. Marie Hoste, thirteen competing. For six yellow Mr. Horscroft was first with grand Sunflower; second, Mr. Hipgreave, gardener to — Ritchie, Esq., Broadwater. In the class for six, any colour except white and yellow, fifteen competed. Mr. James Hopkins with Vivian Morel won first honours. The same variety won for Mr. Wallis, gardener to Mrs. Mews, Hartwell, Hatfield, second prize. For twelve reflexed Mr. Jupp won premier honours. Miscellaneous plants and fruit were also well shown.

LEEDS.—NOVEMBER 6TH AND 7TH.

THE sixth annual Show, held in the Victoria Hall, was a good one, the competition in all classes being keen. Groups of Chrysanthemums were better than usual, the first prize group standing out quite distinctly above the rest, with fine fresh flowers and altogether well handled. Miscellaneous groups as usual gave a well furnished appearance to the Hall. Table plants were well shown, and fruit and vegetables were well displayed. Messrs. Charlesworth & Shuttleworth exhibited a fine stand of Orchids.

In the class for eighteen incurved blooms, not more than two of any one variety and not less than fourteen distinct varieties, the first prize included a silver challenge cup value 7 guineas. This was won by A. Milnthorp, Esq., Tower Hill, Cuttall, near York (gardener, Mr. Anderson), with a good even stand of Empress of India, Mons. B. Babuant, Jeanne d'Arc, Queen of England, John Doughty, Lord Alcester, Lord Wolseley, Golden Empress, John Salter, Mrs. Heale, Princess of Wales, Miss M. A. Haggas, Princess Beatrice, Mrs. S. Coleman, Violet Tomlin. The second prize went to G. B. Cockburn, Esq., Lindel Lodge, Birkenhead (gardener, Mr. Burden); and the third prize to Messrs. Pearson & Sons, Chilwell Nurseries, Notts.

For eighteen Japanese, not more than two of any one variety nor less than fourteen distinct varieties, the first prize included a silver challenge cup, which was won by Messrs. J. R. Pearson & Sons, Chilwell Nurseries. The flowers were Mrs. C. H. Payne, Sunflower, E. Molyneux, Madame C. Molin, Miss Dorothea Shea, Mdle. M. Hoste, Mdle. Thérèse Rey, W. W. Coles, Princess May, Duke of York, Vivian Morel, Mrs. Witbers, Vivian Morel, G. C. Schwabe, Chas. Davis, W. H. Lincoln. The second prize went to Mr. Burden, Birkenhead, whose best flowers were Mrs. C. H. Payne, Boule d'Or, Mdle. Thérèse Rey, Chas. Davis, W. H. Lincoln, Mrs. H. Payne; Viscountess Hambledon, a magnificent flower, winning the premier prize. Third, C. J. Omerod, Esq., Green Roys, Rawdon.

For twelve incurved, distinct, the first prize was won by Messrs. J. R. Pearson & Sons, Chilwell Nurseries, with Empress of India, Mrs. S. Coleman, John Salter, Lord Alcester, Lord Wolseley, Violet Tomlin, Jeanne d'Arc, Madame Darier, Miss M. A. Haggas, Mrs. Heale, Beauty, and Lucy Kendall. A. Milnthorp, Esq., Tower Hill, York, was second with Lord Alcester, Lord Wolseley, Empress of India, Mons. R. Bahuant, Mr. Bunn, Violet Tomlin, Beverley, and Mrs. Heale, amongst others.

In the class for twelve Japanese, distinct, Messrs. J. R. Pearson & Sons were first with Vivian Morel, W. W. Coles, G. C. Schwabe, Madame Thérèse Rey, Lillian Bird, Duke of York, G. C. Schwabe, Sunflower, Chas. Davis, Violette, E. Molyneux, and Madame C. Molin. The second prize was won by Mr. Burden, Birkenhead.

For six incurved blooms, one variety, Mr. Moore, gardener to Mrs. Bowring, Allerton Hall, Glednow, was first with Baron Hirsch; second, Mr. Grix, with the same variety; and third, Mr. Harburn.

Group of miscellaneous plants arranged for effect, 60 square feet, made a good display. Mr. Moore was first, and Mr. Richer, gardener to J. W. Oxley, Esq., J.P., Spenfield, Headingley, second. Other plants with fruit and vegetables were also numerous and well staged.

WATFORD.—NOVEMBER 6TH AND 7TH.

THE ninth annual exhibition of the Watford Chrysanthemum Society was held at the Clarendon Hall on the above dates, and, judging by the enormous number of entries and the keen competition evinced by the several members, it certainly proved that the deep interest taken in the cultivation of the Chrysanthemum is not flagging. The entries were far in excess of any previous show, and in the aggregate reached the grand total of 370, or forty more than last year. The arrangements of such an exhibition naturally involve an amount of forethought and labour, that when such a result is obtained as that in the case under consideration it deserves especial recognition. The Honorary Secretary, Mr. C. R. Humbert, who works so energetically and enthusiastically, strongly supports the show with his exhibits, as will be seen hereafter, and is to be heartily congratulated on the continued success, as well as the Committee, whose work so much contributes to it.

The President of the Society, the Earl of Clarendon, again did his part by sending an immense number of plants, which were arranged into one of those magnificent groups of which we have had occasion to speak in former years under the skilful direction of Mr. Myers. Here the flowers were relieved with beautiful foliage plants; the Chrysanthemums were superior specimens, and their colour and preparations can be appreciated. In the group of miscellaneous plants Mr. H. H. Gibbs secured the first with a particularly fine assortment, the second and third prizes being carried off by Mr. W. K. D'Arcy and Lord Esher respectively. The Chrysanthemum groups had a very imposing effect. There were more entries than of late, and the whole were a much better display than ever. The competition was exceedingly keen, and the grand group sent by Mr. Chas. R. Humbert fully deserved the awards bestowed thereon. The flowers were particularly well arranged, and gained the first prize for groups open to the United Kingdom and the silver medal for the best group in the show. Mr. G. J. Beer's group ran the Hon. Secretary rather close for premier honours, and the third prize was deservedly won by Mr. C. E. Keeper.

As to the cut flowers they were throughout the show most worthy of exhibition, being highly commended by the judges. Mr. H. H. Gibbs followed up his previous success by obtaining the first prize for both the twenty-four incurved varieties and the twenty-four Japanese ditto, the former being represented by John Doughty, Miss M. A. Haggas, Mons. R. Bahuant, Violet Tomlin, Baron Hirsch, Robert Petfield, Golden Empress, Madame Darier, Beauty, Queen of England, Lord Alcester, Mr. Bunn, Lord Wolseley, Princess of Wales, Prince Alfred, Alfred Salter, Jeanne d'Arc, M. P. Martignac, Empress of India, Mrs. Coleman, Pride of Stoke Newington, John Lambert, Brookleigh Gem, and M. Jules Barigny. The second prize for the incurved fell to Mr. T. F. Blackwell, and the third to Mr. Bosanquet. Mr. Gibbs had the following Japanese blooms in his stand to win the prize:—Vivian Morel, Commandant, Mdle. Thérèse Rey, A. D. Chartin, E. Molyneux, Mrs. Dr. Ward, Mrs. Harman Payne, W. H. Lincoln, M. Geroud, Etoile de Lyon, Colonel W. B. Smith, Excelsior, Richard Dean, E. W. Clarke, Souvenir de Petite Amie, Mrs. J. Jameson, W. Tricker, Louise, Duke of York, G. C. Schwabe, Madame Chas. Capitant, Mrs. Beckett, Thomas Wilkins, and Chas. Davis. Singularly enough the second and third prizes for twenty-four Japanese were secured by the same gentleman as in the incurved class.

Space is so limited that it is impossible to particularise the several winners in the open classes, but among the successful exhibitors we noticed the names of the Hon. A. H. Hibbert, T. F. Halsey, Esq., M.P., Messrs. J. Larkin, W. Gillilan, W. F. D. Schrieber, C. Van Raalte, V. M. Martin, F. Taylor, S. T. Holland, Mrs. Wingfield, and many others. In addition to the open classes there were numberless prizes, as the entries will testify, confined to members of the Society, and ladies, amateurs, and cottagers.

ASCOT.—NOVEMBER 7TH AND 8TH.

THIS annual show was held in the Grand Stand of the celebrated race course on the above dates, and was a very good one, a bright display of flowers being brought together. The Japanese were decidedly the best feature of the show, though signs of damping were apparent in many flowers. Groups were well shown, as also were the specimen plants. The prizewinners in the principal classes are given in the subjoined report.

The principal cut bloom class was for thirty-six, eighteen of each, Japanese and incurved, distinct. With the first prize was given a cup offered by Hon. Mrs. Ashley Ponsonby, and to be won twice before becoming absolutely the property of the winner. This feat has now been accomplished by Mr. Lane, gardener to Miss Durning Smith, King's Ride, Ascot, who showed a very even stand, in which the blooms were finely coloured and well finished, though not, as a rule, very large. The Japanese were Mrs. C. Harman Payne, Marie Hoste, Duke of York, Vivian Morel, Avalanche, Mrs. Hubbard, G. C. Schwabe, Wm. Seward, Wm. Tricker, Sunflower, W. H. Atkinson, Mons. Bernard, Alberic Lunden, F. G. Fogg, W. K. Woodcock, Good Gracious, Val d'Andorre, and Chas. Davis. The incurved section was represented by Empress of India, Queen of England, John Lambert, Alfred Salter, Lord Alcester, Golden Empress, Baron Hirsch, John Doughty, Mons. R. Bahuant, Mrs. Coleman, Brookleigh Gem, John Salter, Beauty, Jeanne d'Arc, Madame Darier, Alfred Lyne, Ami Hoste, and Princess of Wales. Mr. P. Harpley, gardener to F. Morrison, Esq., Ascot, was second, his best Japanese being Duke of York, Stanstead White, Wm. Tricker, Etoile de Lyon, Avalanche, and Boule d'Or. Of the incurved Lord Alcester, Empress of India, Miss M. A. Haggas, Jeanne d'Arc, Violet Tomlin, and Lucy Kendall were the most noticeable. These were the only two competitors.

Seven stands were shown in the class for twenty-four Japanese in not less than eighteen distinct varieties, and the competition was very keen. The first prize was taken by Mr. E. Johnson, gardener to Algeron Gilliat, Esq., Stoke Pogis, who showed Thomas Wilkins, Etoile de Lyon, President Borel, Vivian Morel, Primrose League, Mrs. C. Harman Payne, Chas. Davis, Florence Davis, Sunflower, G. C. Schwabe, Mdle. Thérèse Rey, Marie Hoste, Eda Prass, Excelsior, Wm. Tricker, Miss Anna Hartshorn, W. H. Lincoln, and William Marshall, some of these being in duplicate. Mr. A. Sturt, gardener to N. L. Cohen, Esq., Englefield Green, was a capital second, his best blooms being Vivian Morel, Avalanche, Duke of York, Chas. Davis, Stanstead White, W. H. Lincoln, Amos Perry, and Wm. Tricker. Mr. F. J. Thorne, gardener to Major Joicey, Sunningdale Park, was a close third. His best blooms were Etoile de Lyon, Vivian Morel, Marie Hoste, W. H.

Lincoln, Duke of York, and Chas. Davis. Mr. J. Ashman, gardener to C. T. D. Crew, Esq., Wokingham, was placed fourth.

In the class for twenty-four incurved, in eighteen distinct varieties, there were five competitors, and the first prize went to Mr. F. Hereman, gardener to the Hon. Lady Keane, Sunninghill, who showed Mons. R. Bahuant, Queen of England, Lord Alcester, Alfred Salter, Baron Hirsch, Mrs. Heale, Miss M. A. Haggas, H. B. Whitnal, Princess of Teck, Princess of Wales, John Doughty, John Salter, Mrs. S. Coleman, Violet Tomlin, Hero of Stoke Newington, Lucy Kendall, Princess Beatrice, Jeanne d'Arc, and D. B. Crane, some of course, being shown in pairs. Mr. A. Sturt was a capital second, showing Golden Queen, Empress of India, Lord Alcester, Golden Empress, Baron Hirsch, Princess of Wales, and Jeanne d'Arc in good form. Mr. W. Lane was a fair third, and Mr. F. J. Thorne fourth.

For twelve Japanese, distinct, Mr. F. Hereman was a splendid first with a stand comprising Duke of York, Mrs. C. Harman Payne, Florence Davis, Vivian Morel, Miss M. Blenkiron, Alberic Lunden, Avalanche, Chas. Davis, Marie Hoste, Mons. C. Audiguier, Robert Owen and W. G. Newitt. Mr. Wilson, gardener to R. C. Christie, Esq., was second, and Mr. F. J. Paul, gardener to Mrs. Browning, Windsor Forest, third.

The premier award for twelve distinct incurved was won by Mr. F. J. Paul with good examples of Mrs. Heale, Lord Alcester, Alfred Salter, Empress of India, Violet Tomlin, Miss M. A. Haggas, Princess of Wales, Baron Hirsch, Lucy Kendall, Mrs. Coleman, Brookleigh Gem, and Madame Darier. Mr. G. Cole, gardener to E. Hamilton, Esq., Sunningdale, was second, and Mr. J. Cowie, gardener to V. N. Ollivier, Esq., Sunningdale, third.

Five stands were staged in the class for six distinct incurved, the prizes going to Messrs. R. Bird, A. Hawthorne, and J. Woodhouse in the order of their names. Five stands of six Japanese were also shown, the successful competitors being Messrs. A. Hawthorne, R. Bird, and E. R. Smee.

For six Japanese, any one white variety, Mr. W. Lane was first with Marie Hoste; Mr. R. Bird, gardener to C. J. Barnett, Esq., Sunninghill, second with Avalanche; and Mr. A. Hawthorne, St. George's Schools, Ascot, third with the same variety. For six of any coloured Japanese Mr. A. Sturt was first with Chas. Davis, this stand also containing the best Japanese bloom in the show. Mr. W. Wilson was second with Wm. Tricker, and Mr. A. Hawthorne third with Col. W. B. Smith.

For six incurved, one variety, Queen family excluded, Mr. F. J. Paul was first with Miss M. A. Haggas; Mr. C. Joy, gardener to Mrs. Entwistle, Sunningdale, second with Lord Wolseley; and Mr. W. Lane third with Madame Darier. For six incurved, Queen family, Mr. W. Lane was first with Lord Alcester; Mr. C. Joy second with Empress of India; and Mr. F. J. Thorne third with Lord Alcester.

Reflexed blooms were very well shown, those of Mr. G. Cole, gardener to E. Hamilton, Esq., Sunningdale, which gained the premier position, being highly creditable. The varieties represented were Dr. Sharpe, Cloth of Gold, Mrs. M. Sullivan, Chevalier Damage, Orion, Cullingfordi, Felicity, King of Crimson, Fred Hart, Golden Christine, James Carter, and Peach Christine. Mr. J. Woodhouse, gardener to Miss H. Belcher, Sunningdale, was second; and Mr. F. J. Thorne third. For six reflexed Mr. A. Hawthorne was first, Mr. P. Harpley second, and Mr. J. Cowie third.

The class for twelve incurved Japanese brought only two competitors. Mr. F. J. Paul was first, and Mr. A. Sturt second. For six Anemone-flowered Mr. A. Hawthorne was first, Mr. J. Cowie second, and Mr. A. Sturt third, all showing good examples.

There were two classes for groups, one for a large and the other for a small one. Taking them in that order, Mr. J. Lane was first with a handsome, though somewhat stiff, arrangement, composed of good plants carrying fine flowers. Mr. J. Cowie was a very good second, and Mr. Attfield, gardener to Sir Wm. Farmer, a capital third. For the smaller groups the prizewinners were Messrs. F. Hereman, H. White, and A. Hawthorne, in the order their names are placed.

Specimen plants were not very extensively exhibited, but made up in quality what was lacking in quantity. The prizewinners were Messrs. W. Neate, H. White, W. Lane, F. J. Paul, and A. Hawthorne.

Mr. F. J. Thorne arranged a charming exhibit in the class for a group of miscellaneous foliage and flowering plants, and was deservedly accorded the chief prize. The plants, which included Orchids, Crotons, Ferns, Palms, Bouvardias, and others, were in splendid health, and placed with much taste. Mr. J. Edge, gardener to Lord Harlech, was second; and Mr. E. R. Smee third.

PUTNEY.—NOVEMBER 7TH.

THE Putney, Wandsworth, and District Chrysanthemum Society pursues the even tenor of its way. It is a local metropolitan Society, with the Hon. Baron Pollock as President, G. H. Pitt, Esq., Treasurer, and Mr. J. Moore, as Secretary. The management is prudent, prizes as ample as means permit, the competition always creditable, and the shows invariably well arranged and attractive. The seventeenth exhibition was certainly one of the best ever seen in Putney.

Groups are always excellent at the Society's shows, and this year the silver cup was admirably won by Mr. J. French, gardener to Mrs. Barclay, Ambleside, Wimbledon; Mr. S. Mynett, gardener to Colonel Poe, C.B., closely following. A silver cup was also offered for a group of eighteen plants grown by amateurs. This was won by Alfred Lass, Esq., Sandown Lodge, Putney, with admirably grown examples, containing from three to five exhibition blooms. G. W. Lambert, Esq., was a most creditable second prizewinner, and W. B. Rogers, Esq., third. Specimen plants were not equal in merit to the groups.

The prizes in the cut bloom classes were keenly contested. The incurved, as a rule, needed a little more time for development, but Japanese, Anemones, and Pompons were good. Mr. J. Porthury, gardener to W. N. Froy, Esq., Ripon House, was first with twenty-four incurved; Mr. J. Potter, gardener to J. D. Charrington, Esq., second, these exhibitors occupying the same position with twelve blooms with Anemones. The prizes were well won by Messrs. J. Wright, J. Portbury, and C. Bentley.

Mr. Portbury took the lead in the Japanese classes, being first with twenty-four and twelve blooms, excellent stands, Messrs. Wright, Potter, and Bentley following, the positions being reversed in the reflexed class, also much the same with Pompons (very fine).

In the class for single-handed gardeners there was a keen competition, Messrs. Dark, Rogers, Page, and Barclay acquitting themselves well.

Ferns were splendidly shown, especially by Mr. C. Bentley, Messrs. Peterson and Methven also exhibiting well. Mr. C. Bentley won the chief prize for a miscellaneous group of plants with a charming arrangement, Mr. Potter following closely in the class for "berried" plants. Mr. J. French exhibited remarkable Capsicums, and secured the first prize. Apples were splendidly shown; Pears and Grapes good. Mr. W. Iceton staged a group of handsome Palms and grandly coloured *Dracæna Lindenii*; Mr. McLeod, of Dover House Gardens, contributing a meritorious collection of plants. The show was admirably managed, and creditable to officials and exhibitors alike.



FRUIT FORCING.

Peaches and Nectarines.—*Earliest Forced House.*—The final thinning of the shoots or branches should have immediate attention, unloosing the trees from the trellis and tying them in convenient bundles so as to admit of ready access to the woodwork and glass for cleansing operations. Wash the glass with water, and the woodwork with soap and water, using a brush; then wash the trees with warm soapy water at a strength of 3 ozs. to a gallon, and afterwards dress them with an insecticide. Limewash the walls. Tie in the trees loosely, allowing space for the growths to swell without binding, letting the young shoots be laid in about 9 inches asunder, and not closer on the branches than 15 to 18 inches. A shoot of 12 to 15 inches in length will give a good percentage of fruit for thinning, provided the wood be well ripened, and a Peach worthy of the name to every foot of trellis covered by the trees is quite as much as those under early forcing can support year after year.

Under the most approved method the trees will have been at rest some time, and the roof lights having been removed, the borders with the recent rains have been well moistened down to the drainage. The house also would be thoroughly cleansed, the trees untied, pruned, dressed with an approved insecticide, re-arranged and tied on the trellis, the border surface dressed, and all put in complete order when the leaves were all down, ready for a start when the time arrives. If, however, the roof lights have not been removed, do not allow the soil to become too dry at the roots of the trees, as that is sufficient to cause the buds to fall. If the trees are weakly or with too many buds, a supply of liquid manure whenever water is necessary will be of great benefit. The loose surface soil or mulching also should be removed down to the roots, not disturbing them, but supplying an inch or two thickness of good loam, afterwards sprinkling on it about 4 ozs. per square yard of the following mixture—bonemeal, five parts; kainit, two parts, mixed. Borders that are rich in humus from heavy dressings of manure or thick liquid may be dressed with basic slag powder, using about 4 ozs. per square yard and pointing in lightly. This acts as a corrective of sourness from the lime (about half), and supplies phosphoric acid. Or, dress with freshly slaked lime in about the same proportion of weight, which will be a hulkier dressing, and point in lightly, or without disturbing the roots to any great extent, omitting the top-dressing before mentioned. In treating the borders it should be practised on both inside and outside borders. Admit air to the fullest possible extent, a little frost not doing any harm to the trees.

Second Early Forced House.—The trees are now leafless, and should be pruned (after untying). The house ought then to be thoroughly cleansed, with the object of exterminating insects before they have time to find safe winter quarters. A good syringing with petroleum and water, a wineglassful of petroleum to 4 gallons of water, one person syringing the vessel and another on the house so as to wet every part, is a preliminary step that we have found of value, and it does not leave a film on the glass as does soapy solution. In pruning early-forced trees it is not advisable to cut away much wood, nor indeed any kind of trees at the winter pruning, confining it to removing any useless parts, and any long, unripe shoots which may be cut back to a triple bud, making sure that one is a wood bud, or to a wood bud on well ripened wood. Shoots, however, need not be shortened under any circumstances, except where there is not space for the successional growths, or to originate

growths for furnishing the trees. Those of 8 to 12 inches in length should not be shortened at all, as they usually have wood buds at the base and one at the extremity, the others being blossom buds. It is a mistake to retain much wood, which weakens the trees in flowering, and there is not space for training the young growths without crowding. In other respects treat the trees and borders as advised for the earliest house.

Houses Started in February.—The trees are shedding their leaves, and the buds are not too highly developed. This is assuring of the trees retaining of them, for over-development of the buds, combined with dryness at the roots and fluctuations of temperature, with changes of moisture, are the chief causes of the buds being cast. Any lifting or root-pruning yet in arrears should be seen to and brought to a close as soon as possible. When the leaves are all down it will be an advantage to remove the roof lights and expose the trees to the weather until the time of starting, or till the buds commence swelling. The severest weather will not injure those with well-ripened wood. Where the roof lights are not moveable admit air freely in all but very severe weather, and even then if the hot-water pipes can be emptied of the water and kept so; and see that there is not any deficiency of moisture in the borders. If the trees are not lifted remove the surface soil down to the roots, and supply fresh stiff loam to which has been added some charred refuse (not more than one-tenth), and a sprinkling of bonemeal.

THE KITCHEN GARDEN.

Vacant Ground.—In well cropped gardens where Potatoes are not extensively grown, there is, as yet, not much vacant ground, but there will be according as Cauliflowers, early Broccoli, Savoys, Turnips, and such like are cleared off. Something will have to be done towards restoring these plots to a presentable appearance, though whether the rubbish should be wheeled away or dug in ought to depend upon circumstances. Should the soil be naturally of a light, non-retentive character, digging in green stuff will benefit it rather than otherwise, though, as a rule, such sorts are best left undug and unmanured till nearer cropping time. Some clayey soils are also liable to run badly when dug in the autumn or early winter months, but in most instances clayey soils will be greatly benefited by early digging, laying it up roughly with a view to their being well exposed to the pulverising influence of frost, wind, sunshine and rain. Clayey soils may also be safely and effectively manured early, especially if strawy horse stable manure be freely dug in. The less, however, clayey soils are wheeled or trampled on during wet weather the better it will be for them. Those who disregard this injunction will find they have completely prevented all chances of the ground working at all freely for, probably, the next two or three years.

Digging.—Ordinary digging consists of turning the top spit to the full depth of a spade or digging forks, and it is not half worn out tools that should be used, but rather those that have only been used long enough to get them into good working condition. Too often the digging is of the shallowest description, in which case it is not much better than ordinary ploughing, and the ground is only capable of producing poor crops accordingly. Spades are suitable for digging light and moderately free working soils, but forks should be more often used than they are for those of a heavy clayey nature. Instead of chopping down the clods leave them up roughly, and saturation of soil will be less likely to take place. In digging always open a wide trench—a width of 1 foot is not too much—and take good care to bury the weeds and strawy manure in this trench.

Trenching.—This should not be resorted to without first well considering whether it would be judicious or not. Bringing up a mass of poor unworkable soil to the surface and deeply burying that which is fertile and free working is not the proper method; but in the case of deep alluvial or deposited soils that underneath may be of much the same fertile character as the surface soil was previous to being heavily cropped, and the change may prove most beneficial in consequence. Trenching may also be resorted to where the subsoil has been previously well prepared for bringing to the surface by means of an admixture of various soluble and insoluble materials. Such a depth of fertile soil as is thus broken up ought to be capable of producing extra heavy crops, and curiously enough Potatoes and Celery are greatly improved by being grown on trenched ground. Trenching of any kind should be done as early as possible in the winter, or at any rate long enough in advance of cropping for the ground to settle down considerably, as a firm root-run is particularly desirable in the case of deeply dug ground, or otherwise there is too much leafage formed.



APIARIAN NOTES.

FEEDING BEES.

WHEN should we feed, and what do we feed for, forms a question of no little importance to bee-keepers generally. Bees gather and store honey and pollen for future wants, and when these are in abundance water is the only thing bees require to carry on the internal economy of the hive. Fed hives are never superior to unfed ones. True, feeding will prevent the bees dying

and start them to breed at times when others are not breeding; besides, bees may start with no honey nor pollen, depending entirely upon artificial food, and do fairly well, but such hives will never surpass unfed well managed hives.

Feeding stimulates the bees, which in turn assists their queen, which at first deposits many eggs, is soon crowded, and the steps outside the boundary of the extreme cluster depositing many there to be eaten by the bees. This exhaustive egg-laying continues sometimes for weeks, and affects the hive greatly during the summer months, tending to her premature dethronement, or swarming before the hive is near full strength; "brood-spreading" results in similar disappointments.

The most profitable hive is the one well bred and well found in everything, starts to breed early, but gradually from the centre of the brood nest, never getting outside the cluster of bees; the hive soon increases in strength to swarming point, while the queen, unlike stimulated ones, is able to continue depositing eggs to the extent of 3000 daily for a long time after.—A LANARKSHIRE BEE-KEEPER.

SEASONABLE NOTES.

WITH the exception of July the past month has been the wettest one of the year, 3.35 inches of rain having fallen on twenty-one days. Sharp frosts occurred on the 21st and 22nd of the month, which destroyed all tender plants; but the weather has been mild on the whole. To-day, November 2nd, the thermometer registered 61° in the shade, which has enabled the bees to be on the wing. The bees have been working freely on the Ivy, returning to their hives loaded with pollen, showing that breeding is still going on. I do not care to stimulate them to breed so late in the season, as we must now at any time expect cold frosty nights. High winds, too, are usually prevalent during this month, which will lower the temperature of the hives very much.

Late feeding has a tendency to cause late breeding, and if severe weather should set in the brood would be turned out of the hive. To illustrate what I mean it may be mentioned that the last week in September I drove some bees from straw skeps, putting three sets of driven bees together into a frame hive, filled with combs fully drawn out. In a few days the bees stored 28 lbs. of thick syrup, most of which was sealed over at once. The weather being mild, they continued breeding throughout the past month till the severe frost came on the 21st; two days afterwards I noticed dead brood in various stages of development cast out of the hive. I have noticed the same thing happen under similar circumstances before. It is quite a common occurrence after a spell of cold or wet weather in the spring, more particularly if the bees are at all short of stores in their hives, for them to turn their brood out of their cells, the bees wisely guarding against an increase in numbers when their food supply is short.

Ventilation of the hives should now be seen to, as there will now be no fear of robbing. All entrances that were reduced early in the autumn to prevent robbing may now be opened their full width. Abundance of bottom ventilation will keep the bees in good health, and will prevent moisture condensing on the combs. It was by accident several years ago that I found out the advantage of having my hives freely ventilated in the winter. During a very hot spell of weather the previous summer one of my stocks, although shaded, became overheated. My hives having loose bottom boards I wedged up the body of the hive so that the bees had free access the whole width of the hive, and a good circulation of air soon cooled the hive down, with the result that I had some excellent supers filled, and was not again troubled with my bees bagging out and not working. The hives were left wedged up till the following spring, and came out stronger and in better condition than any of my other stocks. It is better to reduce the entrance again in the spring, as the brood nest should be kept warm; there is also a danger of robbers at that time of the year, and should a stock be at all weak the stronger hives will soon clear out all the stores, and the bees will perish. Once a strong stock get the robbing mania no weak hive will be safe. Robbing is often caused by feeding the bees during the day, also by spilling the syrup. Bees should be always fed at night.

Now is a good time for painting all hives, as there will not be many bees on the wing. All crevices or places where the moisture can get through should be well filled with putty and the paint well worked in. All roofs ought to be made waterproof, and all leakages, in whatever part of the hive they are, should be stopped, for unless the bees are kept dry it is impossible for them to do well. Thin zinc nailed on the roofs of hives makes a capital waterproof covering. It has the disadvantage of getting very hot in the summer, but this can be counteracted by shading. Wooden roofs are sometimes very troublesome when they have knots in them, and will invariably leak at times. I have been troubled very much with them and tried various ways of stopping the wet, but failed in each

case until I obtained some pieces of calico and cut it a little larger than the knot, painted it on both sides, then put a piece over each knot, painting it down. This proved a complete success, for since trying this plan I have never been troubled with a leaky roof.—AN ENGLISH BEE-KEEPER.



- All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Mustard and Cress (*C. Smith*).—A copy of the paper containing what you require has been sent to your address.

Cucumbers and Melon Growing (*Excelsior*).—1, No, not well. 2, The plan you propose is the best under the circumstances. You ask us to reply "simply," and have tried to do what you ask, though we scarcely know what you mean.

Chrysanthemum Sport (*Stone*).—There have been scores of white sports from Vivian Morel exhibited from time to time that have found no favour with judges, for one reason because many of the so-called new varieties have sported back again. It is very doubtful indeed if your sport is of any material value.

Garden Peas.—Chemical Manure for Strawberries in the Open Ground (*J. W. M.*).—The election you propose shall be considered, but you will perceive it would not meet the difficulty you mention of "old friends under fresh names." For the Strawberries you may now use a mixture of superphosphate and kainit in equal parts, applying 3½ lbs. per rod (30¼ square yards), pointing in lightly, and in the spring, when the plants are beginning to grow, supply 2 lbs. per rod of powdered nitrate of soda, or ½ lb. less if the ground be of a dampish nature. The nitrate of soda should be used close up to the plants, but not sprinkled in their crowns, for if started into growth it may do some injury, while if not used near them slugs and other predatory pests escape its effects.

Hollyhocks Diseased (*W. C.*).—Dusting the leaves with soot and lime would be useful, but not sufficiently powerful to destroy the fungus. The best remedy is the Bordeaux mixture, which should be sprayed on the leaves, coating them thoroughly on both surfaces with the finest possible film. That, however, is somewhat difficult to effect on small plants, therefore you may dust the leaves with anti-blight powder, or sponge them carefully with permanganate of potash (Condy's fluid), diluted to a rose colour with water. The stems also should be treated with the solution, as the Puccinia infests them, also the leafstalks, as well as the leaves. It is likely the fungus spores have come from wild Mallow in your neighbourhood, and may not have been brought to the plants. Repeat the sponging as necessary.

Land for Fruit Growing (*J. K.*).—Not only must the staple of the land be taken into consideration but exposure, also local influences affecting the production of superior fruit. Even moderately good samples will not answer your purpose. You ask, "If we know any reason why the district (you name) would not be suitable?" We do not, but this negative evidence is of no use whatever, and if you cannot afford to spend £3 or £4 for an inspection and report by a professional adviser we strongly advise you not to invest your savings with the object in question. Few greater mistakes can be made than for persons with small capital, and no experience in fruit growing, to act as you propose doing, in the absence of sound advice founded on a careful inspection of the site and soil. Assuming the report were favourable the inspector would be the most qualified to give the further information you desire.

Making a Vine Border (*J. L. A.*).—1, The border must be well drained, the drain or drains having proper fall and outlet. A foot depth of drainage should be provided, placing the roughest at the bottom and the finest (about the size of road metal) on the top. Depth of compost 27 to 30 inches. 2, It would be desirable to use soil from both the old pastures, an equal proportion of the top 2 or 3 inches of each, taking care to incorporate them well together. Of these combined, twelve cartloads; fresh horse droppings, one cartload; old mortar rubbish (free from pieces of wood), two cartloads; charcoal, nuts, one cartload; bones, crushed, 1 inch down to ½ inch, 5 cwt. Chop the

turfy loam up roughly, incorporate all well together, and place firmly in the border without ramming whilst in good working condition. The border should be made by degrees so as to give the Vines the benefit of fresh compost, $4\frac{1}{2}$ to 6 feet width being sufficient to begin with, and that should be inside. Muscat of Alexandria Grapes vary considerably in quality, but it is more due to cultivation than to assumed variety. All the firms you mention would supply you equally well with Vines for planting.

Bunching French Lilac (A Market Grower).—The article to which you refer appeared in the *Journal of Horticulture* in the early part of 1892, and the illustration (fig. 67), which we reproduce, may be helpful to you. Bunches of Lilac for vases are in great demand, and to produce the most graceful effect with a limited number of trusses the procedure is as follows:—A handful of damp straw is folded as represented, and tied at A, giving it the form of a Mushroom. The stems of the Lilac are forced through, the ends coming out at B. For hiding the

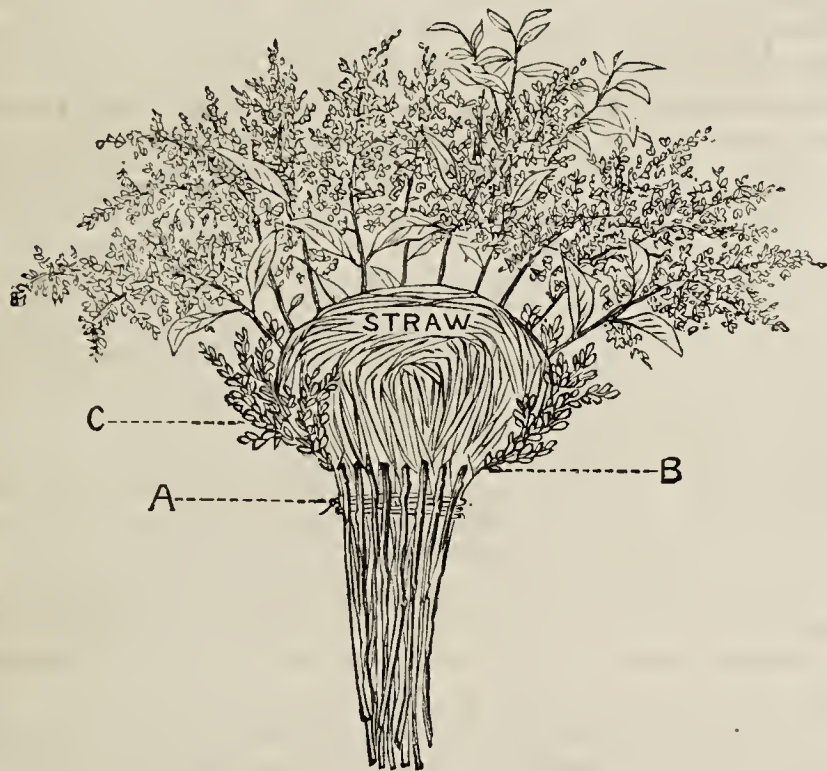


FIG. 67.—BUNCHING FRENCH LILAC.

straw and part of the stems a fringe of Box sprays is secured at C, and a large yet free bunch is provided.

Caterpillar Eating Cineraria Plants (J. W.).—The caterpillar is that of the ghost swift moth (*Hepialus humuli*), also called ghost moth and otter moth. The caterpillar is very destructive to the roots of the Hop and many other plants with fleshy roots, but it is particularly fond of the growing shoots just where they issue from the soil. It is also very fond of Cinerarias, and it plays sad havoc on Strawberry plants intended for forcing, sometimes eating the hearts out of the crowns just below or level with the soil, there being nothing to be seen but a hole on one side, as the ravenous creature has passed into the pupa state when the plants are introduced for forcing. The caterpillar you sent had eaten its way out of the paper and back again, and had formed a sort of web in the soil. The caterpillars of this moth bury themselves in the ground and feed on the roots or stems below the surface or not far above it until they are about $1\frac{1}{2}$ inch long and full fed; then they spin a web in the ground, and in it turn to dark brown-cased pupæ with two rows of spines. From there the moths emerge in June, the male first, which is the smallest, and shortly afterwards the female appears with about an inch more expanse of wing. They have a peculiar appearance from the wings, being straight and narrow, and the flight resembles that of the swift. The best remedy is to examine the soil about where the caterpillar commits its depredations and capture it. It has also been found excellent practice to place sawdust in cavities made about 3 inches wide and deep in the soil here and there, which lies light, and the caterpillars select it for hiding in. Besides, they feed on bark—even sawdust and paper. To make doubly sure, chop up some Mangold Wurtzel and place a good sized pellet in the centre of each sawdust pit. Make daily examination of the sawdust, and kill all the caterpillars found.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the

specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (W. C.).—1, Autumn Pearmain; 2, Herefordshire Pearmain; 3, Court Pendû Plat; 4, Winter Greening. (G. H. T.).—1, A pale fruit of Durondeau; 2, Louise Bonne of Jersey. (J. W. P.).—1, Rotten; 2, Braddick's Nonpareil; 3, Pineapple Russet; 4, Striped Beefing. (T. H.).—1, Probably local, and not good; 2, King of the Pippins. (J. S.).—Apples: 1, Gray Leadington; 2, Court Pendû Plat. Pears: 1 and 2, Beurri Lefevre. (J. D.).—1, Bonne d'Ezée; 2, Not known, and not good; 3, Van Mons Léon Leclerc; 4, Quite hard. All the fruits are inferior. The Apple is Round Winte; Nonesuch. (T. W.).—Grosse Calabasse. (W. W.).—7, Doyenné du Comice; 8, Not known, and not good; 9, Van Mons Léon Leclerc; 10, Beurri d'Arenberg; 11, Napoleon; 12, Beurri Diel.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (Sunbeam).—If you had seen the crushed and dried "specimens" when they arrived here you would have at once admitted the utter impossibility of determining their names. We have pleasure in naming plants that come within the above standing conditions, and when our precise instructions on packing (in the interest of senders of specimens) are complied with. (J. H.).—What you send are florists' varieties, not species; they can only be named by comparison with others in a large collection, and we are sorry the frost and wet have destroyed all flowers in the collection to which we have access. (T. W.).—1, *Solanum jasminoides*; 2, *Glechoma hederacea variegata*. See "Names of Fruits" for the Pear. (J. B.).—1, *Platycerium*, too small for determining the specific name; 2, *Acalypha tricolor*; 3, *Cassia corymbosa*.

COVENT GARDEN MARKET.—NOVEMBER 7TH.

MARKET quiet.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, per half sieve ..	1	6	to	4	Lemons, case	10	0	to	15
" Nova Scotia, per barrel ..	10	0	15	0	Peaches, per doz. ..	0	0	0	0
Grapes, per lb.	0	6	1	6	Plums, half sieve ..	0	0	0	0
Cobs, per 100 lbs. ..	22	6	25	0	St. Michael Pines, each ..	2	0	6	0
					Strawberries per lb. ..	0	0	0	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per lb. ..	0	6	to	0	Mustard and Cress, punnet	0	2	to	0
Beet, Red, dozen	1	0	0	0	Onions, bushel	3	6	4	0
Carrots, bunch	0	3	0	4	Parsley, dozen bunches ..	2	0	3	0
Cauliflowers, dozen ..	1	6	3	0	Parsnips, dozen	1	0	0	6
Celery, bundle	1	0	1	3	Potatoes, per cwt. ..	2	0	4	0
Coleworts, dozen bunches	2	0	4	0	Salsafy, bundle	1	0	1	5
Cucumbers, dozen	1	0	2	6	Scorzonera, bundle ..	1	6	0	0
Endive, dozen	1	3	1	6	Shallots, per lb.	0	3	0	0
Herbs, bunch	0	3	0	0	Spinach, bushel	1	6	3	0
Leeks, bunch	0	2	0	0	Tomatoes, per lb. ..	0	2	0	6
Lettuce, dozen	0	9	1	0	Turnips, bunch	0	3	0	4
Mushrooms, punnet ..	0	9	1	0					

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	3	0	to	6	Pyrethrum, dozen bunches	2	0	to	4
Asparagus Fern, per bunch	2	0	3	0	Roses (indoor), dozen ..	0	6	1	0
Bouvardias, bunch	0	6	1	0	" (outdoor), doz. bunches	6	0	12	0
Carnations, 12 blooms ..	1	6	3	0	" Tea, white, dozen ..	0	6	2	0
" doz. bunches ..	9	0	12	0	" Yellow, dozen	2	0	3	0
Chrysanthemums	3	0	9	0	" Safrano (English), doz.	1	0	2	0
" doz. blooms	2	0	6	0	" Maréchal Niel, doz. ..	3	0	8	0
Dahlias	2	0	4	0	" (French), ye low, doz.	1	6	2	0
Encharis, dozen	2	0	4	0	" blooms	2	0	2	6
Gardenias, per dozen ..	2	0	4	0	" (French), Red, dozen	2	0	3	0
Geranium, scarlet, doz.	4	0	6	0	" blooms	2	0	3	0
bunches	1	6	2	0	Stephanotis, dozen sprays	4	0	6	0
Gладиолус, dozen sprays ..	3	6	5	0	Tuberose, 12 blooms ..	0	4	0	6
Lilac (French) per bunch	6	0	9	0	Violets (English), dozen	1	6	2	0
Lilium longiflorum, dozen	1	6	3	0	bunches	2	6	3	0
Marguerites, 12 bunches ..	4	0	6	0	Violets (French), Parme,	1	0	2	0
Maidenhair Fern, dozen	1	0	3	0	per bunch	1	0	2	0
bunches	1	6	12	0	Violets (French), Czar, per	1	0	2	0
Mignonette, 12 bunches ..	6	0	9	0	bunch	1	6	2	0
Orchids, per dozen blooms	0	6	1	0	Violets (French), Victoria,	1	6	2	0
Pelargoniums, 12 bunches	0	6	1	0	dozen bunches				
Primula (double), dozen	0	6	1	0					
sprays	0	6	1	0					

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	to	12	Ficus elastica, each ..	1	0	to	7
Aspidistra, per dozen ..	18	0	36	0	Foliage plants, var., each	3	0	to	10
Aspidistra, specimen plant	5	0	10	6	Lilium Harrisii, per dozen	12	0	24	0
Chrysanthemums, per doz.	3	0	6	0	Lycopodiums, per dozen ..	3	0	4	0
" large, per doz. ..	9	0	18	0	Marguerite Daisy, dozen ..	6	0	12	0
Dracæna, various, dozen ..	18	0	42	0	Mignonette, per doz. ..	6	0	0	0
Dracæna viridis, dozen ..	9	0	24	0	Myrtles, dozen	6	0	9	0
Erica, per dozen	9	0	15	0	Palms, in var., each ..	1	0	15	0
Eucalyptus, var., dozen ..	6	0	18	0	" (specimens)	21	0	63	0
Evergreens, in var., dozen	6	0	24	0	Primulas, per dozen ..	4	0	6	0
Ferns, in variety, dozen ..	4	0	18	0	Solanums, per dozen ..	10	0	12	0
(small), per hundred ..	4	0	6	0					



ROUGH PASTURE.

UNDER this term we include all land in grass that is left very much to Nature, and has no systematic cultivation. It is notorious that of the vast area of land gone down to grass since 1879 a large proportion has been regarded as out of cultivation, has had nothing like systematic cultivation, was never prepared by sound tillage for the sowing of the seeds, and so has never proved really profitable. "New laid down" is the term used by farmers in reference to inferior pasture, and its effect upon the mind of a prospective tenant is very similar to the hoisting of a danger signal or storm warning. Beware! the plant is thin, the soil is poor, cold, wet is its meaning; and we are bound to say it is true enough in many an instance under our own observation. When the Whittlebury estate in Northamptonshire came into the market, on the death of Sir Robert Loder, we were requested to make a careful inspection of it, and were delighted to find that not only had that liberal landlord supplied his tenants with Sutton's Permanent Pasture mixture of seeds, but every acre of the farms were drained. The inspection of those luxuriant young pastures was positively refreshing after the miserable caricature of young pasture generally met with.

Well, the fact is patent to every thoughtful observer that there is much inferior pasture everywhere, that nothing has been done to reclaim it in a sound practical manner, and persons desirous of doing so are frequently at a loss how to proceed. We have given an example of successful reclamation from our own practice, and will now go a little more into detail. In the selection of seeds for pasture renovation avoid the finer Grasses, giving preference to those of coarser, stronger growth, as calculated to become established, and to thrive in the pasture. There can be no doubt that a liberal proportion of Perennial Rye Grass and White Clover is good, the remarkable example which we have given from Lord Wantage's home farm proves this. To them add Cocksfoot, Meadow Fescue, Tall Fescue, Timothy, and Meadow Foxtail; and remember that by sowing a careful mixture of pure seeds of these Grasses, with a fair addition of Clovers in soil that was carefully prepared and subsequently well cultivated, pasture has been made to carry ten sheep to the acre, to yield hay crops of a bulk that was equally remarkable, with an aftermath of such luxuriant abundance as to make even a Cheshire grazier's mouth water. The seeds should be sown either in the autumn or spring—say early in September or March, giving the pasture at the same time a sufficient dressing of compost, pond mud that has been exposed for a year or so, or other soil, so as to form a covering for the seed, and a hold for the young plant. If the pasture has had a dressing of chemical manure at the end of February, as it should always have, the growth of the seedlings will be strong enough to enable them to survive in the first season's struggle with that of the established plant. Afterwards the herbage will thicken, there will be no more bare patches, and the growth will prove alike useful for hay or grazing.

The subsequent cultivation to be regarded as indispensable is a full annual dressing of manure, either chemical manure at the end of February or sheep folding during the winter. This season we used a mixture of which we have already given the proportions for cropping generally, and which answered so admirably that it may usefully be given again here. It is one-eighth nitrate of soda, one-eighth sulphate of ammonia, one-eighth muriate of potash, one-eighth steamed bone flour,

one-half mineral superphosphate. Applied at the rate of 4 to 5 cwt. per acre it is a complete plant food, not only inducing a robust early growth, but an equally vigorous after-growth, and there is a sufficient residue left in the soil to impart a green, healthy appearance to the herbage in winter. The cost per acre is from 16s. to 20s. By persistence in its use early vigorous growth may always be calculated upon. To those of our readers who have used either of our old mixtures so successfully, we do not advise change, but with pasture in good heart even they may find some benefit from a trial of this recipe in which nitrogen, potash, and phosphoric acid are so admirably blended.

WORK ON THE HOME FARM.

The weather was so dry and warm during the first three weeks of October that the flock was kept on low-lying pasture much later than usual. As a general rule sheep are withdrawn from marsh and dale pasture at Michaelmas, a gain of two, three weeks longer grazing this year being of some importance, as the hill pastures have all the more herbage now. For the last fortnight the exceptionally heavy rainfall has induced extra care with the sheep. They are mainly on sound upland pasture, the exceptions being folds on Clover and White Turnips. Look closely after hoggets in Turnip folds, and give them a run on pasture daily. Give close attention also to foot rot. Withdraw every case from the flock for regular treatment in a close near the shepherd's cottage or the homestead. See that the treatment is thorough, and let the master prove to his own satisfaction that the shepherd is not only competent to pare and dress the feet, but is gentle, and careful not to injure the hoof or inflict unnecessary pain. Examine the feet of the entire flock sufficiently often to prevent injury from pieces of stone or other substance between the hoofs, or from the breaking of overgrown hoofs. Recently purchased sheep at the autumn fairs are being kept apart from the other sheep till we are satisfied they are quite sound. Scab and foot rot are both infectious, as dear bought experience taught us long ago. It has also taught us that prevention is better than cure.

Swine fever appears to be as far as ever from being stamped out; fresh outbreaks of this terrible disease are of frequent occurrence, solely, as we believe, for want of care. It is beyond doubt that the fever is very generally caused by the filthy condition of the buildings and enclosures in which pigs are kept. Bedding and walls reek with filth, the pigs wallow in it, feed upon it, pack themselves in fermenting litter; can we wonder that fever breaks out at farms far away from any chance of contagion? Cleanliness of food, litter, floors, and walls, are the simple yet efficient means of prevention we have found answer. Concrete floors, surface drains, walls regularly lime-washed, and clean dry litter for bedding, all tend to keep swine healthy and comfortable.

OUR LETTER BOX.

Delicate Animals (*A Young Farmer*).—By all means keep small or delicate animals apart from others; an extra division or two in yards is easily contrived, and is quite worth while to keep them from being worried and driven from the food by the stronger ones. To understand the importance of this it is necessary to be frequently among them at all times of the day.

METEOROLOGICAL OBSERVATIONS.

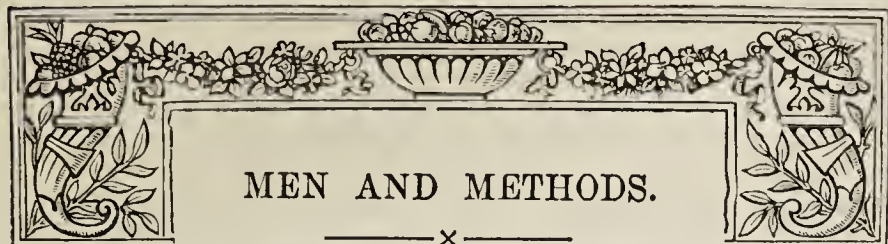
OAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1894. October and November.		Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday	28	29.652	49.3	47.9	W.	49.9	56.2	47.1	82.8	44.3	0.451
Monday	29	29.655	49.6	46.8	S.	49.6	56.2	44.6	80.3	40.2	0.080
Tuesday	30	29.773	49.0	48.3	S W.	49.1	55.0	47.7	56.0	43.3	1.346
Wednesday	31	30.043	54.9	54.7	S.	49.4	60.2	48.9	76.4	48.1	0.010
Thursday	1	30.036	57.3	53.7	S.	50.7	63.9	54.3	98.1	50.9	0.085
Friday	2	29.850	58.1	56.2	S.	51.1	60.7	51.7	68.2	48.7	0.021
Saturday	3	29.793	57.1	55.0	S.E.	52.1	62.6	54.3	88.7	5.3	0.090
		29.829	53.6	51.6		50.3	59.3	50.2	78.6	46.5	2.083

REMARKS.

- 28th.—Bright sunshine almost throughout, and clear night, but a slight shower between 8 P.M. and 9 P.M.
 29th.—Heavy rain from midnight to 1 A.M. and at 3 A.M. Bright from sunrise to 11 A.M., and from 1.30 P.M. to 3.30 P.M. Rain from noon to 1 P.M., between 4 and 5 P.M., and occasional drops later.
 30th.—Incessant rain from 6 A.M. to 4 A.M. on 31st.
 31st.—Incessant rain till 4 A.M., and frequent showers and drizzle till 10 A.M.; fair after with occasional gleams of sun between 1 to 3 P.M.
 1st.—Fine and generally sunny day; slight shower in evening.
 2nd.—Rain in small hours; mild and damp morning; fair afternoon; drizzle and slight showers in evening.
 3rd.—Fine early; a ternate gleams of sun and spots of rain in morning; cloudy afternoon with heavy rain from 4 to 4.30 P.M.
 A wet week, and an exceptionally mild one.—G. J. SYMONS.



MEN AND METHODS.

A MAN must to some extent impress his individuality upon his works, and the more marked that character appears in the workman so much the more in evidence is it in the subject under his hand. Taking a broad view of the matter, we find from the earlier examples of gardening down to our own time varying phases of the art on which different generations have set the seal of character now passed or passing into history. The ingenuity displayed by the Dutch school in reproducing in the vegetable kingdom forms of animal life or other quaint conceits bore witness to human skill and patience. It was a method by which Nature was debased to glorify the cunning hand of the workman. In criticising former workers and their work, allowance must be made for imperious fashion, which, ruling in the more restricted area of bygone days, probably entailed a closer bondage than obtains in our time. Apart from the curiosity of looking back, it is necessary to do so in order to mark progress. Generations to come will be privileged to do the same by us. What will be their criticism of present-day men and their methods? Presumably that is not a matter of immediate concern, but in helping ourselves we are doing much for future workers.

Past, present, or future, Nature must ever be an old hand for the young beginner to cope with, and he needs all the practical experience of older heads, coupled with the energy of youth, to fit him for the contest. Given these, his reasoning powers will show how, under varying circumstances, empiric rules must become elastic in his aim to do the best and be amongst the best men of his day. On one occasion, when the writer was at that age in which young gardeners know so much, to find after they have so much to learn, having charge of a plant house, the watering operation was just concluding as the chief put his head in the doorway. Unguardedly the surplus water was poured into the nearest pot. "Was that plant dry?" was the stern remark. "If so, water it properly; if not, let it alone." Thus the right method was instilled into the youthful mind. Years after, on a visit to one of those huge plant emporiums in the vicinity of London, the *modus operandi* was noted to consist of one small boy with a long hose pipe, who went from house to house drenching the occupants in a style worthy of the fire brigade. Certainly in this case circumstances altered cases, yet whilst the results in one case had to undergo the fierce light which beats upon the exhibition table, the rough-and-ready method had to pass the ordeal of keen competition in the market. So it must ever be: this apparent inconsistency of different methods. If our system, whatever it may be, yields the best, we should, I suppose, rest content; but we do not, there is a spirit of inquiry abroad prompting us to ask the reason why. This wholesome form of inquisitiveness is characteristic of modern gardeners. Work and thought go on contemporaneously. The man whose first thought is for his charge, his last for himself, does not fail to read the dumb alphabet of plant life. He enjoys the health and vigour responsive to his treatment, or becomes equally despondent over the reverse.

Where a change in the leadership happens to be made in an establishment, and that in which the system of culture has attained to the highest point of excellence, it is always a matter of anxiety, and often of some difficulty with the new comer in endeavouring to maintain it. To the new man local methods of performing work

in some instances appear awkward, and the desire arises to sweep them away. Yet with the undoubted capabilities of a new broom he may find discretion the better part of valour. Even with those customs having but little else than antiquity to recommend them it may require some time and diplomacy to effect the change, for by the reason of age they are the hardest to efface. Undue haste may mean little short of a revolution.

Some of our most cherished ideals, and some we fain would keep are doomed. In but few places can time now be found for that patient system of training by which our garden walls were covered in mathematical precision by the fruit bearers. The free hand system will doubtless relegate it to obscurity. Apart from appearance, which cannot be ignored in a well-kept garden, a freer method of training may result in some danger of overcrowding when the eye is no longer controlled by fixed rules. Hard and fast lines are not always desirable, but to most eyes that have seen perfect examples on a good wall they were lines of beauty. Why do Peaches not succeed on the walls outside as formerly? Good examples of this method of culture are—at least on this side the Channel—all but of the past. The above question was put to me some years ago by the late Sir John Mitchell, then commander of the forces in Ireland. He quoted various instances of gardens formerly noted for outside Peaches in which their place knew them no more. The result of our discussion was a mutual abuse of climate. Yet I have thought since the decadence is more attributable to men and their methods than to any climatic change, which, if in progress, covers too vast a span of time to be appreciable in our short span. That our much-abused climate is to blame is negatived by some admirable examples still to be met with, though few and far between. Cheapened glass, with time and labour diverted into fresh channels, is probably the reason.

An employer once said to the writer, "I know a gardener's work is never done, and I consider it is never paid for." This arose from a keen perception of the ever-increasing work with the consequent physical and mental labour necessary to cope with it. Men in general, and gardeners in particular, have a wholesome ambition to be up to date, and as that up to date is ever moving on with but a remote possibility of its stopping, any plan whereby head and hands can keep up with fleet-winged Time must be embraced. He who accomplishes best this desirable end is the man of method, with clearly defined ideas of what he will do, how he will do it, and the most suitable time to carry out his purpose. —E. K., *Dublin*.

FORMS OF FRUIT TREES.

WITHOUT going the length of advising British gardeners to closely imitate the French methods of training fruit trees, I yet am of opinion that a little more variety might with advantage be introduced into our gardens. Fan-shaped Apricot, Peach, and Plum trees, with Pears horizontally trained for walls, also bush, pyramid or standard Apple and Pear trees for the open, are all many of our growers aspire to, a comparatively few adding cordons with perhaps one or two other methods of training. If by means of these old-fashioned trees every available foot of wall space could be kept well clothed with fruiting wood, and every plot of open ground utilised to its full extent, then there would be nothing that could reasonably be urged in favour of a departure from these time-honoured practices. As it happens half the walls in the country are imperfectly clothed with trees, and much good garden ground is occupied that might be turned to better account.

Especially is this the case with horizontally trained Pear trees. As a rule these are assigned more room than they ever occupy. A fairly vigorous variety worked on the Pear stock ought certainly to cover a breadth of 15 feet to 18 feet, and reach almost any height, but not if planted in succession to old trees and in borders only partially renovated. Not unfrequently trees on the Quince

stock, or, it may be, double grafted trees, are given the same amount of room as those on the Pear stock should have, and this they rarely require. In any case they are several years before the lower branches meet, and in the meantime there has been so much wall space wasted. If, therefore, horizontally trained trees are disposed from 15 feet to 18 feet asunder, why not plant one, two, or three-branched vertical cordons midway between them? In not a few cases there is good room for what are known as "grids," or trees with five or six main branches arranged gridiron fashion. Such can be had already framed out from the leading nurserymen, or they could easily be grown from maidens. They are simply trees with a stem about 1 foot or rather less in length, with two horizontal main branches from which five or six other shoots are trained straight up the wall and treated similarly to cordons or the branches of horizontally trained trees. These trees are especially to be recommended for clothing the buttresses that occur at somewhat short intervals on many garden walls. They are preferable to cordons, as they require to be less often root-pruned in order to keep them in a productive condition, and, I think, present a more attractive appearance.

Are horizontally trained trees so very desirable for furnishing walls? In my opinion they might well be dispensed with altogether in many instances in favour of palmette verriers. These latter briefly described are merely a combination of horizontal and upright training. At the outset it should be decided how many pairs of branches shall be formed and allow space accordingly. They can be grown with from three to seven pairs of branches, and a good number as being more certain to clothe the whole of the allotted space would be four pairs. For every pair of branches a width of 2 feet should be allowed, and an eight-branched tree would in about six years furnish wall space 8 feet wide and 8 feet or more high. The start may be made with either maidens or horizontally trained trees furnished with two pairs of branches and a leader, the preference always being given to comparatively young trees, any that are stunted and with spindly leaders not answering well. At the winter pruning shorten the leader to a length of about 10 inches, and from this, during the following summer, another pair of branches and a leader should be obtained. If the latter grow strongly and harden sufficiently this may be shortened at midsummer, and a second pair of branches and leader, if further required, be had in one season. The leading growth on side branches should be shortened at the winter pruning if at all weak, and left to the full length if moderately strong. For the first three or four years train these obliquely with a view to promoting a free growth, but before they stiffen too much bring the lower pair down to an horizontal position, and train along till the full width is reached, when a sharp curve must be given so as to bring the branch from that point straight up the wall. The next pair should be duly taken to within 1 foot of the other and then trained upright, and so on till the whole of the space is filled. Thanks to the extra long run of lower branches these hold their own with the better placed central ones, and in this, as well as in other respects, palmette verriers, or modifications of the same, have the advantage.

Cordons—one, two, or three-branched—are now common enough in this country, but in several instances I have noticed that those horizontally trained are failures, owing to non-attention in the matter of root-pruning. Where the sharp curve is made they are most liable to form extra strong growths, and once these are allowed to gain the upper hand the cordon soon becomes a bush. I could point to some fine bush Apple and Pear trees that were at one time two-branched cordons only. Root-pruning having been neglected the growths from near the curve were unmanageable, and in the end the trained branches were cut back and bush trees formed. Horizontal cordon trees should be well attended to, or not planted at all. In any case they are only suitable for training alongside walks and growing in front of trees trained as espaliers. For low walls obliquely trained single or double cordons answer well, and vertical cordons are suitable for any garden wall, end or front of dwelling house. All things considered the preference might well be given in these latter cases to U-shaped or two-branched cordons, planted 3 feet asunder and trained vertically, these effectively furnishing a wall. Fruit trees are not half utilised as they ought to be for clothing the ends and fronts of buildings. In many instances they might be taken up with a single stem past doorways or windows, and lateral branches laid in wherever there is space to be clothed. Apples, too, might, with a little extra trouble, also be made to furnish house fronts; and who will say that they are unsuitable for such purposes?

There is, however, one form of cordon not so often met with as is desirable. Nearly or quite all that have been alluded to require to be supported by fencing of some kind, or to be trained to a wall; but the single upright cordons scarcely need a stake at the outset, and in time become perfectly rigid and self-supporting.

Especially is this the case with Pears. I have seen long rows of these 12 feet high, and heavily hung with fruit from near the ground to the top of the tree. Trees of this columnar form can be dotted-in almost anywhere, or an avenue might be made with them. These can be had from English nurserymen already formed, and would commence paying their way almost from the first. Low horizontally trained cordons, as before hinted, are not, as a rule, of much value, and instead of these, vertical single cordons should be grown. In school and other educational gardens fences are being formed with diamond or diagonally trained cordons, and this plan answers well for Apples and Pears; but I doubt if Plums will succeed so well under this method of training—they will form too much wood growth.

Peach and Nectarines with one long straight stem trained obliquely have been tried in a few places, and for clothing a wall quickly they answer well. I must, however, confess to a liking for the older methods of furnishing a wall, short of the hard pruning to which our forefathers resorted. Riders, or trees with long clear stems, at one time were not so often planted as formerly, owing probably to their extra cost, but these rightly enough are again coming in favour. By planting them midway between dwarf trained trees, high walls are quickly furnished, and so well do the standards or half-standards, as the case may be, succeed, that instead of their being cut away to make room for the dwarf trained trees, the latter actually have to make room for the riders. Some of the most profitable Morello and other Cherry walls in the country are clothed with dwarfs and tall trained trees in equal numbers, fan-trained trees as a rule giving the best results. Standard Gooseberries and Red Currants are not yet largely grown, but they must eventually come to the front, as they not only present an ornamental appearance, cropping heavily too, but also admit of more bushes being grown in a given space. Gooseberry fences, again, are not often seen, but they are a great success where they are properly managed. Two-branched U-shaped cordons are perhaps the best for clothing a high wire fence with fruiting wood, and these trained vertically and properly stopped and pruned are highly productive.—W. I.

SEASONABLE HINTS ON FLORISTS' FLOWERS.

GLADIOLI.

ALTHOUGH my own experience is that the varieties of *gandavensis* may be left in the ground if they are slightly protected by ashes or cocoa-nut fibre, yet I would not counsel anyway, especially a beginner, to adopt this plan; therefore, the very important matter of lifting the bulbs, as it is called, must now be proceeded with. The foliage has now to a great extent become yellow, indicating the maturity of the bulbs; and although it may happen that there should be no severe weather during the present month of November I think it would be well not to run the risk, so I have already commenced taking up mine. Different growers may have different places for drying theirs off; I find the shelves of a cool greenhouse answer the purpose well. I think it well to tie the bulbs of one sort together loosely, so as to prevent confusion of names, and when they have been here for some two or three weeks they may be trimmed; and where it is deemed desirable to increase the collection care will be taken to preserve the spawn (as the small bulbs are called) which cluster round the base of the bulb; and as each root is cleared off these should be carefully removed and placed in small paper bags or boxes.

I always write the name of the bulb upon it, so that if by any mischance it gets mixed with others no harm is done. I have always kept my bulbs in an open work trellis box with trays, so that both light and air can get to them. Others place them in paper bags; others, again, on shelves in the fruit room or any other suitable place where they can be kept free from frost and damp. When put in bags they are more inclined to stimulate growth, and, therefore, I prefer the plan of laying them out singly. With regard to spawn, they differ very considerably as to the amount produced, some varieties hardly ever producing a single bulb, while others produce them in hundreds. A very beautiful variety raised by Mr. Burrell of Cambridge, called *Snowdon*, was commercially useless; and so, although one of the finest whites ever raised, it has disappeared from the catalogue. There does not seem to be any reason for this difference, and it is one of those horticultural puzzles which we must be contented to let remain as inexplicable. There are many new and beautiful varieties of which something may be said by-and-by.

PANSIES.

The cool season has been favourable for these plants in the south of England, where, as a rule, they suffer much from the greater heat and dryness of the atmosphere, and are more suited

for the cooler and more humid portions of the kingdom. The very beautiful varieties exhibited by northern and Scottish growers, and which come to the exhibition at the Drill Hall in the end of June, must have made many wish to cultivate them. Many years' experience have convinced me that in our southern counties by far the safest plan is to grow them in pots.

TULIPS.

I have never been an orthodox cultivator of this bulb. By this I mean I have never grown a collection, or had a bed such as is familiar to all true growers of the flower, and I think at my time of life I must be content with the slap-dash way in which I do cultivate them. The very interesting articles by your correspondent, Mr. Bentley, which are now appearing in the columns of the Journal, are sufficient to make me shrink into my shell, while I cannot but admire the enthusiasm with which he writes about them. However, whether they be grown in the orthodox style or in the way in which I grow them, the 20th November has generally been considered the best time for planting. I have not as yet been able to plant the Early Tulips as they are called, but hope to do so next week, and then plant my bed with the late flowering varieties.

ROSES.

Now is the time to re-arrange the beds to get in such new varieties as may be desired, and to cover up for the winter. My plan is to earth up the soil about the neck of the plants, almost as you would earth up Potatoes, and then cover the bed over with some good decayed litter. This will help to protect the neck of the plants from the action of frost, while the winter rains will wash down the fertilising elements in it, and thus encourage the growth of the plants. All long shoots may be cut back about one-third of their length, and so preserve the plants from being loosened by the wind.—D., Deal.

COTYLEDON FASCICULARIS.

THE spray represented in fig. 68 was cut from a plant growing in the Peach house of F. Muir, Esq., The Lodge, Effingham. It is by no means a common, though an old plant, and is decidedly attractive by the chaste form of the flowers, which are yellow, green, and red, and are borne on branched stalks from 10 to 20 inches high. The plant is not, however, so much valued at Effingham for the beauty of its flowers as for the healing properties of its fleshy leaves. These are regarded in the neighbourhood as a sovereign remedy for inflammation of the eyes especially, and Mr. J. Hamlin, the gardener at Effingham, tells of several "cures," and of the many demands he has for leaves to be sliced and applied in muslin as poultices. For this reason mainly the plant is an old, if mutilated favourite, and occupies a dry position near the hot-water pipes in the structure named. *Cotyledon fascicularis* is a native of South Africa, and was introduced more than a century ago.

THE FLORISTS' TULIP.

[By JAMES W. BENTLEY, Hon. Secretary to the Royal National Tulip Society.]

(Continued from page 401.)

THE PROPERTIES FURTHER CONSIDERED.

HAVING now, I hope, given a fairly clear account of what constitutes excellence in the Tulip, and also sufficient explanation of the properties of the flower to give the reader a fair grasp of the subject, I pass on to some of the minor mysteries of the fancy.

Of *breeders*, as flowers, there is not much more to be said. They should conform to the standard in shape and purity, be uniformly coloured according to the class to which they belong, and show no speck, or spots of any other colour whatever. A higher degree of excellence in size and shape is generally to be noticed at exhibitions among the breeders than among the rectified flowers. This is only natural, as breeders are constantly being improved by the efforts of seedling raisers, and it is of course among the breeders that improved seedling types first make their appearance. The Rev. F. D. Horner (Kirkby Lonsdale), and Mr. James Thurstan (Cannock), have many excellent seedling breeders, from which some fine novelties will, no doubt, be broken. The late Mr. Lloyd of Petersfield has left behind him a large number of seedling breeders of great promise, which being now in careful hands will no doubt produce some fine flowers to keep the memory of that excellent florist green for many years to come.

Of *rectified* flowers there is still much to say. It has been mentioned before that when breeders break or rectify in such a way as to produce either feathered or flamed Tulips, those *breaks*, as they are called, are much esteemed; but it must not be thought that a breeder is sure to break in either of the two desired ways.

It may only, as it were, partially break by forming a few dark streaks among the lighter breeder colour, which still continues to suffuse the petals; or it may break in such a way as to show large irregular patches of the breeder colour among the darker markings.

Such breaks are valueless from the florist's point of view, and should be discarded from the Tulip bed, as they are most likely to remain bad, no matter for how many years they may be grown. If allowed to grow, a bulb that has broken badly becomes the originator of what is known as a *bad strain*, as all the offsets partake of the character of the parent, and when they come to blooming size show the same faults. On the other hand, when a bulb breaks finely, either feathered or flamed, the offsets are likely



FIG. 68.—COTYLEDON FASCICULARIS.

when they come to blooming size to be good also in the same style; and thus what is known as a *good strain* is produced.

It will be seen from the foregoing that when making additions to a Tulip collection it is necessary to have none but good strains, and that names alone are no guide whatever, for there may be worthless strains and good strains of any variety. Formerly, when Tulips commanded high prices, much harm was done to the fancy by these bad strains being sold for good ones; but now Tulips are so cheap that the best strains of most of our standard varieties can readily be procured.

Another property of the rectified Tulip is its *inconstancy* so far as its markings are concerned; for instance, a bulb may have produced a grand feathered flower one year, and next year may disappoint its owner by coming almost flamed. Worse still, it may, for some inscrutable reason, bloom all suffused with colour, like a "run" Carnation does, and become practically valueless; for when a rectified Tulip either feathered or flamed gets *full of colour*, as

this "run" condition is termed, it is best to discard the bulb that produced it if of a variety that is plentiful, as although instances occur of such bulbs returning to their old quality, it may be many years before this happens. If the bulb that has gone wrong be of a scarce variety it may be wise to keep it for a few years, and by planting it extra deeply in poorer soil hope, by giving it more work and less food, to cause it to turn from the error of its ways.

This inconstancy of marking may seem to some to constitute a grave defect in the Tulip, but really it is one of the flower's chief charms in the eyes of the grower. As blooming time approaches his eager glance from early morn to dewy eve roves over his bed with the keen delight of anticipation; and when the bloom is on what recks he, though many of his flowers are mis-marked, if he can find a few only exquisitely perfect in their markings.

Correct culture has great influence on marking, and an intelligent and careful grower will produce flowers far better marked than those of his ignorant or indolent rival, and it is surprising how many excellent flowers can be produced from a very moderate stock of bulbs, provided the varieties and strains are good and the culture suitable.

It will now be readily understood that one variety may exist in three states—as a breeder, as a feathered flower, and as a flamed flower. Some varieties, like Sir Joseph Paxton, which is our most prominent bizarre, are equally valuable in all three states; other varieties are good feathered, and valueless in either breeder or flamed state; others are of no value when feathered, and only good flamed; whilst, lastly, others are worthless altogether when broken, and are only esteemed as breeders.

A variety must have a combination of qualities before it can make any considerable mark in the Tulip world. It must have a good constitution and increase freely: it must break well and be fairly constant when broken. Such a combination of qualities is not too common. Still, a good number of varieties possess it, and these constitute the bulk of our collections. Many otherwise fine varieties are little seen or heard of in consequence of their want of vigour. In every collection, I suppose, there is some shy sort that blooms perhaps once in two or three years and never favours its owner with a particle of increase. I well remember the late Mr. Samuel Barlow of Stakehill (who for many years was looked up to as the father of the Tulip growers, and whose death last year was a severe blow to the fancy), had a seedling of Hepworth's called "Hope Deferred." It was a lovely feathered bybloemen when it condescended to bloom, which was seldom; it never made an offset, and one season it gave up the task of coming up at all, and died. Other varieties are very inconstant, and make a kind of meteoric reputation one year and then sulk in a muddled condition, as it were, for many years, only to blaze out once again in brilliance and beauty. Every grower has kinds like these, varieties that have delighted him by their perfections in years gone by, which he is growing on through years of disappointment in the hope of seeing again in their former style.

(To be continued.)



PLEIONES.

FROM a botanical point of view this genus is almost identical with *Coelogyne*, but the totally different habit and manner of flowering render them quite distinct as garden plants. Pleiones are all deciduous, while the leaves of *Coelogyne*s are persistent; the pseudo-bulbs also of the former are only of annual duration, while those of the latter keep fresh and green for several years. Pleiones are all found high up on the Himalayan and other mountains in India, several of them in localities where frost and snow are of frequent occurrence in winter. Many growers prefer large pans a foot or more in diameter for these Orchids, but if grown in pans half this size they are more useful for decoration, and thrive equally well.

The plants after flowering should be pulled apart, and each pseudo-bulb shaken clear of its neighbour. A little of the old root should be left on, as this is of advantage in holding the pseudo-bulbs in position until new roots are formed. In repotting form a convex mound, on which place the pseudo-bulbs, as the flowers are shown to greater advantage than when kept flat. Dibble the soil firmly about the roots, and give a light sprinkling of water to

settle this. After potting place near the glass, and give no more water until the young growth is well advanced. A suitable compost for Pleiones is fibry loam and peat in equal proportions, with a little chopped sphagnum and finely broken crocks. While making their growth Pleiones are best in the cool end of the Cattleya house, or rather warmer than the *Odontoglossums*. When this is finished, and the foliage begins to lose colour, they may be placed in a light position in a cooler structure to ripen the pseudo-bulbs.

The first to flower is *P. lagenaria*, which makes a brilliant show during November, followed by *P. maculata* and *P. Wallichiana*. *P. humilis* flowers in February or March. The lip of this species is one of the most beautiful combinations of colour imaginable. *P. Hookeriana* is found growing at a greater elevation than the others named, and should be kept in the *Odontoglossum* house all through the season. This species blossoms in April, and does not require any loam in the compost. It is the rarest among those named, and also the most difficult of cultivation.—H. R. R.

RIPENED WOOD.

FOR the information of Mr. Clark (page 422), who is either a novice or feigns ignorance, I may observe that when people speak of "a range" of houses, they refer solely to the structures, and not to the contents thereof. "A Judge" sums up with truly judicial ponderosity, but includes some very unjudicial backhanders. As, however, I am always seeking information—which I do not obtain—from these ripe wood men, I would inquire of "A Judge" how he explains the fall of Apples before the frost, which was the real and main cause of the scarcity of this crop? He informs us that the foliage protected Pears, but not Apples; yet, strange to say, the frost affected both in an identical manner—viz., by cracking them. This correspondent refers to the self-evident fact that there was a glut in the fruit market this summer; but he forgets that this is largely due to the lavish amount of fruit tree planting undertaken in all directions during the past few years. He also forgets that it is the nature of both Pears and Plums to give heavy crops at rare intervals—a habit which even the highest culture is unable to control entirely. For several years past there have been deficiencies in the return of both Pears and Plums, consequently an abnormal crop was due, and had it been prevented this year by unseasonable weather in spring it would have come next, or at any rate on the first favourable opportunity.

I wish "A Judge" could have been with me recently when going over a large estate, and shown numbers of forest trees dead and dying, owing, as those on the spot considered, to the evil effects of the summer of 1893. Why has no reference been made to the high flavour of Pears this year? Can "A Judge" explain the cause? Even such third-rate kinds as Magnate and Beurré d'Aremberg were quite delicious, while Fondante d'Automne, Thompson's, Marie Louise, Doyenné du Comice, and other first-rate varieties were never more exquisitely flavoured, nor their flesh more rich and melting. Beurré Bosc too, usually supposed to require a wall, has been most excellent from a pyramid. Again, how do the ripe wood men explain the ripening of all Pears several weeks sooner than this occurred in 1893? Why, too, are the leaves of all deciduous trees falling so exceptionally early this autumn, although we have had no frost? Are we to regard these facts as evidence of sufficient or insufficient ripening of the wood?

It may not be out of place here to compare the Greenwich records of autumnal sunshine now that the figures for October are available.

1893.				1894.			
			hours.				hours.
September	::	::	129	September	::	::	58
October	::	::	105	October	::	::	37

making a total for the two months of 1397 hours in 1893 and 972 hours in 1894, or a difference of 425 hours!

I wish "E. M." had chosen a more interesting class than Conifers to draw his illustration from, but though I have not noticed any excessive seeding of *Cupressus Lawsoniana* I am willing to accept his view, which, however, amounts to nothing more than that this tree belongs to the very limited number of sun-loving plants—Geraniums, Gardenias, Stephanotis, and others. The mention of this floriferous climber reminds me of one correspondent who claimed it as an example, showing the paramount necessity of ripening wood—a remarkably bad shot considering that *Stephanotis floribunda* blooms on the young growth!

I notice "Azoto" has become converted and turned sceptic, for he does not believe in the sun's "luminous envelope." Really, and he a scientific man too! Perhaps, however, he will nevertheless condescend to talk about Sachs, in whom he does believe. How long ago were these experiments made? Also, is this authority not considered a trifle out of date by modern investigators?

"E. K." cannot perceive any difference between "Azoto's" and "J. A.'s" treatment of the same subject. Well, that is unfortunate, because others can and do. I did not condemn scientific opinions "made in Germany," and the lines from a well-known poem sufficiently showed that, but I do disapprove of the way the English gardening fraternity are becoming more and more dependent upon "intelligent foreigners" for supplying them with fruit, flowers, bulbs, seeds, and

even scientific opinions. But this is an unpleasant topic. I will therefore not pursue it, concluding instead with a quotation no doubt very familiar to "Azoto." "It has always been the chief hindrance to a more rapid advance in botany that the majority of writers simply collected facts, or, if they attempted to apply them to theoretical purposes, did so very imperfectly. I have therefore singled out those men as the true heroes of our story who not only established new facts, but gave birth to fruitful thoughts and made speculative use of empirical material." I humbly claim, rightly or wrongly, to follow in the footsteps of these latter.—A SCEPTIC.



MR. MAWLEY'S ROSE ANALYSIS.

MR. MAWLEY'S long letter (page 423) on the subject of his analysis justifies every word I said about it last year, although at that time my criticism was stated by him (and he received the support of an editorial note) to be unfairly severe.

I am sorry that in the reply now given the Roses I mentioned were not specified and the exact number exhibited given, as well as the value and position assigned by Mr. Mawley put side by side—it would have been just as easy. I selected those Roses which would have exemplified matters fully, and I especially named Margaret Dickson, Ernest Metz, Charles Lefebvre, and Gabriel Luizet, as they are typical flowers. I stated last year in so many words that the analysis did not appear to be a practical one, and that the figures given exemplified the views of Mr. Mawley alone as to the proper value and position of the Roses tabulated. The answer to this was to the effect that I was not scientifically expert (which I do not deny), and that the tables had been placed before some learned pundit, who had pronounced them perfect, and founded on the highest principles of mathematics, modified by knowledge gained in meteorological research. So I pictured the work to myself as being analogous to the labours of Sisyphus, with the study of columns of logarithmic tables and meteorological reports superadded thereto. However, now "the murder is out," and I will give the analyst's own words in support of my argument. Mr. Mawley quotes:—

Capt. Christy, average 1886 to 1889	...	...	27.0	exhibits
" " 1890 to 1894	...	...	12.2	"

Inconsequently the latter average for 5 years 12.2 is alone given, and all that went before is ignored.

Mrs. John Laing, average for 4 years	...	...	45.5	"
" " full 6 years	...	...	37.3	"
" " in table	...	...	45.5	"

This Rose was brought out in 1887 and would not be thought one whit the worse for working its way upwards by its own great merit.

In the same way La France is stated to be assigned a position *above* its proper "average," or it would otherwise find a place below Ulrich Brunner; but Mr. Mawley omits to say that Ulrich Brunner has been placed where it is by *his own system of arrangement*, otherwise it might not be so high, and the comparison is useless without knowing how Ulrich Brunner got placed where it now is.

Similarly, speaking of Senateur Vaisse, the analyst says, staged in twenty-one stands in 1888, but "on an average" (Mr. Mawley's average, recollect), only seven times at the remaining shows, "therefore estimated" as 7, and not 86, which he says would otherwise be its value—but I make $6 \times 7 + 21 = 63$; and $\div 7 = 9$, not 86! Now we come to one of the peculiarities of the analysis:—

Caroline Testout, shown three times in 1893 and thirteen in 1894, "latter value" alone taken as a guide in placing it. But with Ethel Brownlow, introduced in 1887, the actual average of three years is given, being the period in which it has been taken prominent notice of. As far as one can see both these estimates can be ignored next year.

Why give Caroline Testout an unreal value (if value it can be called) and place Ethel Brownlow in its exact position as exhibited? To my mind this shows a want of any fixed system in the "valuation." I dislike the word "value," but it really rather shows the hollowness of the table from a practical point of view, and emphasises my assertion that the analysis is simply one man's estimate of worth.

Mr. Mawley has no need to apologise for a possibility of his explanation not being clear, as I think it *is* clear; but although it may satisfy some, it cannot others. He concludes by saying the materials are "the most reliable ever collected together"; but on what is the whole analysis founded?—the experience of the winning boxes at *one show* in each year. Does this fact warrant the statement that this placing of the Roses by himself "represents the opinions of a large number of rosarians?" I cannot see how it does. It merely shows they had certain Roses at their best on that one particular day. I perfectly agree with him that a common-sense way is the only fair and reasonable mode of dealing with statistics; but last year I was told that

scientific reasoning and meteorological causes should also be most carefully taken into account. Between the two versions of how we should proceed in analyses I am left somewhat in a quandary.—CHARLES J. GRAHAME.

I HAVE read and re-read Mr. Mawley's reply on page 423, and must confess that I feel only more and more mystified. The fault lies in myself, no doubt. Mr. Mawley asks us to imagine him with all the labels in the winning stands for the past nine years, over 16,000; then from "this huge pile of labels I pick out all those having La France." I cannot; I have a far greater respect for Mr. Mawley's capacities than to picture anything of the kind. Having finished and tabulated the results of a year, say 1893, surely he does not make a printer's pie of them, add them to the previous years, stir the mixture, and then when 1894 returns come in and are counted, serve them in the same way; and yet how can he otherwise make 320 La France, and others? On the contrary, I picture him after making his record for the year keeping that for reference.

Then I come to explanation No. 1. Surely this is a very arbitrary method of settling the position. Because Captain Christy has for the last five years been exhibited far less frequently than in the first four, therefore its position is calculated from the past five, so that although a Rose has been exhibited during each of the nine years, only the smaller entries are taken into the average. On the other hand, in the case of the newer varieties, as for example Margaret Dickson, exhibited five times in 1893 and twenty-five times this year, the 1893 amount is set on one side and only the number taken in 1894 put into the analysis. Here is a snub for the old Roses and a pat on the back for the new aspirants. Both old and new are in false positions, if I am correct in my suppositions.

Point No. 2. Every Rose grower knows that certain seasons affect certain Roses. This point seems to deal with these exceptional times, but when specially favourable it deals by eliminating it altogether. "So when Senateur de Vaisse had a season equal to its wants, and likely to give it a lift, lo! down come the scissors and the year's record is cut away entirely. Now it seems to me that amongst the Teas the past season has been specially favourable to the Hon. E. Gifford; it seems to have been exhibited in the prize stands as frequently as Catherine Mermet, the leading Tea, but I should think very few exhibitors would consider it as approaching the latter as an exhibition variety, whilst there are numbers of Teas, The Bride, Marie Van Houtte, Ethel Brownlow, Madame Hoste and others that for exhibition I should place far above it. Will Mr. Mawley kindly say whether this thirty-eight of this year was excluded in taking the average?

This point No. 2 seems to prove to me that the analysis does not bring out the best exhibition Roses, but best wear and tear Roses. Point 3 is really mixed up with point 1; it seems to me to greatly favour the newer Roses, and to place some of them higher than they are entitled to. Sir R. Hill appears to me a case in point, possibly also Duke of Fife. Point 4 is beyond me—I fail to understand it—and according to Mr. Mawley's account it is of no moment, as count the figures as they are, or as corrected, the average conveniently works out the same. Mr. Mawley can certainly, if my surmises are correct, justly claim that "no hard and fast rules whatever have been laid down;" personally I cannot help thinking it would be fairer if they had.

I go back now to the analysis on page 333. Mr. Mawley says at starting, "The total number of Rose blooms tabulated for the purpose of this analysis amounts altogether to over 16,000." I presume this meant from 1886 to 1894 inclusive, and he finishes his paragraph thus—"I may, however, state that at the last National show the names of 1222 H.P.'s and 661 Teas and Noisettes were taken down, or 1883 in all."

Well, of course, I have no means of judging the correctness of these numbers, and I trust I may not be considered captious, seeing that the whole position of the various Roses depends on figures, which I have already shown, I fancy, are rather arbitrarily dealt with, if I say I cannot understand this number. The Teas and Noisettes are the smaller amount. If I show my doubts as to the correctness in them it is sufficient. My only means of calculation are these—I understand that these 661 Teas constitute all the Roses that were to be found in the winning stands alone at the Palace. I now take the schedule of prizes, and take class 27, twenty-four varieties, as there are three prizes, which I presume were all won; the three stands amount to seventy-two Roses; class 28, in the same way, to fifty-four Roses.

I am in doubt how Mr. Mawley treats the trebles. Does he consider that in all treble classes each treble is a unit, and counted as such? if not, a certain number—limited, I allow—receive extra marks. I have calculated these as units, and this brings the nurserymen's Teas to 180. Thus I have gone through the schedule, treating the trebles as units, and omitting altogether the classes where the stand is composed of blooms of one variety—viz., classes 33, 39, 41 (which excludes the country districts, and is therefore exceptional), 42 and following classes, and I make the total of Tea and Noisette Roses come to 492. If the trebles are calculated as three that would bring the number to 768; but I am at a loss to get at the number 661, and unless these numbers are correct, this error, coupled with the arbitrary manner of dealing with each separate Rose, must greatly lessen the value of the whole analysis—as a guide.—Y. B. A. Z.

[Space is at Mr. Mawley's disposal for such further explanations and elucidations as he may desire to give.]



EVENTS OF THE WEEK.—As will be seen by referring to the list published on another page a few more Chrysanthemum shows remain to be held during the ensuing week. To-day (Thursday) exhibitions open at Birkenhead and Winchester, and on Friday and Saturday, the 16th and 17th inst., shows are to be held at Bolton, Chesterfield, Eccles, Bradford, and Sheffield. On Tuesday, the 20th inst., Woking and Twickenham shows will open, continuing in each case the following day.

— **THE WEATHER IN LONDON.**—The past week has been characterised by stormy weather in the metropolis. On Saturday last it rained heavily during the afternoon, but was fine on Sunday. Monday was wet, and in the evening a thunderstorm occurred, accompanied with hail. Tuesday was fine and colder, but it was very gusty during the night, and on Wednesday the weather was unfavourable, rain falling most of the day.

— **THE WEATHER IN THE NORTH.**—Since the 26th ult. till Tuesday morning, 13th inst., there has been no recurrence of frost. The intervening fortnight has been extremely changeable, with rain on nearly every alternate day. On Tuesday morning there was a slight frost. Farmers are pushing on the storing of Turnips. Previously an average crop of Potatoes with but little disease had been secured in fine conditions of weather.—B. D., *S. Perthshire*.

— **TESTIMONIAL TO MR. WILLIAM DEAN, BIRMINGHAM.**—We are informed that Mr. Robert Sydenham and Mr. W. B. Latham met Mr. W. Dean on November 7th, and formally presented him, in name of the committee of subscribers, with a handsome silver watch bearing the following inscription:—"Presented to Mr. Wm. Dean, along with 50 guineas, on his seventieth birthday, as a mark of esteem. Subscribed for by florists and friends in all parts of the country."

— **THE ROYAL SOCIETY.**—We learn from "Nature" that the President and Council of the Royal Society have this year awarded the following medals, amongst others:—The Copley medal to Dr. Edward Frankland, for his eminent services to theoretical and applied chemistry; the Rumford medal to Prof. James Dewar, for his researches on the properties of matter at extremely low temperatures; the Davy medal to Prof. Cleave, of Upsala, for his researches on the chemistry of the rare earths; and the Darwin medal to Prof. Huxley, for his researches in comparative anatomy, and especially for his intimate association with Mr. Darwin in relation to the origin of species.

— **ALBERT HALLER'S HISTORY OF PLANTS INDIGENOUS TO SWITZERLAND.**—This valuable old work has just been presented to the Lindley Library by Mr. Jas. Douglas, Great Gearies, Ilford. It consists of three folio volumes bound together in one. Although the date of publication is 1768 it is evident that the author had either begun the work or contemplated doing so about thirty years prior to that date, as some of the engravings were drawn in the year 1740. Perhaps the most interesting feature in connection with the work is the fact that it bears the signature of A. J. J. Rousseau. Rousseau seems to have utilised Von Haller's *Historia* to a very great extent, as he has taken the trouble to correct the synonymy of over 100 names. There can be little doubt that the handwriting is his.

— **THE LILY DISEASE.**—I am gratified to learn from Mr. S. Arnott that his bulbs of *Lilium chalcedonicum*, the beautiful Scarlet Martagon, have been found, when examined, perfectly sound. This Lily is supposed by such authorities as Mr. J. G. Baker of Kew, Dr. Wallace of Colchester, and Sir Edwin Arnold to have been the special Oriental flower that was immortalised in a memorable passage. I therefore regard it as possessing an exceptional interest and significance. *Lilium speciosum* Kreutzeri is the only Lily in my garden which has suffered much. It is my opinion that disease is not responsible for this, but the excessively wet summer, which seriously affected the upper roots, whereby the flowers are fed. I am confirmed in this impression by the absolutely healthy appearance of the spikes, which up to the present period have exhibited no evidence whatever of premature decay. With a drier warmer season, the result, I venture to assert, would not have been the same.—DAVID R. WILLIAMSON.

— We learn from "Nature," with regret, of the death of Professor M. Duchartre, the eminent French botanist. He was in his eighty-fourth year.

— **A LABURNUM TREE IN FLOWER.**—"W. G. H." writes: "As I have taken the *Journal of Horticulture* for some years, and knowing that you are always ready to note anything unusual, I send blooms of a Laburnum. This is the second time the tree has flowered this year. Nothing has been done to this tree as far as I can learn to cause this freak of Nature."

— **THE HOP CROP.**—According to the Board of Agriculture the total produce of hops is put at 636,846 cwt., from 59,535 acres, or at the rate of 10.7 cwt. per acre. Last year's return was given as 414,929 cwt. from 57,564 acres, or 7.21 cwt. per acre. The yield per acre has only once been equalled during the nine previous years of official returns, namely, in 1886, when it was 11.07 cwt. per acre.

— **ROYAL METEOROLOGICAL SOCIETY.**—At the ordinary meeting of the Society, to be held at 25, Great George Street, Westminster, on Wednesday, the 21st inst., at 7.30 P.M., the following papers will be read:—"Methods of Determining the Influence of Springs on the Temperature of a River, as Illustrated by the Thames and its Tributaries," by H. B. Guppy, M.B.; "Some Effects of the Gale in the Highlands of Scotland on November 17th and 18th, 1893," by Eric S. Bruce, M.A., F.R.Met.Soc.; "History of a Waterspout," by Alfred B. Wollaston.

— **GRAFTING THE TOMATO ON THE POTATO.**—When the Potato is grafted on the Tomato, which can be done by reason of the close relationship between the two plants, says "Meehans' Montbly," the Potato roots continue to produce Potatoes, while the Tomato grafted on the Potato stalk continues to produce Tomatoes. This is considered in some of the agricultural papers as remarkable, that one plant should produce two different kinds of products; but it is no more remarkable than all other experiences in grafting. A Pear may be grafted on the Quince, but the roots are still Quince roots, although Pears come from the grafted portion. There have been cases known where the graft will influence the stock, but to such a slight degree as not to materially alter its character.

— **TADCASTER PAXTON SOCIETY.**—On Friday, 9th inst., this flourishing Society held its third annual show of Chrysanthemums, plants, fruit, flowers, and vegetables. The show, both in the number and quality of the exhibits, was in advance of its predecessors. There were thirty-eight more entries than last year. Mr. T. Fielden, of Grimston Park, exhibited a magnificent group of Chrysanthemums (not for competition), and a splendid collection of Apples and Pears, showing kinds suitable to the northern climate, for which the judges awarded a certificate of merit. The first prize for a group of Chrysanthemums arranged for effect was awarded to Mr. T. J. Padman, Boston Spa; second to Mr. H. Bromet; third to Masters R. and F. Colley, aged respectively thirteen and nine. The show was formally opened by Mrs. Fielden, of Grimston Park.—J. S.

— **MÈRE DE MENAGE APPLES.**—I had sent me the other day, to stage at the Royal Aquarium show, a number of Mère de Ménage Apples, all the way from Rhyl, North Wales. They were sent by a local gardener, Mr. C. J. Holden, and were in that locality esteemed to be a very excellent sample. The fruits were not grown on nursery stocks or on highly cultured bush trees in gardens, but on some twenty-year-old standard trees. Here in London we are so accustomed to see the very fine fruits produced from such trees that I have named that we are rather disposed to regard samples from orchard trees with indifference; and yet if we fairly considered the conditions under which grown, it is very probable that after all, because exemplifying the cheaper forms of Apple culture, fruits from orchard trees, if really clean and good, are the more meritorious. In any case Mr. Holden sent some 130 fruits of Mère de Ménage, all of capital market size, all richly coloured, clean, and a most excellent sample to show how well this fine variety can be grown within one mile of the sea, and under undoubtedly ordinary conditions. But those who have to make awards at shows do not know or are supposed to know how fruits are grown. They only regard the samples before them, hence large fruits that are produced singly or in pairs on nursery trees, and are few, adding nothing to the general Apple products of the community, obtain the awards, whilst lesser but still good fruits, samples of what is produced by many bushels, are not looked at. Surely a knowledge of how produced should have some weight with judges.—A. D.

— THE WORSHIPFUL COMPANY OF GARDENERS.—Many readers will be interested to know that horticulture was represented in the procession of the Lord Mayor of London on Friday in last week. The Worshipful Company of Gardeners had a car which appeared to attract the attention of the public. The base of the car represented a basket of flowers, and from its centre rose a temple, with Flora holding a wreath. In the front was a figure representing the science and craft of gardening, while another, emblematical of renown, was proclaiming the triumph of horticulture. Behind the canopy was a gardener, spade in hand, typical of labour, and of the arms of the Company, and at the rear of the car was a nymph of Flora scattering flowers. The car was drawn by six horses, led by carters in the costume of gardeners of the olden times.

— COSMOS SULPHUREUS.—According to the "Garden and Forest," a yellow Cosmos, from seed received with those of other New Zealand plants, proves to be a variety, or possibly a species, distinct from *C. sulphureus*, Cav., as figured or shown in an herbarium specimen from Mexico, collected by Pringle, which has solitary heads on long naked peduncles, less finely divided leaves and the entire stem hirsute, pubescent and more rigid. By the way, this specimen has very attractive reddish orange flowers. The variety said to be from New Zealand, flowering in August from spring-sown seed, is an annual with numerous weak, smooth, branching stems. The flowers are borne on short peduncles, are five-petaled and a deep clear yellow in colour, and 1 inch to 1½ inch in diameter. Planted out this Cosmos forms a low growing attractive plant, useful for a front border.

— NARCISSUS AND VIOLA EXHIBITIONS.—The Birmingham Botanical Garden Committee has issued a schedule of prizes for an exhibition of Narcissus on the 9th and 10th of April next, and fifteen classes are devoted to these flowers. An extensive exhibition of Pansies and Violas is to take place in these gardens on May 29th and 30th, when more than £40 in cash prizes besides massive silver medals of the Botanical Society will be given in prizes. Special prizes are given for twelve true species of Violas in pots, and for six varieties of double or single Violets in pots. The annual exhibition of the Midland Counties Carnation and Picotee Society will be held as usual in the gardens in August next. A new Alpine garden and rockeries on an extensive scale is now in course of construction by Messrs. Backhouse & Son of York, and will form a great additional object of interest in these gardens.

— SCOTTISH HORTICULTURAL ASSOCIATION.—At a recent meeting of this Association the Secretary read a paper by Mr. William M'Conochie, gardener, Doonside, Ayr, on "Soils." The writer of the paper described the various kinds of soils, and said that in clay soils the drains should never exceed 30 inches in depth, nor more than from 9 to 10 feet apart. Beyond that depth no healthy root action could take place. Sandy soils containing less than one-tenth of clay were easily worked, but their great defect was their non-retention of moisture. They could be gradually improved by the application of clay vegetable refuse. Good cultivation and intelligent management were essential in all cases. Soil properly cultivated would never "run out;" while by a course of injudicious cropping the most fertile soil in the world would in time become barren. It was therefore of the utmost importance that a rational course of rotation should be carried out. In the discussion which followed, several members took exception to Mr. M'Conochie's view as to the depth of drains.

— FRUIT CULTIVATION IN AUSTRALIA.—Colonial papers contain reports of a great Fruit Growers' Convention and Citrus Fair, which has lately been held at the Mildura Settlement, where about 10,000 acres of land are already under cultivation by irrigation, being thus transformed from an arid country into thriving and beautiful orchards, the first substantial return yet made (the late season's) amounting to £45,000. The Citrus Fair is described as having furnished a magnificent display of fruits and vegetable products in great variety. The exhibits of dried fruits, Apricots, Peaches, Figs, Lemons, Nectarines, Sultanas, Currants, and Raisins were of excellent quality, as were the crystallised fruits, bottled fruits, jams, and jellies. Wines and brandy, Olives and olive oil were also among the productions shown, the effect being to set forth in a very striking way the productive capabilities and hitherto comparatively unknown resources of Australia. It may be noticed that an Irish peer, the Earl of Ranfurly, who owns a large plantation at Mildura, gained the first prize for Oranges and Lemons. There was a great gathering of fruit growers and their representatives from all parts of Australia, and papers were read on a great number of

subjects having a scientific and practical bearing upon the industries practised. The "Sydney Morning Herald" remarks that it was a grand sight to see over 200 young, sturdy, intelligent, and educated men attending these Conferences day after day and listening to the papers read and the discussions which followed from 9 A.M. to 9 P.M.

— AS exhibiting the remarkable PRODUCTIVENESS OF THE SETTLEMENTS (there are two—Mildura in Victoria and Renmark in South Australia) several specimen trees were inspected. A five-year-old Lemon tree was found to measure 51 feet in circumference and 18 feet in height, and an Orange tree 39 feet round and 12 feet high. Young Peach trees, one year and eleven months planted, measured 30 feet round and 10 feet high, yielding eighteen months from time of planting 60 lbs. weight of Peaches, averaging 13 ozs. each. The Washington Naval Orange was a great feature of the show, and as it ripens several weeks earlier at Mildura and Renmark than in other parts of Australia it will have the most advantageous command of the local markets, while for export purposes the dryness of the skins of the fruit will render it peculiarly adapted for carriage to England and elsewhere. The Renmark Settlement has only been developed up to the present time to the extent of about one-fourth that of Mildura, but it is contemplated by the Company (Chaffey Brothers, Limited, by whom these great Settlements are being established) to devote special efforts to bringing this South Australian Irrigation Colony up to the same point of progress within a short period.

— BRITISH VESSELS AS FRUIT CARRIERS.—A daily contemporary says the British Consul at Malaga writes:—"For some reason or other British vessels no longer enjoy the reputation so long maintained in this port of being almost exclusively the fruit carriers. It is not because they are not perfectly adapted for such purpose, as every year sees more care taken with this very essential feature, and in a few instances, if any, have lower freights been accepted by their competitors. I think the solution is to be found in the fact that as a rule the competing vessels are smaller, and also that they come here with space sufficient only for a comparatively small number of barrels. The consequence is they get filled up sooner, whereas the larger British vessels have often to lie here day after day, much to the prejudice of their owner's interests, and to the possible detriment of the fruit."

— CARNIVOROUS PLANTS IN THE SHEFFIELD BOTANICAL GARDENS.—It is stated in a northern contemporary that one of the best collections of insectivorous plants to be seen in Britain may be found in the Sheffield Botanical Gardens. Professor Denny recently gave, in the gardens, an interesting and instructive demonstration upon these plants to the students attending a course of lectures he has been delivering at Broomhill, on "Natural History." Of the numerous interesting types which were described by Professor Denny were "a specimen of *Drosera*, the leaves of which showed the dead bodies of many victimised insects in various stages of digestion; some beautiful examples of a *Cephalotus* from Australia, in which were pointed out the numerous adaptations for the capture of ground game among the insect tribes; an exceptionally fine series of the well known Pitcher plants (*Nepenthes*), from the Malay Archipelago. The pitchers in these, and also in the examples of *Sarracenias*, from America, which were examined, were seen to be well stocked with the corpses of insects lured to destruction by the plants for the purpose of their own nourishment."

— CALIFORNIAN ORANGES.—For once in the way we hear of a thing being overdone in America. It has been reported that Oranges have been too extensively planted in California. Mr. Vice-Consul Mortimer of Los Angeles says in the Consular report of San Francisco that "the export of Oranges in the district in 1890 was 26,000 tons, in 1893 it was 67,910 tons, and in 1897, when the Orange groves now planted will be bearing, it will be not less than 200,000 tons, unless the trees are injured in some way. There are thirty boxes to the ton, and the cost per box for the boxes, and picking, packing, and papering, and hauling to point of shipment averages 1s. 6d. The railway freight to New York and other cities in the Eastern States in carloads of 10 tons is 3s. 6d. per box, making the total disbursements (exclusive of middlemen's charges) 5s. per box. The grower, who three years ago received 10s. to 16s. per box net, must net 4s. per box on Oranges grown on land of average value—land worth £40 per acre—and the commission merchant charges 10 per cent. on prices realised. Californian Oranges, therefore, must sell for 10s. per box in the Eastern States to make the industry profitable to the grower."

ROYAL HORTICULTURAL SOCIETY.

NOVEMBER 13TH.

FOR the time of year there was a large meeting at the Drill Hall, James Street, Westminster, on the above mentioned date. Orchids were fairly well represented, but Chrysanthemums formed the chief feature of the exhibition, these being very extensively shown. Fruit and vegetables were not very numerous.

FRUIT COMMITTEE.—Present: T. F. Rivers, Esq. (in the chair); Rev. W. Wilks, Dr. Hogg, A. W. Sutton, J. H. Veitch, H. Pearson, G. Bunyard, A. H. Pearson, T. J. Saltmarsh, J. A. Laing, G. Reynolds, F. Q. Lane, H. Balderson, J. Smith, W. H. Divers, and J. Cheal.

The duties of this Committee were comparatively light, for but few fruits and vegetables were staged. Messrs. W. & J. Brown, High Street, Stamford, exhibited fruits of an Apple named *South Lincoln*. This is a seedling from Cox's Orange Pippin, and is said to be a most abundant bearer. The fruit is of medium size and handsome appearance, with a brisk pleasant flavour. A first-class certificate was awarded for this Apple. Mr. J. Hopkins, The Gardens, High Cross, Framfield, Sussex, sent fruits of *Solanum guatemalensis*; and General Sir R. J. Farron, K.C.B., Bealing's House, Woodbridge, exhibited a dish of Bealing's Pippin, but no award was made.

Mr. J. Crook, Forde Abbey, sent two dishes of Apples and one dish of Coe's Late Red Plum. Mr. Holden, Rhyl, had twenty-four dishes of well coloured Mère de Ménége Apple (vote of thanks). Mr. W. H. Divers, gardener to the Duke of Rutland, Belvoir Castle Gardens, contributed a fine collection of Pears in about fifty distinct varieties. An award of merit was granted for *Beurré Dubuisson*, and a silver Knightian medal was recommended for the collection.

Messrs. T. Rivers & Son, Sawbridgeworth, sent three dishes of Cox's Orange Pippin Apple, grown on trees in an orchard house. The fruits were remarkably fine, and a cultural commendation was awarded. Messrs. Saltmarsh & Sons, Chelmsford, secured an award of merit for *Le Leclier* Pear, a medium size, light coloured variety.

Messrs. Sutton & Sons had samples of their new Carrot, Sutton's Exhibition, which is a "three years selection" from Long Surrey. Some baskets of Endive came from the gardens of the Royal Horticultural Society, and Mr. J. Walker, Thame, was recommended a bronze Banksian medal for some splendid Onions.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); Rev. H. H. D'Ombrian, Messrs. C. T. Drury, H. Herbst, J. H. Fitt, J. Fraser, R. Owen, G. Stevens, C. F. Bause, J. D. Pawle, C. E. Pearson, H. Turner, G. Gordon, E. Mawley, H. Cannell, H. B. May, W. C. Hatchett, and C. E. Shea.

Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, had a group of Begonia John Heal, which is useful for winter flowering. The same firm sent *Streptocarpus gratus*, hybrids from S. Dunni and S. Rexi, of attractive appearance. Messrs. H. Cannell & Sons, Swanley, Kent, made a splendid display with Zonal Palargoniums, the colours showing up conspicuously against the more sombre hued plants. Messrs. Cannell also had a new type of Chrysanthemum named Mrs. R. Filkins, a bright yellow, small and graceful flower (award of merit). This will doubtless be much in demand for decorative purposes. Seedlings named Silk Twist and Centaurea from Mrs. R. Filkins were also shown. A large collection of Japanese, incurved, and Anemone varieties likewise came from the Swanley firm (silver-gilt Banksian medal).

Mr. W. J. Godfrey, Exmouth, Devon, had a collection of new varieties of Chrysanthemums, including some sterling novelties. Amongst others were Mr. H. Broomhead, Mrs. Joseph Thompson, Madame Carnot, A. T. Ewing, Garnet, Mrs. Dr. Ward, and Mrs. W. J. Godfrey, the latter being a new variety with hirsute florets. Awards of merit were adjudged for the three last named. Carnations Reginald Godfrey and Miss Mary Godfrey were also exhibited by Mr. Godfrey. Mrs. Jones, Queenford Place, Sudbury, sent single Chrysanthemums tastefully arranged in bunches. Mr. C. E. Shea, The Elms, Foot's Cray, had a large number of new Chrysanthemums, which included Miss Rita Schroeter, Dulcie Schroeter, Tricolor, Elsie Teichmann, Maggie Blenkiron, and others, which only want of space prevents us mentioning (silver Flora medal). Mr. R. Owen, Maidenhead, likewise sent some new Chrysanthemums, and secured awards of merit for John Lightfoot, J. Bidencope, and Owen's Perfection. Mr. W. Wells, Earlswood, sent single and other Chrysanthemums. Mr. W. Slowgrove, Reigate, sent a collection of Chrysanthemums (silver Banksian medal). The varieties shown by various exhibitors and certificated, are described elsewhere.

Mr. McLeod, Dover House Gardens, had a group of miscellaneous plants (silver-gilt Flora medal). Cyclamens in variety came from the St. George's Nursery Co., Hanwell (silver Flora medal); and also from Messrs. Hugh Low & Co. (silver Banksian medal).

Chrysanthemums were well shown in the competitive classes. For a collection of cut blooms arranged with their own foliage and Ferns, Mr. G. Wythes, Syon House Gardens, Isleworth, was first with a noteworthy exhibit. The flowers were fresh and well arranged, the best including W. H. Lincoln, Vivian Morel, Mrs. C. H. Payne, and Sunflower. Mr. J. F. McLeod, Dover House Gardens, Roehampton, was second. Mr. G. Wythes also secured the first prize for a group of Chrysanthemums, showing dwarf, well-flowered plants. Mr. McLeod won the premier award for a dozen cut blooms, the best of which were Louise, Niveus, Mrs. C. H. Payne, and Waban.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); Messrs. J. O'Brien, De B. Crawshaw, E. Hill, Chas. Pilcher, H. Ballan-

tine, H. M. Pollett, H. D. Chapman, S. Courtauld, W. H. Protheroe, T. B. Haywood, and F. Sander.

Messrs. F. Sander & Co., St. Albans, sent a small group of Orchids, including *Dendrobium Schröderianum* var. *purpurea*, *Lælia grandis tenebrosa*, *Calanthe Sandhurstiana*, *C. Victoria Regina*, and *Pescatorea Lehmanni*. Mr. E. Ashworth, Harefield Hall, Wilmslow, Cheshire, sent cut blooms of *Cattleya* and some *Cypripediums*, including a few choice forms. Mr. T. Statter, Stand Hall, Manchester, contributed bloom of *Cattleya aurea magnifica*, with others, and a plant of *Cypripedium Roberti*. Mr. G. Young, St. Albans, sent plants of *Cypripedium insigne Youngianum*, a light coloured form. Mr. R. J. Measures, Cambridge Lodge, Camberwell, had *Cypripedium insigne Ernesti*, and blooms of *Cattleya labiata autumnalis*. Mr. F. Wigan, Clare Lawn, East Sheen, sent flowers of the brightly coloured *Cattleya superba splendens*, and *Cypripedium Clarensi*, a very dark form.

Messrs. W. L. Lewis & Co., Southgate, contributed a group of Orchids, amongst which *Oncidium tigrinum*, *Cattleyas*, and *Cypripediums* in variety were conspicuous (silver Banksian medal). A fine collection of *Cattleyas* came from Messrs. Hugh Low & Co., Clapton, N.E. (silver Banksian medal), and Mr. J. Fitt, Panshanger Gardens, Hertford, had a group of *Cypripediums*. Messrs. Collins & Collins, Cumberland Park Nurseries, Willesden, sent a large group of *Cypripediums* and *Cattleyas* (silver Banksian medal), and Messrs. Linden, Brussels, contributed a number of *Catasetums* in flower (silver Banksian medal). There were various other exhibits, and several certificates and awards of merit were granted for novelties, which are described below.

CERTIFICATES AND AWARDS OF MERIT.

Cattleya Fabia (J. Veitch & Sons).—This is the result of a cross between *C. Dowiana* and *C. labiata*, the former being the pollen parent. The sepals and petals are rosy mauve, the lip having a very rich lobe and yellowish throat (award of merit).

Cattleya labiata autumnalis (R. J. Measures).—This is nearly a white form, the only colour in it being a few pink veins in the lip (award of merit).

Cattleya labiata elegans (E. Ashworth).—A charming form, with pure white sepals and petals. The lip is purplish magenta, fringed white (award of merit).

Catasetum Lindenii (Linden).—A very fine Orchid, the flowers being yellow and reddish brown (award of merit).

Catasetum Bungeotheni aurantiacum (Linden).—The flowers of this Orchid are very large and rich sulphur yellow (award of merit).

Catasetum O'Brienianum (Linden).—A strong growing species, the flowers being large and creamy white (award of merit).

Chrysanthemum Owen's Perfection (R. Owen).—An Anemone of a large size. The guard florets are blush, and the cushion of a darker shade, tinted yellow (award of merit).

Chrysanthemum J. Bidencope (R. Owen).—A richly coloured Japanese. The florets are broad, and of a purplish crimson colour (award of merit).

Chrysanthemum John Lightfoot (R. Owen).—A neat Japanese flower of a pale pink shade, the florets having darker margins (award of merit).

Chrysanthemum Maggie Blenkiron (C. E. Shea).—This is a massive incurved Japanese bloom. The centre of the flower is yellow, and the lower florets tinted reddish brown (award of merit).

Chrysanthemum Sir E. T. Smith (C. E. Shea).—As a yellow this Japanese variety is likely to be a favourite for exhibition purposes. It is a fine useful flower (award of merit).

Chrysanthemum Miss Dulcie Schroeter (C. E. Shea).—This is a most attractive Japanese bloom of a rich yellow, with a distinct crimson picotee edge (award of merit).

Chrysanthemum Mrs. W. J. Godfrey (W. J. Godfrey).—This is a grand addition to the varieties with hirsute florets. The flowers are large, and in a good light of a pure white colour. The florets are broad, and covered with hirsute appendages (award of merit).

Chrysanthemum Garnet (W. J. Godfrey).—A dark, incurving Japanese with a silvery reverse. It is an attractive flower (award of merit).

Chrysanthemum Mrs. Dr. Ward (W. J. Godfrey).—This is a fine variety with hirsute florets of rich reddish brown and yellow colour (award of merit).

Chrysanthemum Purity (W. Wells).—A chaste single Chrysanthemum, pure white with a yellow centre (award of merit).

Chrysanthemum Alice Seward (H. Cannell & Sons).—An incurved Japanese bloom of good build and distinct colour. The florets are bright crimson on the inside with a silvery reverse (award of merit).

Chrysanthemum Mrs. R. Filkins (H. Cannell & Sons).—A distinct variety from Japan, and useful for decorative purposes. The flowers are bright yellow, and remind one of the popular Sweet Sultan (award of merit).

Chrysanthemum Princess Ena (Owen Thomas).—This is a sport from Hairy Wonder, and the flower is better coloured. The florets have a very hirsute appearance (award of merit).

Cosmos bipinnatus grandiflorus (G. B. Simpson).—Two plants of this were shown, and they were about 4 feet or more in height. The foliage is of a graceful appearance, and the single flowers are white with a yellow disc (award of merit).

Cymbidium cyperifolium (R. J. Measures).—This is a distinct form with green sepals and petals striped brown. The lip is white, spotted brown (award of merit).

Cypripedium insigne Ernesti (R. J. Measures).—A light-coloured

form of a well known Orchid, a deep margin of white being conspicuous on the dorsal sepal (award of merit).

Cypripedium Cyris (N. Cookson).—This is an attractive hybrid, the result of a cross between *C. villosum* Boxalli atratum and *C. Argus*. The dorsal sepal and petals are large, white and green, heavily spotted with dark brown. The lip is brown and green (first-class certificate).

Dendrobium Phalaenopsis Highburyensis (H. A. Burberry).—Cut blooms of two forms of *Dendrobium Phalaenopsis* were exhibited. One was nearly white, and the other very dark (award of merit).

Epilaelia Hardyana (F. Sander & Co.).—This is the result of a cross between *Laelia anceps* and *Epidendrum ciliare*, the latter being the pollen parent. The sepals and petals are blush pink, the lip being rich crimson (award of merit).

Oncidium Wheatleyanum (F. Wheatley).—A beautiful *Oncidium* of a dark reddish-brown colour, the lip being very bright yellow (award of merit).

Odontoglossum crispum Frantz Masereel (Vervae & Co.).—A richly spotted form of great merit, the flowers being exceedingly attractive. The sepals and petals are white covered with chocolate coloured blotches, the lip lemon yellow (first-class certificate).

Pteris cretica cristata Forvanci (Stroud Bros.).—A dwarf-growing plant with heavily crested fronds (award of merit).

STERNBERGIA MACRANTHA.

THROUGH the kindness of Mr. Edward Whittall of Smyrna I have had the opportunity of flowering this beautiful *Amaryllid*, which is new to cultivation. Mr. J. Gay is the authority for the specific name of *macrantha*, and Mr. J. G. Baker gives *S. latifolia* and *S. stipitata* as Boissier's names, and also *S. Clusiana* of Boissier, non Ker. From a contemporary I observe that bulbs sent by Mr. Whittall have also flowered at Kew. It is a very beautiful *Sternbergia*, and the specific name of *macrantha* is quite worthily applied to this species, the blooms being large in addition to having good form, and being of a fine bright yellow.

It is to be hoped that *S. macrantha* will be more complaisant in our northern gardens than its congener *S. lutea*. The latter is not a free flowerer with us, only giving us flowers occasionally; and if *S. macrantha* will bloom regularly it will be a great acquisition, its flowers being as large as almost any of the *Colchicums*. It is thus described by Mr. Baker in the "Handbook of *Amaryllidæ*:"—"Bulb globose, 1 to 1½ inch diameter, with a neck 4 to 6 inches long; tunics pale or brown. Leaves lorate, obtuse, glaucous, ¾ inch broad, fully developed in June. Peduncle as long as the bulb-neck; spathe, 3 to 4 inches long, membranous, cylindrical in the lower half. Flowers bright yellow, produced in autumn; tube cylindrical, 2 inches long; segments oblong, 1 to 1¼ inch broad; stamens more than half as long as the limb; stigma not lobed." Its habitats are said to be "Asia Minor, Syria, Palestine, West Persia, and Sinaitic Peninsula." Mr. Whittall in his note to me calls it the "Giant *Sternbergia*."—S. ARNOTT.

THE CAUSE OF APPLE FAILURES.

I FEEL interested in the remarks of "A Judge" (page 422) on the subject of the severe frost of May 20th, and the comparative general failure of the Apple crop. I am inclined to think that the "frost" gets more than a fair share of abuse for the failure, and believe more in his remark of "exhaustive trees," or to put it another way, dryness at the roots from the excessively dry hot spring we experienced, and consequently weakly bloom unable to set. I remember at the time urging classes, where I was engaged on technical instruction, to feed the roots after such exhaustive crops of the previous season, coupled with the dry earth for want of a soaking February, such as we had the previous spring, and where this was carried out there was little, if any, failure from the May frosts. I had the pleasure of judging at four local shows this autumn, and was struck with quality and quantity of Apples shown.

I am a thorough believer in liquid manure for winter feeding, and where this is not obtainable in sufficient quantity even water alone, especially if trees are on dry positions, such as hedgerow banks. Last March we had one storm which I turned to account by diverting a stream some 200 yards by irrigation to a row of Apple trees, and I have never seen a better crop on the whole of the trees, therefore the frost theory in my case drops out of the reckoning; while other trees not available for irrigation bore little, if any, fruit, and the wood ripening or otherwise had no effect on the crops, although wood ripened thoroughly as a rule. I notice the bloom buds on both Apples and Pears appear to be unusually plump, and promise well for next season.—J. HAM.

AJUGA REPTANS.

THIS old and easily grown herbaceous perennial is well adapted for forming edgings to flower beds and herbaceous borders. Among light foliaged plants we have ample material to select from suitable for the same purpose; but as it is often necessary to provide dark as well as light coloured edgings, it is not always easy to bring to memory a plant possessing all the good qualities required. Among dark foliaged plants I know of nothing so well adapted for permanent edgings as this *Ajuga*. Its deep purplish crimson leaves are at all times attractive, and its

purple flowers produced in such profusion during May invariably attract a considerable amount of attention.

Like many other useful edging plants it is easily propagated, and gives but little trouble when once established. When growth commences short creeping shoots are sent out in all directions; these root freely in the soil, and if taken up and replanted quickly develop into plants. When a sufficient stock of these have been prepared, a double row planted in zig-zag fashion, the plants being set about 4 inches apart each way, will form a thickly packed interlacing edging of rooted runners in one year. The only annual attention necessary for at least half a dozen years after will be that of removing weeds and flowers after they have faded, and a yearly edging with line and edging iron. At the present time when spring bedding is being planted as quickly as possible, it is well to bear the good qualities of this *Ajuga* in mind, and I think in many instances it will supply the very shade of colour wanted to complete well thought out bedding arrangements.

Those who already have an edging of it, and desire to plant an additional one, will obtain sufficient for the purpose by thinning out the rooted runners from the established edging. If the interstices thus made are filled with soil, the old plants will be improved, rather than otherwise, by this timely thinning.—H. DUNKIN.



CHRYSANTHEMUM SHOWS.

THE following is a list of Chrysanthemum shows that have been advertised in our columns up to date, and which yet remain to be held during the ensuing week. We append the names and addresses of the respective secretaries.

- Nov. 15th.—BIRKENHEAD AND WIRRAL.—W. Bassett, 23, Grove Road, Rock Ferry.
- „ 15th and 16th.—WINCHESTER.—Chaloner Shenton, Westgate Chambers, Winchester.
- „ 16th and 17th.—BOLTON.—James Hicks, Markland Hill Lane, Heaton, Bolton.
- „ 16th and 17th.—CHESTERFIELD.—A. H. Johnson, New Square, Chesterfield.
- „ 16th and 17th.—ECCLES, PATRICROFT, PENDLETON AND DISTRICT.—H. Huber, Hazeldene, Winton, Patricroft.
- „ 16th and 17th.—BRADFORD AND DISTRICT.—H. R. Barraclough, 383, Bowling Old Lane, Bradford.
- „ 16th and 17th.—SHEFFIELD.—W. Houseley, 177, Cemetery Road.
- „ 20th and 21st.—WOKING.—H. W. Robertson, Somerset Villa, Woking.
- „ 20th and 21st.—TWICKENHAM.—Edward F. Green, Lincoln Lodge, East Twickenham.

A NEW AMERICAN CHRYSANTHEMUM, "PHILADELPHIA."

It is an unusual thing to see blooms at an exhibition of Chrysanthemums grown 3000 miles away, yet we think that Messrs. Cannell & Sons once staged some American blooms of Louis Boehmer at an Aquarium show just prior to its distribution in England. At any rate, to Mr. Hugh Graham of Philadelphia, belongs the credit of repeating the experiment with a marvellously fine Japanese incurved raised by him. The flower, which he has named Philadelphia, is a solid, massive looking globular flower, as round as a ball, very large in size, and has deep, incurved grooved florets of good breadth, which are ribbed or veined on the outer face. The tips of the florets are rather sharply pointed, and the colour is a clear white, slightly tinted primrose at the tips. Philadelphia has already received a first-class certificate from the American National Chrysanthemum Society, and the flower arriving too late for the Floral Committee of the English N.C.S. to see it was awarded a silver-gilt medal by the Arbitration Committee. We congratulate Mr. Hugh Graham on being the first American grower to obtain this distinction.

CHRYSANTHEMUM MRS. C. E. SHEA.

IN your report of the proceedings of the Floral Committee of the National Chrysanthemum Society on the 7th inst. you say of the above variety (page 428) that "Chief among the varieties passed over must be mentioned Mrs. Chas. Shea, which will probably be the largest white Chrysanthemum in existence." The expression, "passed over," might lead to the conclusion that the variety in question was regularly submitted to the Floral Committee for certificate and failed to obtain one. This was not the case. To obtain a certificate of the N.C.S. two blooms must be submitted, whereas I had but one of this new variety—in fact,

the seedling bloom from seed sown in March last. This bloom was brought up merely to show to my horticultural friends, and necessarily not for certificate. Next season, doubtless, the variety will be duly submitted.

May I also point out that one of the seedlings for which I obtained a first-class certificate should be "Rita Schroeter," not Schroeber. Again, it should be "Guirlande," not "Enirlande." I am quite willing to ascribe these mistakes to my hurried writing.—CHAS. E. SHEA.

[We trust the frank admission of our correspondent will not be without effect. When new plants or fruits are first exhibited it is most important that their names, as also those of exhibitors, be clearly written on the cards.]

CHRYSANTHEMUM MISS RITA SCHROETER.

CONSPICUOUS amongst the numerous new Chrysanthemums brought before the Floral Committee of the National Chrysanthemum Society on the 7th inst. were blooms of Miss Rita Schroeter. This is a large Japanese flower of a handsome appearance, and was raised from seed last year by Mr. C. E. Shea, Foot's Cray, Kent, by whom it was exhibited at the above mentioned meeting. As shown in the illustration (fig. 69), which has been reduced from a photograph, the flower has an incurving centre. The florets are of medium width and stout substance, white tinted lilac on the margins, the middle of the bloom being lemon yellow. It is obviously an acquisition, and the stock of it, we understand, has passed into the hands of Mr. W. J. Godfrey, The Nurseries, Exmouth, by whom it will be distributed.

ANEMONES AT THE AQUARIUM.

THOUGH most of the older varieties were presented in good form others of more recent date seem to be worthy of a few notes. Taking varieties of American origin first, Judge Hoist, a seedling of Messrs. E. G. Hill & Son, certificated by the National Chrysanthemum Society last year, is a large loose flower; the colour is pale pink. J. Thorpe, jun., raised by Mr. John Thorpe eight years ago, has somewhat narrow flat guard florets with a good disc, a self-coloured bloom of pure golden yellow. Mrs. Judge Benedict, one of Mr. Spaulding's novelties of 1889, has pale blush, grooved, incurving florets, with a disc of pale sulphur yellow. Delaware, distributed by Messrs. Pitcher & Manda, has white guard florets with a pale yellow disc, and is a delicate-looking flower.

Among the French varieties M. Dupanloup is a rich purple rose with thin fluted guard florets, disc same colour. This came from Lacroix. M. Pankoucke is a seedling of M. Hoste's; the guard florets are broad and flat, colour purple claret, the disc is high but rather paler. Madame Lawton comes from Délaux, and has flat guard florets, colour white shaded rose, and a high centre of lilac mauve. Le Deuil is one I have never been able to trace, but was certainly grown in France long before it was known here. It has thin fluted guard florets, and a good disc of purple crimson; a self. Marie Laglaize, a variety raised by a grower but little known in this country, M. Lassali. It is white, with the guard florets slightly flushed rosy purple; the disc is white and deeply toothed. Lumière d'Argent, medium size, pale silvery blush, a pretty self variety, but small in comparison with many of the new varieties; raised by Délaux. Sabine, from the same raiser, has sulphur yellow guard florets with a disc somewhat darker. Ernest Caille, has long guard florets of medium width, a fairly good disc; a self. Colour pale yellowish buff. Nelson, rich purple crimson guard florets, centre rosy crimson tipped gold. Grande Alveole, a beautiful delicate shade of lilac blush; a self. Sent out by Lacroix eleven years ago.—P.

EARLY CHRYSANTHEMUMS.

IN most seasons, but especially when outdoor flowers are destroyed by frosts, October blooming plants are most valuable, none more so than selected Chrysanthemums of decided colours. Although flowering in September I cannot pass over Gustave Grunerwald, described as silvery white. This is a beautiful variety. I grow Madame Desgrange outside, and also cultivate a few in pots to follow those. Mrs. Burrell, a primrose sport from Madame Desgrange, is a fitting companion to it. Mrs. Hawkins, golden yellow, another sport from the same source, although rather a stubborn grower is fine in colour. Mrs. Cullingford and La Vierge, white Pompons, are good varieties, and very free. Mr. J. R. Pitcher, blush white Japanese, and the ever useful Sœur Melanie should always find a place.

Very showy is Pynaert Van Geert, golden yellow striped with red; even richer than the former in colour, but similar, is La Ville de Heyres following a little later. These are both of the Japanese type. A fine yellow variety is Ryecroft Glory. I recently saw at the harvest festival at Woolton some plants of this in 7-inch pots, bush forms, which were used with striking effect there by Mr. Jellicoe of Camp Hill. Then in the way of singles the beautiful Mary Anderson has been in flower for some time past. Following on this we have Effie, deep crimson, large flowers, fine. Jane, or Snowflake, white, twisted petals; Oceana, peach blush, a pleasing flower of large size; Admiral Symonds, deep yellow, fine flowers; Massalia, crimson; and Golden Star, medium-sized blooms, the name indicative of the colour.

For flowering at Christmas I usually grow plants of Mdlle. Lacroix

and Boule de Nieve. These are kept out as long as practicable, being housed at night, where convenient, if likely to be frosty.—J. J. CRAVEN, Allerton Priory Gardens.

THE BRIGHTON CHRYSANTHEMUM SHOW.

IN the two principal competitions for cut blooms (class 15, thirty-six blooms, and class 16, twenty-four blooms, Japanese) fourth prizes were awarded to Mr. A. F. Grace of Steyning, of which you make no mention. The competition was an extremely keen one. In the cup class (thirty-six blooms) the points were first, 145½; second, Mr. Flight, 133½; third, Mr. Wells, 132; fourth, Mr. Grace, 129. As Mr. Grace is the only amateur who was successful in the open classes, and is entirely his own gardener, cutting his blooms from little over 100 plants, instead of from the one or two thousand grown by most of his twenty-four competitors, his success certainly deserved recognition, the more so, as his thirty-six box, though uneven (from his selection being limited to so few plants) contained twenty-four of the finest blooms exhibited at the show.—AN OLD SUBSCRIBER.

[As the report of the show had to be at this office by the first post on Wednesday, and arriving at a moment of great pressure, anything in the nature of a complete record of prizewinners was out of the question. The exhibitor you name certainly acquitted himself well, and we are obliged by your note in recognition of his success.]

DISQUALIFIED EXHIBITS.

I NOTICE that on page 427 of the *Journal of Horticulture* Mr. Wells complains of being twice disqualified for exhibiting blooms on large boards—viz., at the Kent County show and Battersea. He also asks if anyone can unriddle what it means by having the boards made in accordance with the metropolitan plan. I fail to see where the riddle comes in, for regulation 8 of the Kent County Chrysanthemum Society definitely states that the boards shall be 24 inches long and 18 inches wide, the holes to be 6 inches from centre to centre. This has been the metropolitan standard ever since I have known anything of Chrysanthemum shows, and until the National Chrysanthemum Society state that they shall be made larger I take it they will remain the standard. I consider Mr. Wells has only himself to blame for his disqualification, for if he had read his schedule carefully he must have known he would be disqualified, for at the bottom of the regulations special notice is called to the fact "that any infringement of the regulations will disqualify exhibitors." What is the use of societies making regulations if exhibitors are allowed to infringe them?

At Battersea Mr. Wells made his own disqualification, for he was told distinctly by one of his opponents at Blackheath that he should enter a protest if he exhibited on large boards. Mr. Wells no doubt relied on the Secretary's reply to his letter; but I fail to find anything in the rules of the Battersea Society that gives the Secretary power to favour one exhibitor more than another. Affiliation with the National Chrysanthemum Society does not, for the rules for affiliated societies does not bind them to accept the National's ruling as to size of boards.

Relative to Mr. Wells's question as to whether his blooms could be seen to advantage on a 6-inch board, I will not say that they could; but I would like to ask Mr. Wells if some of the other blooms in the same class would not have been seen to greater advantage if they had been shown on larger boards?—R. FILKINS.

THE MISSING LINK.

JAPANESE and incurved Chrysanthemum blooms have become so like the famous Skye terrier that no one now can tell where one ends and the other begins. Some day, perhaps, we shall wonder how any distinction was made, and I think that day is not far off. If we can make sections of tasselled, loose petalled, and incurved, there may be some reason for it, but when such a true incurved variety as J. Agate, really a large Empress of India, is classed as a Japanese, then the height of absurdity is reached. But even assuming that this fine white incurved did come from Japanese parentage, does it not serve to show that so far as species are concerned there is no distinction, no real dividing line, that the classified distinctions are purely arbitrary, and the raiser of Chrysanthemums is now doing his best to show that a coach and four can be as easily driven through them as through an Act of Parliament? When it is remembered that such large and coarse incurved blooms as Mons. R. Bahuant and Baron Hirsch are admitted into the select incurved ranks, why it is folly to regard J. Agate as other than of the same section, parentage notwithstanding. But if Mons. R. Bahuant be admitted, why not R. Owen or Lord Brooke? "Oh!" it will be said, "a line must be drawn somewhere." But the line needs a more defined form of demarcation than is found in tweedledum and tweedledee. Surely it cannot be doubted but that we have now such a number of incurved Japanese blooms coming into commerce, that no exact line between one section and another can be drawn.

It is true a central body like the National Chrysanthemum Society may declare such a variety to belong to one or the other, but even the N.C.S. is hardly the arbiter dictu of all the kingdom. It is so very evident that a complete revision of sectioning or classification is needed, and once we adopt the sections of tasselled, with Sunflower, Vivand Morel, or Avalanche as types; loose petalled, such as E. Molyneux, Mdlle. Tréèse Rey, or Stanstead White, as types; and incurved, ranging from Viscountess Hambledon Louise, Robert Owen, J. Agate, Empress of India and Princess of Wales for types, we shall get then to something like soundness in methods of classifying. There

are many short, erect petalled flowers, such as Mrs. Harman Payne for instance, big and coarse, the absence of which could not for one moment be mourned by all who regard beauty and quality as meriting first consideration. The same sort of thing enters even into the reflexed section, where such stiff, erect petalled forms as the Christines are included, whilst many most perfect reflexed forms are denied admission. Why Cullingfordi should be included, and such varieties as the Shrimptons, Commandant Blusset, James Lynch, shut out, is to be

of the catalogue has just been published. The new work is somewhat more comprehensive than the supplement published two years ago, and is intended to supersede it. In the selected lists for exhibition certain alterations have been made by which some of the varieties considered worthy of a place on the show boards two years ago have been eliminated and newer and more improved varieties substituted.

In the second supplement it will be found that the selected list contain more varieties in almost all the sections, but these additions are



FIG. 69.—CHRYSANTHEMUM MISS RITA SCHROETER.

classed amongst those things no one can understand. The whole thing is purely arbitrary. Some day, perhaps, it will be needful to convene a conference of representatives of all shows and of exhibitors for the purpose of determining how this needful reform in classification is to be brought about. Suggestions with regard to methods of judging seem to have been dropped like hot Potatoes. The need for some classification reform will force itself on the Chrysanthemum world whether it likes it or not.—A. D.

NATIONAL CHRYSANTHEMUM SOCIETY'S CATALOGUE.

As announced in our last report of the meeting of the General Committee of this Society a second supplement to the centenary edition

of course principally confined to the incurved and Japanese lists. For many purposes the new supplement would be sufficient, as the old centenary edition is by this time very much out of date, and it is agreeable to find that the catalogue committee hope on the next occasion of revision to issue the catalogue in a single volume form. The general alphabetical list contains altogether about 1800 entries, these being the names and descriptions of all the new varieties of 1890-93 with such of those for the current year as were shown in promising form at the Floral Committee meetings of the National Chrysanthemum Society last season. Of course the total number incorporated in the Society's supplement now published falls far short of those included in M. O. de Meulenaire's new catalogue, but this is accounted for by the fact that

large numbers of new varieties which he names have never been introduced into this country. The price of the new supplement is 6d., and can be obtained of the Secretary or of the Society's publisher, Mr. E. W. Allen, 4, Ave Maria Lane, E.C.

CRYSTAL PALACE.

FOR the purpose of embellishing the huge glass building during the autumn and early winter months Chrysanthemums are extensively grown at the Crystal Palace by Mr. W. G. Head, the garden superintendent, and his assistants. As may be expected the plants are now arranged in groups in the transepts, and they present a beautiful appearance. Health and vigour are the primary characteristics of the Palace Chrysanthemums, and the majority of them are bearing flowers which would by no means be out of place on an exhibition board. From these remarks it will be gathered that special attention has been paid to the cultivation of these popular plants, and with admirable results.

About 700 Chrysanthemum plants are cultivated, and these of course include all the leading varieties. A constant display is maintained from August until Christmas, and from this it would be apparent to all that the early flowering varieties receive a large share of attention. Most of the principal kinds of this section are grown, and during September and October they are most effective. While this is so it must not be supposed, however, that the November blooming sorts are less appreciated. Of these there are abundance to satisfy the most fastidious, and the Chrysanthemums at the Palace are a credit to all concerned. Being grown primarily for decorative purposes, the Japanese varieties are more numerous than incurred kinds. Of the former there are, as before hinted, some grand blooms of the leading varieties. Visitors to the Crystal Palace during the next few weeks will find the display of Chrysanthemums one of the most attractive features in the building.

CHRYSANTHEMUM SHOWS.

YORK.—NOVEMBER 14TH, 15TH, AND 16TH.

THE exhibitions of the Ancient Society of York Florists have so long been known for their excellent reputation, that the Chrysanthemum Show which opened yesterday (Wednesday) in the Fine Art Building, York, was looked forward to with some amount of interest by many growers. Liberal prizes were offered, and in several of the leading classes silver cups accompanied the premier awards. It was the finest autumn exhibition ever seen in York. The cut flowers were superb, and groups of Chrysanthemums and miscellaneous plants remarkably good. Fruit was scarcely up to the average, but vegetables were excellent.

A silver cup, value £5, given by the Lord Mayor of York for a group of Chrysanthemums occupying a space not exceeding 120 square feet, was won by Mr. Kingston with a grand exhibit. Alderman Close was second, Mr. W. Hardcastle third, and Mr. H. Leetham fourth. Mrs. Gutch won with another group of Chrysanthemums.

Cut flowers made a good display, and in the class for thirty-six blooms, half to be incurred and the remainder Japanese, the citizens' challenge prize, value £20, was added to the premier award of £10. Mr. W. H. Tate was placed first in this class with a very strong exhibit. The second prize was secured by Col. Houblon, and the third by Sir James Walker. The same exhibitors secured the prizes in precisely the same order as their names are given for twenty-four blooms, half Japanese and the remainder incurred varieties.

For twelve incurred blooms, distinct, Mr. A. Milnthorpe was first, Col. Houblon second, and Sir James Walker third. Mr. W. H. Tate won in the class for twelve Japanese blooms, and was followed by Mr. R. H. Jones and Col. Houblon, who were second and third respectively.

Messrs. J. T. Kingston and H. Leetham were prizewinners in the class for a collection of dessert fruits, while Lord Hotham, Mr. Kingston, and Mr. Jones won with six bunches of Grapes. For two bunches of black Grapes Lord Hotham, Miss Barclay, and Mrs. Gutch secured the prizes.

BIRMINGHAM.—NOVEMBER 14TH AND 15TH.

AN exhibition of Chrysanthemums, fruit, and vegetables was opened yesterday (Wednesday) afternoon in the Town Hall, Birmingham, under the auspices of the Birmingham and Midland Counties Chrysanthemum, Fruit, and Floricultural Society. Our reporter telegraphs that, on the whole, it was an excellent show, the competition being very keen. The groups were superb, and cut blooms fine, but not quite so numerous as usual. We append the names of the prizewinners in some of the principal classes, and shall refer to the others next week.

The leading class for specimen plants was for nine large flowering Chrysanthemums, Japanese varieties excluded, the first prize being a sum of £5. This was secured by Lady Martineau, who had handsome specimens. Mrs. Marigold was second, and Mr. A. Kenrick third.

For a group of Chrysanthemums, arranged with Ferns and foliage plants in a space not exceeding 100 square feet, the sum of £10 was offered as first prize. This had the effect of bringing out a good number of exhibits, and the premier award went to Mrs. Marigold. The second prize of £5 was secured by Mr. F. Jenkins, and the third by Mr.

J. Whitfield; the fourth going to Lady Martineau, and fifth to Mr. A. Kenrick.

Cut flowers were well represented, and in the class for twenty-four incurred blooms a sum of £10 was offered as first prize. This was secured by the Dowager Lady Hindlip, who had a stand of fine blooms. Mr. S. Loder was second, thus winning £7 10s., and Mr. H. H. Gibbs was third. The fourth, fifth, and sixth prizewinners were Mr. A. James, Mr. Walter Showell, and Mr. J. J. Foster.

In the corresponding class for twenty-four Japanese blooms, similar prizes being offered, Mr. S. Loder won the premier award; the Earl of Dudley was second; the Right Hon. J. Chamberlain being third. Mr. J. J. Foster, Mr. R. W. D. Hanley, and Captain Lloyd secured the other prizes in this class, all showing well.

Primulas made a very fine display, and in the class for twelve plants Messrs. Thomson & Co. were first. Messrs. Pope & Sons were second with fine plants.

Grapes were also well shown, and Lord Bagot won in the class for six bunches, Mr. E. M. Mundy being second, and the Earl of Carnarvon third. For three bunches of black Grapes the prizes were won by Mr. Mundy, Mr. J. T. Harris, and Mr. H. H. Gibbs. For three bunches of Muscats the Earl of Denbigh won, Mr. E. M. Mundy being second, and the Right Hon. J. Chamberlain third. There was likewise an extensive display of vegetables. Orchids were also well represented, but wet weather prevailed.

HULL.—NOVEMBER 14TH AND 15TH.

THE eleventh annual exhibition of the Hull and East Riding Chrysanthemum Society opened yesterday (Wednesday) in the Artillery Barracks, Park Street, and will continue to-day. For some years past this show has been regarded as one of the finest held in the northern counties, and at which some of the best growers in the kingdom exhibit. As usual, the competition in the leading open classes was very keen, and the arrangements were admirably carried out by Messrs. E. Harland and James Dixon, the Honorary Secretaries, who were assisted by an efficient Committee.

In the cut bloom section the greatest interest was centred on the class for twenty-four incurred blooms in not less than eighteen varieties, and not more than two blooms of one variety. This class was open to all comers, the first prize being £10 and a silver cup, valued 5 guineas. Messrs. J. R. Pearson & Sons, Chilwell Nurseries, Beeston, Notts, secured this coveted honour, and was followed by Mr. D. Forbes, gardener to A. Holt, Esq., Crofton, Aigburth.

For twenty-four Japanese blooms the premier award also comprised £10 and a 5-guinea silver cup. As may be expected, the competition here was likewise very keen, and Mr. W. H. Lees, gardener to F. A. Bevan, Esq., Trent Park, New Barnet, was placed first with a stand of grand blooms. Mr. W. Wells, Earlswood Nurseries, Redhill, Surrey, was second; and Messrs. J. R. Pearson & Sons third.

A feature at this show is the class for twenty-four Japanese blooms, distinct, to be arranged for effect and set up in any manner the exhibitor desires, with or without Chrysanthemum or other cut foliage, on a table, space not exceeding 6 feet in length or 2 feet 6 inches in width. The exhibits usually produce an effective display, and this year was no exception to the rule. Mr. J. R. Leadbetter, Tranby Croft, was first with a fine arrangement; the second prize going to Mr. Wilson, Swanland Manor, and the third to Mr. G. Picker, Hesslewood.

Mr. Leadbetter secured the first prize and a silver cup for twelve incurred blooms. Mr. Wilson was second. Mr. Leadbetter was also first the same number of Japanese blooms, showing well. Mr. G. B. Burrows, gardener to Sir H. Bennett, was second, and Mr. G. Jarvis, gardener to Mrs. Whittaker, Hessle, third. Mr. Forbes had the premier Japanese bloom, and Mr. W. Gillet the best incurred bloom.

Messrs. Colebrook & Sons, Grimsby, won the first prize, including the silver medal of the National Chrysanthemum Society, for a table of bouquets, wreaths, sprays, buttonholes or other floral arrangements. This class was intended to illustrate the decorative value of Chrysanthemums, and each exhibitor was restricted to a table space of 12 by 3 feet. Mr. H. Taylor, Newland, Hull, was second with a creditable arrangement, and Mr. G. Cottam, jun., Cottingham, third.

For a group of Chrysanthemums interspersed with foliage plants and arranged for effect in a space of 100 square feet, a silver challenge vase, valued 20 guineas, was added to the first prize of £6. This cup was presented by James Reckitt, Esq., Chairman of the Society, and has to be won three times before it becomes the property of the exhibitor. Last year it was won by Mr. W. Wheatley, Anlaby Road, Hull, and yesterday his gardener, Mr. G. C. Coates, again proved the winner. Mr. G. Cottam was second, Mr. N. Pike, gardener to C. H. Wilson, Esq., Warton Priory, being third, and Mr. E. Poulson, Cottingham, fourth. Mr. Wilson was first for a group of miscellaneous plants beautifully arranged. Mr. F. Mason, Hessle, was second with a creditable arrangement.

Mrs. F. Topham, Brough, won the first prize of a piece of challenge plate valued five guineas, which went with the first prize for a dessert table completely laid out for six persons, only Chrysanthemums with any kind of foliage to be used in its decoration. This class was open only to ladies, and a good competition resulted; the second, third, and fourth prizes going to Mrs. Lejnard, Preston; Mrs. Judge, Cottingham; and Miss Ayre, Hessle, respectively. Further reference to this show will be made in our next issue.

DEVIZES.—NOVEMBER 7TH.

ONLY one-half of the Devizes Corn Exchange was given up to a show of Chrysanthemums the remainder being occupied by a bazaar in aid of local charities, and such are invariably greatly benefited by the proceeds of the united display. Mr. Thomas King had charge of the Chrysanthemum show, and his arrangements always meet with general approval. On the occasion under notice fewer plants than usual were shown, but there was a fine collection of cut blooms in competition for the valuable prizes offered.

The premier class, that for twenty-four incurved Chrysanthemums in not less than eighteen distinct varieties, was well filled, six competing. The first prize of £10 was rather easily won by Mr. C. J. Salter, gardener to T. B. Haywood, Esq., Reigate, who had fine, perfectly formed blooms of J. Salter, John Lambert (2), John Doughty, Jeanne d'Arc (2), Brookleigh Gem (2), Madame Darier, Baron Hirsch (2), Mrs. Heale (2), Alfred Salter, Empress of India (2), Queen of England, Lord Wolseley, Robert Petfield, Mrs. Coleman, Princess of Wales, Prince Alfred, Miss Haggas, and Barbara. Mr. G. Inglefield, gardener to Sir John Kelk, Bart., Tedworth Park, Marlborough, was a creditable second, his best being Prince Alfred, Baron Hirsch, Empress of India, Lord Alcester, and Refulgens. The third prize was awarded to Mr. J. Hughes, gardener to W. Baring, Esq., and an extra prize went to Mr. J. Aplin, gardener to Wm. Baker, Esq., Hasfield Court, Gloucester, who stood a good chance of gaining the second prize had he not, unfortunately, staged one too many duplicates.

With twelve incurved varieties Mr. J. Hughes was first, Mr. J. Aplin second, and Mr. C. J. Salter third. Mr. Hughes' best were John Lambert, Princess of Wales, Lord Alcester, Madame Darier, John Doughty, Miss Haggas, Brookleigh Gem, and Alfred Salter. Mr. W. Robinson, gardener to Lord Justice Lopes, Heywood House, Westbury, was an easy first in the class for twelve incurved blooms to be shown with 4 inches of stem, most of the varieties being in excellent condition. Mr. H. Clack was second.

The first prize for twelve Japanese varieties, a cup value £5 5s., was won by Mr. Inglefield, who had very fine blooms of Charles Davis. Mrs. Harman Payne, W. H. Lincoln, Vivian Morel, Mdle. Marie Hoste, President Borel, Mdle. Thérèse Rey, Alberic Lunden, W. Tricker, Sunflower, W. Seward, and Avalanche. Mr. P. Mann, gardener to W. H. Laverton, Esq., Westbury, was a good second, having Colonel Chase, Madame Ricaud, Madame Capitant, E. Molyneux, Mdle. Thérèse Rey at their best. Mr. W. Robinson was only a single point behind, Primrose League, Vivian Morel, C. Davis, F. Davis, and Mrs. W. Cutting showing up well in this stand. There were several other competitors.

Anemone-flowered varieties were particularly well shown, and with twelve blooms in not less than four distinct varieties Mr. C. J. Salter was well first; Mr. H. Clack taking the second prize, and Mr. W. Robinson third. Mr. Salter had particularly well filled blooms of Cincinnati, Judge Benedict, Sabine, Delaware, Grand Alveole, Mons. C. Leboeque. Mr. C. J. Salter was also well first with reflexed varieties, and Mr. W. Robinson second. The best represented were King of the Crimson, Cloth of Gold, Christine, Chevalier Domage, Phidias, Golden Christine, and Clara Jeal.

Good prizes were offered for groups of Chrysanthemums, but a chapter of accidents prevented some intending exhibitors competing. Mr. H. Clack, gardener to Lieut. Colonel Colston, M.P., Roundhay Park, Devizes, made a really good display, the collection comprising numerous fine blooms of the best new and old varieties, and the first prize was quickly awarded to him. Mr. F. Davis, gardener to R. H. Caird, Esq., was second; and Mr. C. Burgess, gardener to the Rev. E. R. B. Barnwell, third—both young hands, and who staged a creditable collection of plants.

TORQUAY.—NOVEMBER 7TH.

THE Bath Saloon was, as usual, the site of holding the annual autumn exhibition; unfortunately, though, the weather throughout the day was of the worst description. The exhibits were well arranged in two rooms—the groups in the larger, and the cut blooms in the smaller. The latter showed a falling off in point of numbers, but the former well maintained the reputation they have gained as being some of the best in the West of England. Mr. Masterman, the Hon. Secretary, worked hard to achieve success, ably assisted by Mr. Bush.

For a group of Chrysanthemums, not less than eighteen varieties arranged for effect in an 8-foot circle, Mr. J. Hill, gardener to Rev. H. Rutherford, Redcliffe, Torquay, won first place with a pleasing arrangement of well grown plants. Mr. J. Hunt, gardener to P. B. Drinkwater, Esq., Lyncombe, Torquay, was second, and Mr. J. S. Slowman, gardener to Captain Fane Tucker, Braddon Tor, Torquay, third. In the smaller class Mr. Satterley, gardener to Mrs. Matthews, Braddon Villa, Torquay, gained premier position with a creditable group. Miscellaneous plants arranged for effect in a 7-foot square, and raised 1 foot from the floor, added much to the beauty of the show. Mr. Satterley had an effective arrangement, consisting of Cannas, Salvia Pitcheri, Strobilanthus, Palms and Ferns, and secured the premier award. Mr. Slowman was second. Orchids and table plants were well shown.

Cut blooms, although not numerous, were up to the average in point of quality. For thirty-six distinct, half incurved and the remainder Japanese, Mr. Veale, gardener to Rev. Simms, Newton Abbot, was the only exhibitor, his blooms were sufficiently good, though, in quality to take first prize. The best of the Japanese were Charles Davis, Duke of York, Puritan, Sunflower, Waban, and Mrs. C. H. Payne. The incurved were not large, but neat and fresh. For twelve incurved Mr. J. Symes, gardener to Col. Halford Thompson, Teignmouth, won premier

place with even-sized blooms of good quality. Princess of Wales, Queen of England, Brookleigh Gem, Golden Empress, Hero of Stoke Newington, Jeanne d'Arc, and Golden Queen of England were noticeable. Mr. Veale was second, and Mr. Slowman third.

Japanese blooms were well staged. For twelve distinct Mr. Veale had Primrose League, Charles Davis, Mdle. Thérèse Rey, Duke of York, Vivian Morel, and Waban as the best. Mr. Symes was second, and Mr. A. H. Bridson, Dartmouth, third. For twelve Japanese confined to the Torquay district Mr. Satterley staged the finest blooms in the show for the first prize, Le Prince du Bois, Duke of York, Mdle. Thérèse Rey, and L'Isere being especially noteworthy. Mr. F. G. Ferris was second. For six Japanese any one sort, Mr. Symes staged Vivian Morel in good order and won. Mr. Veale was second. The last named had the best Anemone blooms in six varieties. Mr. Satterley was second. Mr. T. Wilkinson, gardener to Rev. Talbot Greaves, Villa Syracuse, Torquay, had the best reflexed, Mr. Bridson coming second. For six Anemone any one variety, Mr. Satterley had remarkably fine examples of Delaware, Mr. Veale following. For six blooms any one single flowered variety, Mr. T. Wilkinson staged handsome examples of Admiral Sir T. Symonds, Mr. J. Hill following.

Non-competitive exhibits were numerous and attractive. Messrs. R. Veitch & Son, Exeter, had choice stove and greenhouse flowering plants, shrubs, Orchids, and seventy dishes of Apples. Mr. B. Smale, The Nurseries, Torre Park Nurseries, Torquay, sent a group of Chrysanthemums embracing the cream of leading varieties. Messrs. Curtis, Sanford & Co., The Devon Roseries, had a fine bank of Chrysanthemums, and Messrs. Beachey & Co., Kingskerswell, Devon, had a fine display of Violets in pots. The South Devon Fruit Farm Co. contributed a choice assortment of fruit and vegetables, the whole reflecting much credit upon their manager. Mr. Pender. Mr. Wyndham Fitzherbert, Lanscombe Cockington, Torquay, had one dozen pots of white Cyclamens of excellent quality. Col. Halford Thompson gained a cultural commendation for the groups of miscellaneous plants growing in Jadoo fibre, which appears well suited for plants in small pots for house use and for hanging baskets.

LIVERPOOL.—NOVEMBER 7TH AND 8TH.

As briefly mentioned last week the fifteenth Chrysanthemum and Fruit Show was held in St. George's Hall on the above dates, and although somewhat early for Liverpool growers, the exhibition may be termed a very good one. The greatest interest was centered in the cut bloom classes, and naturally so, for looking from the galleries down below to the flowers, the fine form and colouring were most noticeable, particularly so in the Japanese. Incurved blooms showed a slight falling off, the Queen family, for instance, lacking depth and solidity. Trained plants were a great improvement, not only well flowered, but with good foliage also. Miscellaneous plants showed a falling off with exception of Ferns and Palms, which were really good. Orchids were fresh, particularly the Cypripediums, which have never been shown in better form. Fruit was in abundance, the Grape and Pear classes being well contested, almost every dish being of fine quality. Apples were finely shown by Mr. J. Davies, gardener to W. E. King-King, Esq., Bodenham Manor, Leominster, which secured the first prizes in all the open classes. A feature in the show was a collection of dried Orchid flowers exhibited by Mr. Hinde, gardener to Matthew Wells, Esq., Broomfield, Sale.

In the class for twenty-four incurved and twenty-four Japanese blooms, not less than thirty-six varieties, five competed, the award going to Mr. Donald Forbes, gardener to Alfred Holt, Esq., Crofton, Aigburth, with a fine even stand, comprising Mrs. C. H. Payne (2), Princess May, Vivian Morel, W. H. Lincoln, Mdle. Thérèse Rey (2), Gloire du Rocher, Mdle. Marie Hoste (2), Charles Davis (2), E. Molyneux, Stanstead White, Mrs. E. W. Clarke, Sunflower, G. C. Schwabe, Boule d'Or (2), magnificent; Louise, Etoile de Lyon, Wm. Tricker, M. Pankoucke, and Avalanche. Incurved flowers were neat and fresh, and included Queen of England (2), Golden Empress, John Lambert (2), John Doughty, Lord Alcester, Alfred Salter, Miss Haggas, J. Salter, Jeanne d'Arc (2), Lord Wolseley, Baron Hirsch, Mrs. R. King, Prince Alfred, Venus, Mr. Bunn, Lucy Kendall, Beauty, Madame Darier, Princess of Wales, Mrs. Heale, and Mrs. S. Coleman. A close second was Mr. G. Haigh, gardener to W. H. Tate, Esq., Highfield, Woolton, his Japanese being fine in colour. Mr. Jellicoe, gardener to F. H. Gossage, Esq., Camp Hill, Woolton, was third, the fourth position being assigned to Mr. J. Edwards, gardener to Henry Tate, Esq., Allerton Beeches.

For twelve Japanese, twelve incurved, and twelve reflexed, Mr. H. Howard, gardener to A. S. Mather, Esq., Beechwood, Woolton, was a good first, showing Mdle. Marie Hoste, Miss Dorothea Shea, splendid; Sunflower, Vivian Morel, W. H. Lincoln, Mrs. C. H. Payne, Col. W. B. Smith, Princess May, G. C. Schwabe, Edwin Molyneux, Wm. Tricker, and Chas. Davis; Lord Alcester, Queen of England, Empress of India, Mons. R. Bahuan, Baron Hirsch, Alfred Salter, Emily Dale, Madame Darier, Jeanne d'Arc, Lord Wolseley, Baron Hirsch, and Mr. Bunn; M. Sullivan, Mrs. Forsyth, Cloth of Gold (2), Chevalier Domage (2), Lilac Christine, Dr. Sharpe, R. Smith, Golden Christine, and Mrs. Neville. Mr. E. Wharton, gardener to J. Findlay, Esq., Mavis Court, Sefton Park, came second; and Mr. R. Pinnington, gardener to Mrs. Banner, Blacklow House, Roby, was a close third.

For eighteen incurved blooms there were seven competitors, Mr. G. Dutton being a good winner with a fine stand, the best of which were Queen of England, Lord Alcester, Princess of Wales, Prince Alfred,

Miss Haggas, Violet Tomlin, and Lord Wolseley. Mr. J. Haynes, gardener to Mrs. B. C. Nicholson, Oswaldcroft, Wavertree, had some grand blooms—Baron Hirsch, Lucy Kendall, and Violet Tomlin being the best. Mr. Healey, gardener to Col. Wilson, Hillside, Allerton, was a close third. Seven competed for the corresponding number of Japanese, and here a new comer—Mr. Mauchline, gardener to A. D. McLeod, Esq., Belsfield, Windermere—came with a stand which for massive and perfectly coloured flowers have never been excelled in Liverpool. The best were Vivian Morel (by most people considered the best flower in the show), Col. W. B. Smith, Excelsior, Mrs. E. W. Clarke, Chas. Davis, Mrs. C. H. Payne, W. W. Coles (very fine), Edwin Molyneux, Edward Lonsdale, and Amos Perry. Mr. J. Grant, gardener to W. S. Gladstone, Esq., Grassendale, followed; Mr. G. Dutton being a meritorious third. The class for twelve incurved brought out nine stands, Mr. W. Hignett, gardener to C. W. Carver, Esq., West Derby, winning with a capital selection, comprising Mons. R. Bahuant, Empress of India, John Doughty, and Violet Tomlin as the best. Mr. Haynes followed. Mr. Watson, gardener to H. D. Horsfall, Esq., Aigburth, won with six incurved. Two classes were devoted to twelve Japanese, Mr. J. Trelford, gardener to C. Gatebousc, Esq., Birkenhead, winning in one class, and Mr. G. Haigh in the other. Mr. T. Hughes, gardener to C. H. Hollins, Esq., Aymestry Court, Woolton, secured the prize for six blooms with a good stand. Mr. W. Wilson was first for six Anemones; Mr. Jellicoe first prize and silver medal for six reflexed; Mr. E. Wharton for twelve Pompons, in bunches of three, very fine; Mr. E. Bache, gardener to A. H. Beucke, Esq., West Derby, for six Japanese and six incurved blooms.

For trained plants the principal prizewinners were Mr. T. Gowen, gardener to J. A. Bartlett, Esq., Mossley Hill, for one large flowered, one standard, one pyramid; he also won with one and six untrained, a plant of William Tricker, carrying about twenty-four blooms, being conspicuous. Mr. W. Wilson won with three large flowering, trained, a silver teapot going with first prize. Mr. J. Harrison, gardener to Mrs. W. G. Bateson, Aigburth, won with three and one Pompon varieties. Mr. J. Rose, gardener to J. G. Kitchen, Esq., Huyton, exhibited well in these classes. For miscellaneous plants the winners included Messrs. Cromwell, J. Bounds, J. Bracegirdle, McFall, Williams, and J. Kelly.

Fruit classes were well filled, Messrs. T. Elsworthy, Ferguson, J. Grey, W. T. Wyton, W. Wilson, Grey, J. Kelly, R. Pinnington, J. Davis, R. Hanagan being among the prizewinners.

Nurserymen made a charming display, including Orchids from Messrs. Charlesworth & Co., Bradford, and Jno. Cowen, Ltd., Garstang, Cyclamens from Messrs. Ker, Aigburth; Dicksons, Limited, Cheshire, had a fine collection of fruit, and Messrs. Clibran & Sons a stand of new Chrysanthemums. Certificates were granted to all nurserymen, and to Mr. Hinde.

BOURNEMOUTH.—NOVEMBER 7TH AND 8TH.

THE Bournemouth and District Chrysanthemum and Horticultural Society held its eighth annual exhibition of plants and cut blooms in the Winter Gardens of the Hotel Mont Doré, on the above dates, and altogether it may be pronounced the best show hitherto held by the Society. Cut blooms were shown extensively and well. In the class for thirty-six flowers, to include eighteen Japanese and eighteen incurved, not more than two of one variety, the first prize including a silver challenge cup value £10 10s., six good stands were staged in competition. The coveted prize was secured by Mr. N. Molyneux, gardener to J. Carpenter Garnier, Esq., Rooksbury Park, Fareham, and whose property the trophy now becomes, he having won it two years in succession. Mr. Molyneux's blooms were uniformly large, solid and fresh. The incurved were Queen of England (2), Princess of Wales (2), Empress of India (2, one of which, the broad one, was awarded the premier bloom prize), Lord Alcester (2), Golden Empress, John Lambert, Miss M. A. Haggas, Beauty (2), Lord Wolseley, C. B. Whitnal (2), Mrs. Mitchell, Robert Petfield. The Japanese included International (2), Vivian Morel (2), Charles Davis (2), Mons. Panckoucke (2), President Borel, Madame Charles Molin, Edwin Molyneux, Princess George, Niveus, Mrs. H. Payne, Alberic Lunden, G. C. Schwabe, and Louis Boehmer. The National Chrysanthemum Society's certificate of merit was very deservedly awarded to Mr. Molyneux for his splendid three dozen blooms. Mr. Hughes, gardener to William Baring, Esq., Norman Court, Salisbury, was a good second, his incurved blooms being especially good. Mr. Thomas Wilkins, gardener to Lady Theodore Guest, Inwood, Henstridge, was a creditable third.

Mr. Hughes was first out of six stands of twelve Japanese blooms, distinct varieties, staging fine blooms of G. C. Schwabe, Duke of York, Mrs. Falconer Jameson, Edwin Molyneux, Vivian Morel, Viscountess Hambledon, Avalanche, W. H. Lincoln, Mrs. C. H. Payne, Chas. Davis, and Etoile de Lyon. Mr. W. Grace, gardener to W. R. Neave, Esq., Fordingbridge, was good second. Mr. N. Molyneux had the best dozen blooms of incurved, staging fine blooms of Empress of India, Brookleigh Gem, Beauty, Queen of England, Lord Alcester, Mrs. Heale, Alfred Salter, Golden Empress, Princess of Wales, C. B. Whitnal, Mrs. Mitchell, and Lord Wolseley. Mr. Grace was second, and Mr. Hughes was third, both showing well. Out of seven stands of six blooms, Japanese, one variety, Mr. Hughes was first with fine even fresh blooms of Avalanche. Mr. Ingram, Parkstone Nurseries, Parkstone, was second with Mrs. C. H. Payne, and Mr. Woodford, gardener to Mrs. Goff, Everton Grange, was third with Edwin Molyneux. In the corresponding class for a like number of blooms, incurved, Mr. Woodford secured the premier position

with good blooms of Mrs. Heale. Mr. Booth, gardener to F. Ricardo, Esq., and Mr. C. Head, gardener to Mrs. Chas. Stuart, were second and third in that order.

Mr. C. W. Barrett, gardener to G. J. Fenwick, Esq., Craig Head, Bournemouth (in the classes confined to exhibitors residing within a radius of twelve miles from the Pier) was a good first for twelve incurved blooms, distinct varieties. The National Chrysanthemum Society's bronze medal was deservedly awarded to this stand in addition to a money prize. Mr. Osborne, gardener to Rev. F. Hopkins, was second. The last-mentioned exhibitor was first in the corresponding class for Japanese, to which one of the N.C.S. bronze medals was also awarded. Seven stands of six incurved blooms were shown, Mr. Booth taking premier place with good flowers. Mr. Tubor, gardener to J. Murray, Esq., had the best six blooms of Japanese. Mr. Shave, gardener to W. W. Moore, Esq., was first for twelve blooms, reflexed, of eight varieties.

In the class for stand of cut blooms, Japanese, on long stems, with foliage, arranged on a table space of 3 feet by 2 feet, with ground of small foliage plants, to illustrate the decorative value of the Chrysanthemums, four good arrangements were displayed, Mr. C. W. Barrett being first, his blooms being intermixed with small fresh plants of *Cyperus alternifolius*, and edged with *Lycopodiums* and Ferns. Mr. L. J. Newell was a creditable second, an edging of *Panicum variegatum* showed to advantage in this arrangement.

Groups of Chrysanthemums were a strong feature in the Bournemouth show. In the open class the first prize being a silver cup, value £5, or money, only two exhibits were arranged. Mr. T. K. Ingram was easily first with meritorious plants tastefully arranged, Mr. T. W. Tbarle being awarded third place. Messrs. Enoch White & Son's silver cup, value £6 6s., offered for a group arranged in a space of 50 feet, brought out four excellent exhibits from growers residing within a radius of twelve miles from Bournemouth Pier. Mr. C. W. Barrett was well first for admittedly the finest group of Chrysanthemums hitherto arranged in Bournemouth. The plants were admirably grown, being furnished from the pots with clean luxuriant foliage, and surmounted by unusually large, solid, fresh, even blooms, judiciously intermixed as regarded colour. The National Chrysanthemum Society's certificate of merit was awarded to Mr. Barrett for his creditable group. Mr. G. W. Eldridge, gardener to G. W. Young, Esq., Branksom Manor, Bournemouth, was second; Mr. Stretch, gardener to the Misses Evans, Branksom Park, Bournemouth, was third; and Mr. W. Earp, gardener to J. S. Sellon, Esq., Hume Towers, Bournemouth, was granted a special prize in recognition of the merits of his group.

Fruit and vegetables made a good display, the same applying to miscellaneous exhibits.

BATH.—NOVEMBER 7TH AND 8TH.

A MOST successful show was held in the Assembly Rooms, Bath, on the 7th and 8th inst. Specimen plants were somewhat weaker in numbers, and the same remark applies to the groups. There was, however, keen competition in the cut flower classes, those for Japanese varieties producing some really fine flowers. Prizes were also offered for fruit and vegetables, the result being possibly the finest show of Grapes that has been seen during the series of these November exhibitions. Apples and Pears were also well shown, and a word of praise is due to the collections of vegetables. Some good Orchids were exhibited, the splendid *Vanda coerulea*, shown by Mr. R. F. Curry, being specially worthy of mention.

For a group of Chrysanthemums, on a space 12 by 6 feet, the Rev. E. Handley was awarded first prize for a good exhibit; Mr. W. J. Brown being second. Mr. R. B. Cater was first with a well arranged group composed of Chrysanthemums, foliage plants, and Ferns. For six specimen plants there was only one entry, Mr. W. J. Brown being the exhibitor taking first prize. Mr. W. Pumphrey was first with four plants, Mr. Chas. Lee winning with three standards. For six Orchids, Mr. R. F. Curry was first, and with a fine collection, Mr. J. T. Holmes second. Primulas were splendidly shown by Mr. T. W. Dunn, Mr. Geo. Garaway showing good Cyclamens.

In the classes for cut flowers, Mr. W. H. Laverton was placed first with twenty-four Japanese, having the following varieties in good condition:—The Tribune, Condor, President Borel, Madame C. Capitante, Louis Menaud, Lord Brooke, M. E. Carrière, Violetta, Niveus, Chas. Blick, Colonel Chase, Robert Owen, Mrs. C. H. Payne, Chas. Davis, Eda Prass, Mdle. Thérèse Rey, Good Gracious, E. Molyneux, Sunflower, Madame Ricoud, Colonel Smith, Vivian Morel, Florence Davis, and Louise. Mr. W. Meath Baker was second, and Mr. W. E. S. Earle-Drax third. Mrs. Beddoes was first for twelve blooms, and Mr. A. R. Bailey first with six very fine flowers of the following:—Chas. Davis, Mrs. C. H. Payne, Mrs. G. C. Schwabe, Stanstead White, Mdle. Thérèse Rey, and W. H. Lincoln.

For twenty-four large flowering varieties Mr. W. Meath Baker was first, having good blooms of John Lambert, Princess of Wales, Empress of India, Jeanne d'Arc, and Lord Wolseley amongst others. Lord Justice Lopes was second, and Mr. John Bayliss third. Mr. W. E. S. Earle-Drax was awarded first prize for twelve, and Mr. J. F. Hall first for six distinct varieties. For six new varieties Mr. W. H. Laverton was first.

Competition ruled very close in the classes for Grapes, Apples, and Pears, all of which were very finely shown, the same applying to vegetables. Several excellent groups of plants not for competition were staged by the various local nurserymen.

WOLVERHAMPTON.—NOVEMBER 7TH AND 8TH.

THE groups of Chrysanthemums at this show were very good, and the quality of blooms excellent. Unfortunately, however, the best group was placed third, owing to an accident which occurred at the last moment. This group was exhibited by Mr. Bishop, gardener, Wightwick Manor. The first prize was taken by Mr. Bradley, gardener to Miss Perry. Mr. Shingler, gardener to C. K. Crane, Esq., was second, and Mr. Craigie, gardener to C. T. Mander, Esq., fourth with very creditable groups. For a group of Chrysanthemums and miscellaneous plants Mr. R. Craigie well deserves the honour of first. Mr. Bradley was second, and Mr. Shingler third with an exquisitely arranged group, but too weak in the back. The fourth prize went to Mr. C. Raffles, gardener to G. Thompson, Esq. Bush plants do not call for special mention. Primulas, Zonal Pelargoniums, Poinsettias, and table plants were well represented.

The cut blooms were of good quality, and the judges had a long and hard task to award the first prize for twenty-four incurved blooms. Mr. Alfred Bishop, gardener to R. Burrell, Esq., Westby Hall, Suffolk, secured this award for blooms which were of good substance and very fresh. These included John Lambert (excellent), Princess of Wales (2), Lord Wolseley, Jeanne d'Arc, Violet Tomlin (premier incurved bloom), Mrs. Heale, Baron Hirsch, Golden Empress, Empress of India, Mons. R. Bahuant, Lord Alcester, Alfred Lyons, Cherub, Mrs. G. Rundle, Mrs. Brunlees, and Mrs. G. Glenney amongst others. The second prize was won by Mr. Smith, gardener to Walter Showell, Esq., Bell Hall, Belbroughton. Mr. E. Simpson, gardener to Lord Wrottesley, with smaller but deeper blooms was third, and Mr. S. Brannell, gardener to Francis Hayhurst, Esq., Overley, Wellington, Salop, fourth. For twelve incurves, distinct, Mr. E. Simpson was first with Baron Hirsch, Princess of Wales, Mons. R. Bahuant, Mrs. Clibran, Mrs. Heale, Madame Darier, Mrs. Coleman, Miss Haggis, Lord Wolseley, Violet Tomlin, Jeanne d'Arc, and Madame F. Mistral. Second, Mr. J. Parkes, gardener to W. Robinson, Esq., Ferndale, Tedmore, Stourbridge; third, Mr. J. Robinson, gardener to R. W. D. Harley, Esq., Brampton Bryan Hall, Hereford.

In the class for twenty-four Japanese, to consist of eighteen distinct varieties, Mr. Robinson secured first prize with Princess May, Charles Davis, Amos Perry, Mrs. H. Payne, C. Shrimpton, E. W. Clarke, Stanstead White, Vivian Morel, Mrs. F. Jameson, Préfet Robert, Miss Dorothea Shea, Edwin Molyneux, Louise, Alberic Lunden, Sunflower, Edith Rowbottom, W. Seward, W. H. Lincoln, Avalanche, W. H. Atkin, J. S. Dibbins, Florence Davis, M. Bernardin, Madame Charles Molin. On this stand was a magnificent "Louise," perfect in every way, which the judges must have overlooked when selecting the premier Japanese flower. Mr. A. Bishop secured the second prize. Mr. Earps, gardener to Right Hon. J. Chamberlain, Highbury, Birmingham, was third; and Mr. E. Simpson fourth. For twelve Japanese Mr. C. Bellis, gardener to Sir C. H. Rouse Boughton, Bart., Downton Hall, Ludlow, was first with Primrose League, Van der Heede, Sunflower, Vivian Morel, C. Davis, Mr. E. G. Heth, Louis Boehmer, Avalanche, W. H. Lincoln, Mr. G. G. Whittle, and Gloire du Rocher. Mr. J. Robinson was second, and Mr. E. Simpson third. This stand contained a magnificent bloom of Mrs. Alpheus Hardy such as is not often seen.

Mr. H. J. Jones, Ryecroft Nursery, exhibited thirty-six blooms not for competition, and for which a certificate of merit was awarded. Anemones in eight varieties were best shown by Mr. R. Craigie. The silver medal offered by the Wolverhampton Gardeners' Association was awarded to Mr. Tantrum, gardener to A. L. Kerrison, Esq., Codsall, for twelve blooms. The silver medal offered by Messrs. J. Laing & Son for the most meritorious exhibit was awarded to Mr. G. A. Bishop, Wightwick Manor Gardens, for a bank of Crotons and Dracenas, 40 feet long 6 feet wide. The plants were well grown and coloured. The silver medal given by Messrs. Reade Bros. & Co. was also awarded to this group, which likewise secured the Society's medal. There were various other miscellaneous exhibits.

HORNSEY.—NOVEMBER 8TH AND 9TH.

THE fifth annual exhibition of the Hornsey and District Chrysanthemum Society was held in the National Hall, Hornsey, on the above dates. As a local metropolitan organisation this Society can well hold its own, and provides one of the best exhibitions of Chrysanthemums to be seen in the suburbs of London. H. R. Williams, Esq., J.P., and who takes a special interest in various phases of horticulture, is the President, and Courtney Page, Esq., is the Honorary Secretary, Mr. T. A. Newman being the Secretary, by whom most of the arrangements are admirably carried out. On the whole the show was an excellent one, and a credit to all concerned.

In the cut bloom section the principal class was for twenty-four Japanese flowers, and Mr. E. Rowbottom, gardener to H. R. Williams, Esq., was awarded the first prize for a grand stand. The varieties included G. C. Schwabe, Etoile de Lyon, Mdle. Thérèse Rey, President Borel, Avalanche, Mrs. F. Jameson, Stanstead White, Mrs. Dr. Ward, Percy Surman, Chas. Shrimpton, Louise, Col. W. B. Smith, Louise, Niveus, Sunflower, W. Seward, and Madame Cambon. Mr. Turk, gardener to T. Boney, Esq., Cholmeley Lodge, Highgate, was second, this stand including some good flowers of Vivian Morel, Chas. Davis, Good Gracious, and Mdle. Thérèse Rey. Mr. J. Brookes, gardener to W. Reynolds, Esq., The Grove, Highgate, was third, this exhibitor also staging creditable flowers.

Mr. Rowbottom repeated his success in the class for twelve distinct

Japanese blooms, winning the first prize. These flowers were of excellent quality, and comprised Mrs. F. Jameson, Avalanche, Vivian Morel, Préfet Robert, Sunflower, Mrs. E. G. Hill, Miss F. Davis, W. Seward, Utopia, Etoile de Lyon, Mdle. Thérèse Rey, and Vice-President Audiguier. Mr. Turk was again second, showing fine flowers. Mr. Rowbottom was also first for nine Japanese blooms and the same number of incurved flowers, the other prizes being taken by Messrs. J. Brookes and G. Amos. In the class for twelve large flowering Anemones there was only one exhibitor, this being Mr. Rowbottom, to whom the first prize was awarded. The flowers were fresh and beautiful, as they appear to be everywhere this year. Pompons were best shown by Messrs. T. Turk, G. Amos, and E. Rowbottom, the two first named exhibitors securing the prizes for table decorations.

Incurved flowers were better than can usually be seen at local shows, and in the class for twelve flowers Mr. E. Rowbottom was first. The varieties were Baron Hirsch, Mrs. Heale, Miss M. A. Haggas, Empress of India, John Lambert, Prince Alfred, Lord Alcester, Madame Darier, Barbara, Violet Tomlin, Golden Empress of India, and Queen of England. Mr. J. Brookes, Highgate, secured the first prize for half dozen incurved blooms. These were well finished, and comprised Lord Alcester, Empress of India, Queen of England, A. Salter, and Prince of Wales. Mr. G. Amos, gardener to W. B. Lister, Esq., Ladywell, Hornsey, was second.

Groups of Chrysanthemums made a good display, the prizes in the gardeners' class for a display being taken by Messrs. E. Rowbottom and G. Hinds. Both groups were well arranged, and contained some grand plants. Mr. F. J. Mathews secured a silver medal for a collection of Chrysanthemums, and Messrs. J. Brookes and G. Amos were the prize-winners in the class for four trained plants, both showing good specimens. Fruits, vegetables, and floral decorations were well represented, and the miscellaneous exhibits included a fine group of plants from Mr. McGregor, Turnpike Lane, Hornsey.

CIRENCESTER.—NOVEMBER 8TH AND 9TH.

THE Cirencester Chrysanthemum Society held its fourth exhibition on Thursday and Friday last, and may be congratulated on having so soon evoked a wide local interest in the cultivation of these popular flowers. The Corn Hall, together with its covered approach and spacious lobby, were replete with an array of exhibits that must be considered as highly satisfactory, as well as most encouraging to the officials for the future of this Society. Interest in the show was greatly enhanced by the fine display of fruit and collections of vegetables, a view of the whole being rendered the more enjoyable from being staged in so well lighted a structure.

The groups of plants in classes open only to exhibitors residing within a radius of ten miles, were staged against the walls of the interior, and formed a very attractive feature. That for a group of Chrysanthemums, with ornamental foliage plants and Ferns on 63 square feet, produced a meritorious display, although in each case the grouping was perhaps a little too formal. The premier award was secured, with the silver medal of the National Chrysanthemum Society, by Mr. Cator, Trewsbury; Colonel Chester Master, The Abbey, being second, and Mr. J. Hyde third. For a group of Chrysanthemums, arranged for effect on 35 square feet, the leading position was taken by Mr. H. F. Sare. Mr. C. Green was a good second, and the Rev. E. H. Ball, Stratton, third.

The groups of stove and greenhouse plants (Chrysanthemums excluded), arranged for effect in a semi-circle, although a trifle flat, were nevertheless attractive exhibits. In this class Mr. J. Taylor occupied the premier position, Mr. Cator was second, and Colonel Chester Master third. There were some well flowered plants staged in the various classes provided for them, the most successful exhibitors being Mr. J. Taylor, Mr. F. Smith, Mrs. W. Brewin, and Mr. H. R. Saunders; the specimens of Vivian Morel exhibited by Mr. J. Taylor and Mrs. W. Brewin, which secured special prizes, being particularly noteworthy.

In the class for thirty-six blooms (eighteen Japanese and eighteen incurved) some fine flowers were presented. The premier stand was an exceptionally good one, and received a certificate of the N.C.S. It was staged by Mrs. Bulley, Marston Hill, and contained the following Japanese varieties:—Charles Davis (fine), Wm. Seward, Mdle. Thérèse Rey, Van der Heede (fine), Mrs. C. H. Payne, Mdle. Marie Hoste, Beauty of Exmouth, Wm. Tricker, Boule d'Or, Primrose League, Edwin Molyneux, Vivian Morel (fine), Miss Dorothea Shea (fine), Stanstead White, Gloire du Rocher, Alberic Lunden, Florence Davis, and Mrs. F. Jameson. The incurved blooms were particularly fresh looking, and comprised Mons. R. Bahuant (fine), Mrs. Robinson King, Lord Wolseley, Empress of India, Violet Tomlin, Lord Alcester (fine), John Lambert, Prince Alfred, Miss M. A. Haggas (fine), Madame Darier, Jeanne d'Arc, John Salter, Baron Hirsch, Jardin des Pantes, Mrs. Heale, Queen of England, Refulgens (very fine), and Princess of Wales. The second prize was taken by Mrs. C. Hooper, Turupp, with a very creditable stand of flowers.

Mrs. Bulley was the most successful exhibitor in the classes for eighteen Japanese blooms, twelve incurved, twelve Japanese, six of any one incurved, and six of any one Japanese, thereby occupying the most prominent position amongst the prizewinners. The other prizes in these classes were secured by Mr. Cator, who staged excellent stands of flowers, Mr. J. L. Burgess, Mrs. W. Brewin, and Mr. R. Calcutt. Mr. J. L. Burgess took the first prize for six distinct incurved varieties with a very good stand in a weak class. For six Japanese Mrs. W. Brewin, Mr. Burgess, and Mr. W. Warn, Tetbury, were awarded the prizes in the

order named. Vases of Chrysanthemums, fruit, and vegetables were also prominent features of the show.

Amongst the extra productions mention may be made of a collection of named Apples and Pears, as well as a large group of miscellaneous flowering and ornamental leaved plants sent by Messrs. Jefferies & Sons, and a group of Chrysanthemums and other plants from Mr. H. Dyer. The general arrangements of the show were carried out by the assiduous Honorary Secretary, Mr. Frank Sare, whose courtesy and aid the writer of these notes desires to acknowledge with many thanks.

WOOLWICH.—NOVEMBER 8TH AND 9TH.

THE first Chrysanthemum exhibition of the Woolwich, Plumstead, and District Horticultural Society was held on the above dates in the Drill Hall, Woolwich. This building is admirably adapted for such a purpose, and its size leaves room for the development of the show. The best feature was the cut blooms, more especially in the Japanese section. Groups were not very numerous, but of fair quality. In the subjoined report the prizewinners in the chief classes are given. The show was admirably managed by Mr. R. C. Wilson, Honorary Secretary, and the Committee.

The principal class was for a group of Chrysanthemums arranged in a space of 50 square feet, quality and effect to be the chief features. Mr. A. H. Heaton, gardener to W. G. Dawson, Esq., Plumstead Common, was placed first with a somewhat stiff arrangement, but the blooms were fresh and of medium size. Mons. W. Holmes, Gold Thread, Vivian Morel, W. H. Lincoln, W. Tricker, and W. H. Atkinson were among the most noticeable. Mr. W. Edwardson, Orchard Cottage, Plumstead, was a close second. This group contained some very fine blooms, but was not so well arranged, being much too flat. Mr. W. H. Castleman, gardener to Col. St. Quinton, was third.

The cut bloom section brought more competitors, but in the chief class for twenty-four blooms, twelve of each Japanese and incurved, only two stands were staged. Mr. A. Tomlain, gardener to Stephen White, Esq., Oakwood, Crayford, was an easy first, his blooms being fresh and of good colour. The Japanese were Etoile de Lyon, Charles Davis, Mdle. Marie Hoste, Vivian Morel, President Borel, Louise, Mrs. A. G. Hubbuck, Mdle. Thérèse Rey, Primrose League, Duchess of Devonshire, W. H. Lincoln, and Vice-President Audiguier. Baron Hirsch, Mrs. Heale, Lucy Kendall, Violet Tomlin, Miss M. A. Haggas and Princess of Wales were the best of the incurved. Mr. James Rhode was accorded the second position with a stand comprising a few good examples.

For twelve blooms, six Japanese, six incurved, Mr. A. Tomlain again took the premier prize with a grand stand. Florence Davis, Gloire du Rocher, Lord Brooke, Vivian Morel, Miss Coleman, Golden Empress, Alfred Salter, and Violet Tomlin were the most prominent. Mr. B. Campbell was a close second, having fine blooms of J. Shrimpton and Stanstead White. Mr. G. Russell, gardener to T. Pim, Esq., Crayford, was third.

For twelve Japanese, distinct, Mr. A. Tomlain was first with a superb exhibit, composed of Kentish Yellow, Charles Davis, W. Tricker, Vivian Morel, and others. Mr. E. Russell was a good second, and Mr. H. Campbell third.

For twelve incurved, in not less than eight varieties, Mr. T. Osman, The Gardens, Ottershaw Park, was a good first with fresh solid blooms of Miss M. A. Haggas, Mathew Russell, Violet Tomlin, and others. Mr. Tomlain was second, and Mr. Russell third. In the class for six large-flowering Anemones Mr. E. Russell was first with a good stand, in which Enterprise, Nelson, and John Bunyan were the best. Mr. Tomlain was second, and Mr. Campbell third.

The competition in the class six white Japanese, one variety, was not very keen. Mr. A. Tomlain being an easy first with a superb stand of Mdle. Thérèse Rey, probably equal to any that have been exhibited this season. Mr. T. Osman was second with a fine stand of Florence Davis, and Mr. E. H. Meggs, gardener to H. Paine, Esq., Blackheath, third with Avalanche. For six Japanese coloured Mr. Tomlain took the first prize with Lord Brooke in splendid form. Mr. E. Russell was second with Col. W. B. Smith, and Mr. T. Osman third with Sunflower. Mr. Tomlain was first for six incurved, one variety, with Miss M. A. Haggas; Mr. Russell being second with an unnamed sort. Mr. A. Tomlain had the best Japanese and also incurved blooms in the show in Miss A. Haggas and Mdle. Thérèse Rey, both of which were superb.

The amateurs' division was well filled, and highly creditable blooms were staged. For a group Mr. R. Worthington was first with an exhibit equal to any in the show. Mr. W. J. Surmer, Plumstead, was second; and Mr. James May third. Amongst the cut blooms the competition was remarkably keen, and many handsome flowers were shown. Chief among the prizewinners were Messrs. W. E. Reeve, R. J. Worthington, J. H. Hobson, C. W. Symms, and E. Laud. Vases and baskets of flowers and autumn foliage were well staged, much taste being displayed in the arrangement.

Vegetables and fruits, for which classes were provided, were excellently shown, but space precludes our giving details. Messrs. E. Russell, A. Tomlain, J. A. Hester, and Osman were successful exhibitors.

For groups of flowering and foliage plants arranged for effect Mr. A. Tomlain was a splendid first with a graceful arrangement of Orchids and Ferns and other plants. Mr. Castleman was second, and Mr. W. Busbridge third.

Miscellaneous exhibits were not very numerous, but of good quality. Mr. Hester, gardener to W. G. Dawson, Esq., Plumstead Common, sent

a grand exhibit of fruits numbering upwards of 100 dishes, and for which a silver medal was recommended. Messrs. H. Cannell & Sons, Swanley, staged a fine collection of vegetables, and Mr. C. J. Gatehouse, Lewisham, baskets of Chrysanthemums.

HITCHIN.—NOVEMBER 9TH.

THIS show was held on the 9th inst. in the Corn Exchange, Hitchin, under the auspices of the local horticultural Society, whose existence is perhaps better known to rosarians than to Chrysanthemum growers. As on former occasions, the building was fairly well filled with exhibits, and these made a good display. The cut blooms were equal to those seen at many larger shows, the Japanese being above the average in merit. Groups and trained plants were also well represented, the same applying to miscellaneous exhibits.

There were only two competitors in the class for twenty-four Japanese blooms, and here Mr. J. Knipling, Knebworth House, Stevenage, was placed first for a stand of excellent flowers. These were well arranged as regards colour, and comprised Waban, Gloire du Rocher, Violette, Mdle. Marie Hoste, Lilian B. Bird, J. Shrimpton, Vald'Andorre, Ralph Brocklebank, Good Gracious, Vivian Morel, Avalanche, Mars, Chas. Davis, Etoile de Lyon, Sunflower, President Borel, Puritan, W. W. Coles, Florence Davis, W. Tricker, Mdle. Lacroix, Mrs. C. H. Payne, Edwin Molyneux, and Vicomtesse Hambledon. Mr. J. Turk, gardener to T. Bosanquet, Esq., Ponfield, Little Berkhamstead, was second with creditable flowers.

In the class for twelve Japanese blooms there were five exhibitors, and the competition was more keen. Mr. T. A. Hartless, gardener to F. Fenwick Harrison, Esq., Kings Walden, Hitchin, was awarded the first prize for a stand of five flowers. These were Stanstead White, W. Tricker, Mdle. Marie Hoste, Mrs. C. H. Payne, G. C. Schwabe, W. Seward, E. Molyneux, Avalanche, Thunberg, Vivian Morel, Chas. Davis, and Mons. Bernard. Mr. Ernest Cotton, gardener to A. W. Lines, Esq., was second, the stand including excellent blooms of Vivian Morel, Sunflower, Puritan, and Vice-President Audiguier amongst others. Mr. G. R. Allis, gardener to Major Shuttleworth, Old Warden Park, Biggleswade, secured the third prize. Mr. Cotton won in the class for six coloured Japanese blooms of any one variety, showing grand flowers of G. C. Schwabe. Mr. J. Knipling was second with Vivian Morel of great depth, Mr. G. R. Allis being third with Sunflower. Mr. T. J. Hartless won in the class for half dozen blooms of any white Japanese variety with Standard White in splendid form, Mr. J. Knipling being second with Mdle. Marie Hoste, and Mr. J. Turk third with Florence Davis.

The incurved blooms were not very numerous, and with one or two exceptions they were rather small in size. The largest class in this section was for twelve blooms, and there were only two competitors for the first prize, which was won by Mr. T. J. Hartless. This grower had even and well finished flowers of Lord Alcester, Prince Alfred, Madame Darier, Madame F. Mistral, John Lambert, Alfred Salter, Empress of India, John Doughty, Jeanne d'Arc, Queen of England, Lucy Kendall, and Beauty. The second prize went to Mr. J. Turk, whose best flowers were Princess of Wales, Lord Alcester, Mrs. S. Coleman, and Baron Hirsch.

Mr. E. Cotton secured the first prize for a stand of flowers, showing Queen of England, Miss Haggas, Mons. R. Bahuant, Violet Tomlin, John Salter, Empress Eugénie, Lord Alcester, Jeanne d'Arc, and Madame Darier. There was apparently no other exhibitor in this class. There were three stands of six incurved blooms of one variety, and Mr. J. Turk won the premier award, showing Emily Dale in good form. Mr. E. Cotton was second with Madame Darier; and Mr. G. R. Allis third with Miss M. A. Haggas.

Pompons were not very plentiful, but those staged showed a good display. Mr. J. Turk won in the class for six varieties, three flowers of each, showing Black Douglas, Perle de Beauté, W. Westlake, and President in fine condition. Mr. Arthur Wilson was second, the richly coloured Rubra Perfecta showing up well in this stand. The third prize was won by Mr. E. Cotton.

The groups of plants were on the whole above the average in merit. Mr. J. F. Parsons, gardener to Walter Spencer, Esq., Codicote Lodge, Welwyn, was placed first in the class for a group of Chrysanthemums, these plants being dwarf, and most of them carried fine flowers. Mr. E. Orsman, gardener to S. Lucas, Esq., Hitchin, was second, and Mr. Albert Titmuss, gardener to W. Tindall Lucas, Esq., Foxholes, Hitchin, third. Mr. J. F. Parsons won the premier prize for a group of miscellaneous plants, which included Orchids, Palms, Lilliums, and Ferns, all charmingly arranged. Mr. L. A. Ware, gardener to F. Macmillan, Esq., Temple Dinsley, Hitchin, was second, and Mr. Titmuss third.

The best six trained plants were shown by Mr. W. Springham, Bouquet Fait, J. M. Pigmy, and Madame Baco being noteworthy. Mr. G. Orsman was second with well-grown specimens; and Mr. W. Millard, gardener to W. Ransome, Esq., Fairfield, Hitchin, third. The prizes for three plants were secured by Messrs. W. Springham and Arthur Wilson in order of their names.

Table plants were exhibited in excellent condition by Messrs. J. F. Parsons, C. E. Martin, and G. R. Allis. Violets in pots also formed a feature of the show, and here Mr. C. E. Martin, gardener to Viscountess Hampden, The Hoo, Welwyn, won, the other prizewinners being Mr. Dugald McDougall, gardener to Lord Glamis, St. Paul's, Walden Bury, and Mr. W. Smith, gardener to Mrs. Tuck, Hitchin. Zonal Pelargoniums and Primulas also added to the effectiveness of the show.

Miscellaneous exhibits did not make a very extensive display. Mr. C. E. Martin had a stand of fresh and beautiful Violets, also some

Cyclamens in pots. Mr. A. W. Young, Holmesdale Nursery, sent cut blooms of Chrysanthemums, and a stand of Ichthemic manure was noticeable. Mr. E. Logsdon, Grove Road Vinery, Hitchin, had a group of miscellaneous plants.

Fruit was well represented. Mr. Millard was first with black Grapes, and Mr. C. E. Martin first for two bunches of any white variety. Pears were best shown by Messrs. G. R. Allis, G. Maidment, and G. Farrer, and C. E. Martin, these exhibitors securing first prizes in various classes. Messrs. Dugald McDougall, C. E. Martin, and A. Ware were amongst the prizewinners for Apples.

EXETER.—NOVEMBER 9TH.

THE Devon and Exeter is one of the oldest horticultural Societies in the kingdom holding an autumn show, that held in the Victoria Hall on the above date being the 180th. The cut blooms were placed in an extra room, and this arrangement afforded ample space for promenading amongst the groups of Chrysanthemums and miscellaneous plants and fruit. Altogether the show was a great success, a decided improvement being manifest in many of the classes, the management being all that could be desired under the guidance of Mr. Cann, the obliging and energetic Secretary.

Circular groups of Chrysanthemums arranged for effect, in a space not exceeding 9 feet, formed a feature. In one class not less than eighteen varieties were stipulated for, and in the other twelve. In the large class Mr. W. Rowland, gardener to W. Brock, Esq., Exeter, was placed first. The blooms on the plants in this exhibit displayed rather less quality, but the arrangement was better, and the group was neatly edged in such a manner as to hide the pots entirely. Mr. A. C. Wilhain, gardener to Mrs. A. Simm, won second position with plants carrying well developed blooms, but not so well finished. Mr. G. Rogers, gardener to G. Randall Johnson, Esq., Exeter, was third. Mr. Rowland won premier award in the smaller class referred to with a creditable arrangement; Mr. H. E. Bartlett, gardener to Lady Duckworth, being second. Mr. Rowland was also successful with a group of miscellaneous plants arranged for effect in a square of 7 feet, showing much taste in arranging the plants.

Cut blooms perhaps showed a slight falling off in point of numbers, owing to the recent damp weather. The principal class was that for thirty-six Japanese, distinct, for which a silver cup, value £5 5s., was offered as first prize. Mr. Lloyd, gardener to Vincent Stuckey, Esq., Langport, Somerset, was an easy winner of the coveted honour, staging large highly developed blooms of leading varieties. The following were noteworthy:—Mrs. C. Wheeler, Louis Boehmer, International, W. H. Lincoln, Madame Ricoud, Florence Davis, Louise, Madame C. Capitant, and Mrs. C. H. Payne. Mr. J. Stiles, gardener to Miss Fripp, Teignmouth, was second, staging a stand of smaller but good blooms; Mr. H. Hill being third. Mr. G. Foster, gardener to F. Hammond Spencer, Esq., Glendanoach, Teignmouth, unfortunately staged duplicate blooms of Duke of York, and was thus prevented taking second prize with an excellent exhibit.

For eighteen Japanese six competed, making a fine display. Mr. G. Hawkins, gardener to W. H. Fowler, Esq., Taunton, won premier honour easily with even blooms of Niveus, Van der Heede, G. C. Schwabe, Autumn Tints, Etoile de Lyon, W. W. Coles, Charles Blick, Mrs. C. H. Payne, Viscountess Hambledon, Avalanche, International, Edwin Molyneux, Lady E. Saunders, Mdle. Thérèse Rey, Primrose League, W. E. Clarke, Beauty of Toulousaine, and W. Seward. Mr. Lloyd was a good second, and Mr. Foster third. Twelve Japanese, distinct, were thoroughly well represented. Mr. T. Heath, gardener to Sir W. Walrond, Bart., Heavitree, was first; Mr. Veale, gardener to Rev. A. H. Simms, Newton Abbott, second; and Mr. G. Horner, gardener to A. D. Paule, Esq., third. For six Japanese, any one white variety, Mr. R. Mairs, gardener to Sir J. Shelley, Bart., won premier place with the best examples of Beauty of Exmouth yet staged. Mr. G. Hawkins was second with Mdle. Thérèse Rey. For six any yellow variety, W. H. Lincoln won for Mr. Heath first place; Mr. Foster second, showing the same variety. Viviant Morel, as near as perfection as it is possible to have it, won for Mr. Heath premier award in the class for six any other colour, Mr. Hawkins following with Edwin Molyneux.

Incurved varieties exhibited the greatest falling off in numbers. For eighteen, distinct, Mr. Stiles was first with medium sized, neatly finished examples. Hero of Stoke Newington, Golden Empress, Mrs. S. Coleman, Miss M. A. Haggas, Lady Hardinge, and Empress of India were the most noticeable. Mr. Lloyd was second. For twelve, distinct, Mr. Foster was first with a creditable stand, and Mr. Veale second. By far the best stand of blooms in this class was that from Mr. Heath, who was disqualified for staging duplicate blooms of Golden Queen of England under the names of Emily Dale and John Lambert. This exhibitor was also unfortunate in being disqualified in the reflexed class for including Triomphe du Nord and Harvest Queen in his stand of reflexed blooms; but he was compensated by securing premier award in the class for twelve Anemones, staging grand blooms. Mr. Veale was second. Mr. J. Smith, gardener to T. Knapman, Esq., had the best Pompons, and Mr. Prothero, gardener to F. Favart, Esq., the best single-flowered examples, both staged in bunches of three blooms each. Mr. Hill secured the premier award for one Japanese bloom—Stanstead White; and Mr. Stiles a like honour with Hero of Stoke Newington.

The National Chrysanthemum Society's certificates were awarded to Mr. Lloyd and Mr. A. C. Wilhain—to the former for his stand of thirty-six Japanese blooms, and to the latter for his group of Chrysanthemums.

Non-competitive exhibits were numerous, and added much to the

attractiveness of the show. Foremost at the front of the orchestra was the collection of foliage and flowering plants and fruit from Messrs. R. Veitch & Son, Exeter. At the opposite end of the hall the Exeter Nursery Company had a showy group of Chrysanthemums and foliage plants; Messrs. Jarman, Chard, a grand display of fruit and vegetables; and Mr. W. J. Godfrey, Exmouth, new Chrysanthemums and Carnations, the latter being especially noteworthy. Fruit, too, was also admirably shown, but pressure on our space prevents more than this passing reference.

SOUTHAMPTON.—NOVEMBER 13TH AND 14TH.

THIS exhibition was held in the Skating Rink on the above dates. Though the exhibits were small in the cut bloom classes, the quality was good throughout. Specimen Palms were dotted over the room, which added to the attractiveness of the show, and the Committee and the Secretary (Mr. S. Fuidge) deserve great praise.

The leading class was for a group of Chrysanthemums, arranged in a space measuring 60 square feet, and the first honours fell to Mr. T. Hall, gardener to Sir Samuel Montagu, South Stoneham House, with a group well arranged. Mr. E. Rose, gardener to J. H. Alden, Esq., The Firs, Bassett, was second. Mr. Rose was first for four trained specimens, each plant being 6 feet through. Mr. E. Carr, gardener to W. A. Gillett, Esq., Fair Oak, Bishopstoke, was second. Mr. Rose followed up his success by taking first prizes for four plants any variety—one plant Japanese, and one plant of an incurved variety—with grand specimens.

For twenty-four Japanese blooms, not less than twelve varieties, Mr. Inglefield, gardener to Sir J. W. Kelk, Bart., Tedworth House, Marlborough, was first with large fresh blooms of the following—Mrs. C. H. Payne (2), Viviant Morel (2), Madame C. Molin, C. Davis (2), W. H. Lincoln, F. Davis (2), Mdle. Thérèse Rey (2), C. Shrimpton, Etoile de Lyon (2), President Borel, Sunflower, Mrs. Dr. Ward, Le Verseau, W. Tricker, Puritan, G. C. Schwabe, and Niveus. Mr. J. Agate, Havant, was a good second. In the class for twenty-four incurved Mr. Inglefield was again first, showing Lord Alcester, Golden Empress, Miss Haggas, Robert Petfield, Empress of India, and Mrs. S. Coleman. Mr. Agate was second with smaller but well-finished blooms.

Mr. Inglefield was also first in the class for twenty-four blooms, showing the leading varieties. Mr. W. Grace, gardener to W. R. Neave, Esq., Bicton, second with fresher but smaller blooms. For twelve Japanese, Mr. W. Grace was first, closely followed by Mr. Inglefield. Mr. Inglefield was first with twelve incurved; second Mr. Grace, both stands being rather poor.

Fruit and vegetables were good, and miscellaneous exhibits included a collection of Apples and Pears from Messrs. G. Bunyard & Co., Maidstone; wreaths and crosses from Mr. J. Stratton, florist, Shirley; and Mr. W. H. Rogers, Southampton, Mr. W. England, and Mr. B. Ladhams, Shirley, had exhibits.

KINGSTON.—NOVEMBER 13TH AND 14TH.

THE annual show of the Kingston and Surbiton Chrysanthemum Society was held in the Drill Hall on the above dates. The reputation that has been obtained by this society for the excellence of its shows was well sustained, the display being equal to any that have previously been seen here. As usual the greatest amount of interest was manifested in the challenge vase class, which this year enters the field afresh, as Mr. W. Mease last season succeeded in winning it outright. The blooms shown in the Japanese and incurved classes were as a whole superb, while the specimen plants and groups formed a noticeable feature. Foliage and flowering plants were also staged in large numbers and in excellent condition, as also were fruits and vegetables, but the little time and space at our disposal precludes our going into details except in the principal Chrysanthemum classes.

As has been said, the chief class was for forty-eight blooms, twenty-four each of Japanese and incurved, distinct, and with the first prize of which went a silver challenge shield of the value of 25 guineas, and four competitors exhibited. The flowers were fresh, weighty, and clean throughout, and the rivalry was keen, as it certainly should be in a class of such magnitude. Mr. W. Higgs, gardener to J. B. Hankey, Esq., Fetcham Park, Leatherhead, was a splendid first, the pointing showing 162 points. The blooms staged were Mrs. C. H. Payne, Lord Brooke, Lady Saunders, Stanstead White, W. H. Lincoln, W. Tricker, Colonel W. B. Smith, Wm. Seward, Pearl Beauty, Sunflower, Rose Wynne, Le Verseau, Miss A. Hartshorn, Vice-President Audiguier, Eda Prass, Mrs. Nesbit, Marie Hoste, Boule d'Or, Viviant Morel, G. C. Schwabe, and Mdle. Thérèse Rey, Japanese; Baron Hirsch, Queen of England, Lucy Kendall, John Lambert, Violet Tomlin, Lady Dorothy, Alfred Salter, R. Cannell, M. P. Martignac, Lord Alcester, Princess of Wales, Jeanne d'Arc, Mrs. Robinson King, Mrs. Coleman, Empress Eugénie, J. Salter, Beauty, Lord Wolseley, Brookleigh Gem, Miss M. A. Haggas, Empress of India, Mrs. Heale, J. Doughty, and Golden Empress incurved. The blooms in each section were fresh and splendidly finished. Mr. J. Quarterman, gardener to C. E. Smith, Esq., Cobham, was a remarkably close second with 161 points to his credit. His Japanese were not quite so large, but were clean and splendidly coloured, while the incurved were neat and solid. Mr. G. Hunt, gardener to P. Ralli, Esq., Ashted Park, Epsom, was third with 154 points; and Mr. G. Carpenter, gardener to Major J. Collis Browne, Byfleet, fourth with 147 points.

The premier award in the class for a group of Chrysanthemums, arranged in a space not exceeding 50 square feet, went to Mr. G. Mileham,

gardener to A. T. Miller, Esq., Leatherhead, who had an arrangement comprising handsome flowers on well-known plants. Mr. S. Pead, gardener to R. S. Bond, Esq., Surbiton, was a fair second; and Mr. G. W. Forbes, gardener to D. Nicols, Esq., Surbiton, third.

For six trained specimens Mr. J. Swan, gardener to Murray Smith, Esq., Weybridge, was first with handsome plants of Mrs. G. Glenny. Mr. Stevens, Mrs. G. Rundle, Sunflower, Pink Christine, and Mrs. Forsyth. Mr. S. Pead was a fair second; and Mr. H. Farr, gardener to H. Speer, Esq., Thames Ditton, third. Trained plants in other classes were splendidly shown by Messrs. J. Swan, W. Atkins, F. King, J. Plowman, and J. Dorsett.

Mr. W. Mease, gardener to A. Tate, Esq., Leatherhead, was an excellent first in the class for twenty-four distinct incurved with beautiful examples of Golden Empress, Madame Darier, Empress Eugenie, J. Doughty, Mrs. Heale, Violet Tomlin, J. Lambert, R. Cannell, Mrs. Robinson King, C. B. Whitnall, Lord Alcester, Noel Pragnell, Lord Wolseley, Alfred Salter, Princess of Teck, Queen of England, Jeanne d'Arc, Prince Alfred, R. Petfield, Mons. R. Bahuant, Lady Dorothy, Empress of India, Mrs. S. Coleman, and Princess of Wales. Mr. W. Jinks, gardener to W. Maline Grant, Esq., Cobham, was second, but his blooms, as compared with the one previously named, lacked weight and finish. Mr. W. Higgs was third, and Mr. F. Hopkins, gardener to Mrs. Wodderspoon, Walton-on-Thames, fourth. There were seven exhibitors in this class.

Eight stands were staged in the class for twelve distinct incurved, the premier award going to Mr. E. Coombs, gardener to W. Furze, Esq., Teddington, who had a superb stand, containing Empress of India, Lord Alcester, R. Cannell, Golden Empress, Lucy Kendall, Mrs. Heale, John Doughty, Miss M. A. Haggas, C. B. Whitnall, Emily Dale, Violet Tomlin, and Mrs. S. Coleman. Mr. King, gardener to A. F. Perkins, Esq., Holmwood, was a very creditable second; Mr. G. Elliot, gardener to P. N. Graham, Esq., West Molesey, being third; and Mr. M. Standing, gardener to Mrs. Joad, Worthing, fourth.

The first prize for six distinct incurved was taken by Mr. J. Quarterman with Lord Alcester, Empress of India, Miss M. A. Haggas, Violet Tomlin, Princess of Wales, and Golden Empress. Mr. J. Tomlin, gardener to Mrs. Goldingham, Chertsey, was second; and Mr. W. Grundy, gardener to H. S. Poole, Esq., Cobham, third. Five stands were staged in this class.

For six incurved of any one variety, Mr. W. Mease was first with Golden Empress in perfect form; Mr. E. Coombs second with grand Violet Tomlin; and Mr. G. Carpenter third with Empress of India.

Five stands were exhibited in the class for twenty-four Japanese distinct, Mr. W. Mease proving a somewhat easy winner. The colour of the blooms was rich and the weight and form left little to be desired. The varieties were Vivand Morel, Lord Brooke, Mdle. Thérèse Rey, Le Prince du Bois, F. W. Flight, R. Owen, Miss Dorothea Shea, Florence Davis, Eda Prass, Primrose League, Sunflower, Viscountess Hambleton, Mrs. C. H. Payne, Edwin Molyneux, Vice-President Audiguier, Chas. Blick, Percy Surman, Mons. E. A. Carriere, Chas. Davis, H. Sunderbruck, Madame M. Recoud, Etoile de Lyon, Niveus and Mrs. Falconer Jameson. Mr. M. Standing was second with an even stand, Mr. W. Jinks third, and P. Waterer, Esq., Fawkham, fourth.

The number of entries in the class for twelve Japanese, distinct, was twelve, and the competition was remarkably keen. Mr. G. Holden, gardener to Mrs. C. W. Izod, Esher, was first with Chas. Davis, Vivand Morel, E. Molyneux, Mrs. C. H. Payne, W. Seward, Etoile de Lyon, Mons. Pankoucke, Marie Hoste, J. S. Dibben, Commandant Blussett, Col. W. B. Smith, and Stanstead White, all in fairly good condition. Mrs. E. Coombs was a capital second, several of the blooms being very fine, Mr. G. Elliott third, and Mr. F. King fourth.

Mr. J. Quarterman was first for six distinct Japanese, with charming examples of Mrs. C. Harman Payne, Florence Davis, Lady Lawrence, Louis Boehmer, Vivand Morel, and Thunberg. The second prize went to Mr. F. Hopkins, and the third to Mr. J. Tomlin.

For six Japanese of any one variety, Mr. F. Hopkins was first, Edwin Molyneux in fine character; Mr. G. Springthorpe, gardener to W. A. Bevan, Esq., Coombe Court, second with Etoile de Lyon; and Mr. G. Hunt third with Golden Gate.

The reflexed staged by Mr. W. Mease in the class for twelve, and for which he gained the premier position, were superb. The varieties shown were Amy Furze, Dr. Sharpe, Cloth of Gold, Pink Christine, Cullingfordi, King of Crimsons, Mrs. Forsyth, and Lilac Christine. Mr. J. Tomlin was second, and Mr. G. Springthorpe third.

Mr. A. Turner, gardener to C. F. Murray, Esq., Woodcote Hall, Epsom, was a capital first for twelve Anemones. Queen Elizabeth, Sabine, Fabiana de Mediana, Enterprise, and Sir W. Raleigh were among the best. Mr. W. Jinks was second, and Mr. G. Springthorpe third. Pompons and single varieties were very finely staged, the chief prize-winners being Messrs. J. Plowman, C. Slade, G. Rent, G. Carpenter, and C. Griffin.

The classes open only to local growers were well filled, and many of them were keenly contested. The Japanese were the most prominent, though the incurved were in every way creditable. Special prizes were also well tried for, and brought many good examples of culture.

The premier Japanese in the show was a superb example of Mdle. Thérèse Rey, shown by Mr. King, but considerable doubt was expressed by experts as to whether it was the correct name, some asserting it to be Lady Lawrence, which it very closely resembled, but was rather large for this variety. The premier incurved was a Golden Empress shown by Mr. W. Mease.

READING.—NOVEMBER 14TH.

THE eleventh annual exhibition of this society was held in the Queen's Hall on the above date, when a bright and beautiful display of flowers was brought together. The quality of the flowers and plants was, as a rule, high, more especially in the classes devoted to the Japanese section. The incurved blooms, too, were fine, and reflected high credit on the growers. The arrangements of the show, under the supervision of Mr. W. L. Walker, the Secretary, and the Committee, were admirably carried out.

For a group of Chrysanthemums arranged in a space of 50 square feet, Mr. Chamberlain, gardener to F. W. Sonergan, Esq., Cressingham Park, Reading, was a very good first. The plants carried clean shapely flowers, and were effectively arranged. The most notable blooms were Lord Brooke, C. W. Childs, Sunflower, and Vivand Morel. Mr. Perkins, gardener to Hon. W. F. Smith, M.P., Greenlands, Henley, was second. The blooms in this exhibit were of good quality, but the plants were not so well arranged as those in the first prize group. The third prize was accorded to Mr. Booker, gardener to W. B. Moulton, Esq., Coley Park, Reading.

For twenty-four incurved, distinct, four good stands were staged. Mr. Neville, gardener to F. W. Flight, Esq., Winchester, was first, staging fine blooms of Violet Tomlin, Queen of England, Mrs. S. Coleman, Mrs. Heale, Miss M. A. Haggas, (grand), and Baron Hirsch. Mr. Lane, gardener to Miss F. D. Smith, King's Ride, Ascot, gained the second prize with fine blooms of Baron Hirsch, Mrs. S. Coleman, Princess of Wales, and Alfred Salter. Mr. Ashman, gardener to C. D. Crews, Esq., third; Mr. Turton, gardener to John Hargraves, Esq., taking fourth prize.

In the class for twenty-four Japanese, distinct, five superb stands were staged. Mr. Trinder, gardener to Sir H. Mildmay, Bart., Dogmersfield Park, took the first with a grand stand of blooms of Vivand Morel, Lord Brooke, Vice-President Audiguier, Sunflower, Stanstead White, Col. W. B. Smith, Charles Davis, Eda Prass, President Borel, International, Beauty of Exmouth, Etoile de Lyon, W. H. Lincoln, and Mr. F. Jamieson, being amongst the best. Mr. Bowerman, gardener to Charles Hoare, Esq., Hackwood Park, Basingstoke, was a very good second, showing fine blooms of Florence Davis, Mrs. C. H. Payne, Mdle. Marie Hoste, Duke of York, and Mr. E. Clark. Mr. Neville was third, and Mr. Ashman fourth.

In the class for twelve incurved blooms, Mr. Cole, gardener to Sir G. Russell, Bart., Swallowfield Park, was well first, showing good blooms of Princess Beatrice, Lord Wolseley, Empress of India, and Lucy Kendall amongst others. Mr. Knowles, gardener to Frank Crisp, Esq., Henley, was a close second. For twelve Japanese, distinct, Mr. Perkins was first with a fine heavy stand of Rose Wynne (grand), Golden Wedding, Duke of York, and Col. W. B. Smith. Mr. Lane was second, Mr. Cole third. For twelve reflexed blooms Mr. Lane secured first prize.

In the class for twelve Japanese, incurved, one exhibitor was disqualified for not staging in accordance with the catalogue of the N.C.S., but an extra prize was awarded. Mr. Neville, gardener to F. W. Flight, Esq., was placed first with a superb stand; Mr. Ashman second; and Mr. Lane third. For one vase of Chrysanthemums Mrs. W. R. Walker, Reading, was first with a beautiful arrangement.

Amongst the miscellaneous exhibits Messrs. J. Cheal & Son exhibited a grand collection of fruit, and Messrs. George Bunyard and Co. also staged a fine collection of Apples.

The amateurs' classes were well filled, and the blooms staged in this section were of excellent quality.



FRUIT FORCING.

Figs.—*Early Forced Trees in Pots.*—Where these have been placed in the open air they should be taken under cover without delay, as it is advisable to prevent the soil being soddened by the autumn rains. It is presumed that the trees have been top-dressed or repotted or had the drainage rectified as advised in a former calendar; if not, these matters must have attention at the earliest opportunity. The trees should be placed in a dry, well ventilated, and cool house. Any thinning or shortening crowded attenuated growths, to give place for promising successional shoots, must be attended to, and the trees washed with soft soap, 3 or 4 ozs. to a gallon of water, using a somewhat stiff brush if scale be present, following with the same to which flowers of sulphur has been added to bring it to the consistency of cream, or apply an approved insecticide, being careful not to damage the points of the shoots and the embryo fruit.

To secure ripe Figs early in the season—April and May—a well-ventilated house is necessary, with the command of ample heat, and having pits containing fermenting materials to afford bottom heat to stimulate the roots. The pots should be supported on loose brick pillars at the proper height, and the materials be brought up about the pots. The trees then root into the fermenting materials, and derive a considerable amount of nourishment therefrom; besides, they can be fed to any extent, and the trees be in comparatively small pots for their

size and crop. Early Violet and St. John's may be grown for affording dishes of very early fruit, but Brown Turkey is the best for general purposes, White Marseilles being a fine Fig, and somewhat earlier than Brown Turkey.

Early Forced Planted-out Fig Trees.—These should now be unloosed from the trellis and pruned. Those with the roots restricted to small borders, which are the most satisfactory in results, will require the shoots thinned where too crowded, cutting away the growths that have reached the extremity of the trellis and are not longer capable of producing fruit. Cut back to the point where the succeeding shoots start from on the main branches, and remove old bare limbs wherever practicable in favour of young and promising growths. Remove any elongated spurs, reserving such as are short-jointed and promise for fruit. The house should then be thoroughly cleansed, washing the woodwork with hot water and the walls afterwards with quicklime and sulphur, using hot water for slaking and mixing. Wash the trees with warm, soapy water, and afterwards dress with an insecticide, then secure the trees to the trellis, allowing room for the growth of the branches. Fork the border over very lightly, not injuring the roots in any way; remove the loose material, supply an inch or two thickness of good calcareous loam, or if there be a deficiency of such matter add one-sixth of old mortar rubbish to good loam, then, or before growth takes place, add an inch thickness of short manure, and this will tend to keep the roots active near the surface and supply considerable nutrient matter. Ventilate the house freely at all times, except during severe weather, when a few degrees of frost will not injure the trees provided the wood is thoroughly ripe and the soil only moderately moist.

Succession Fig Houses.—Prune and cleanse the trees without delay as soon as the leaves are all down, as this gives no vantage to insects, but to a great extent prevents red spider hibernating, and scale now removed stands a chance of the eggs not being produced or of not hatching. Complete any root-pruning and lifting, this being the only sure means of inducing fruitfulness in exuberant trees, combined with restricting the rooting area and a firm soil composed of calcareous material. Trees so treated are more manageable than with an unlimited root space, especially of rich and loose components. Any unfruitful trees should be severely root-pruned, cutting away a corresponding portion of strong, bare, unbranched limbs, leaving sufficient young and promising for covering the trellis, and restrict the roots to moderate-sized borders of firm calcareous materials, and feed from the surfaces, encouraging active feeders there by judicious light mulchings of sweet, rather lumpy partially decayed manure, which should be added to from time to time during active growth, so as to keep an even mulch of about an inch in thickness. Sprinklings of chemical manures, especially superphosphates, powdered saltpetre, and ground gypsum will sustain the trees in health, and the development and perfection of almost any amount of crop.

Pines.—Young plants need liberal ventilation at this time of year to prevent a soft attenuated growth, therefore afford fresh air whenever the weather be favourable, and avoid damping, as keeping the houses saturated is more injurious than beneficial. Water will be little required, yet the plants should be examined about every ten days, affording a supply to such as need it and those only, yet extreme dryness is injurious, for any limpness is had at the expense of the tissues, the cells being more or less impaired for growing activity on a recurrence of favourable conditions for development.

Lose no opportunity in the fruiting department of closing the house at 85°, keeping the night temperature at 70°, or a few degrees less in severe weather. Remove all superfluous suckers, retaining one only, or at most two if stock be required, on each plant, selecting the most promising for retaining. Suckers that appear on successional plants before the fruit is visible should be removed; exceptions are when stock is required, and then the fruit is more or less sacrificed in its favour. Such stock, however, is not desirable, for the plants are liable to have the same proclivities as the parent ones.

At this time of year it is usual to make new beds of fermenting material for the young plants. Tan is the best, but it is difficult to procure in some places—more so now than formerly when less chemicals were used. In most country places Oak or Beech leaves can be had for the collecting, and this being done whilst they are fairly dry, they form an excellent substitute. Those intended for use later on cannot be too dry, placing them in stacks, forming a span roof and thatching roughly with any coarse material, as bracken, reeds, coarse hay or straw. In forming beds of leaves they must be put together as firmly as possible, treading well after placing in a layer of leaves evenly shook out and so on. Thrown in any way the material settles very unevenly, and gives far more trouble afterwards than that needed to do the work properly at first.

Strawberries in Pots.—All plants for early forcing should be in frames with a view to protect them from heavy rains and render them available for being draughted to the forcing house whenever required. Those for midseason and late forcing are as well plunged in ashes in a sheltered situation as anywhere else; indeed, better than in piles against walls or houses with constantly open ventilators, which, from the currents of air, dries the life out of them and favours attacks of aphides and red spider. When plunged outdoors the plants are cool, moist, and airy—primary conditions for Strawberry plants, and a light covering of bracken or straw in severe weather will save the tenderest varieties from injury. Plants of La Grosse Sucrée and Vicomtesse Hericart de Thury should be held in readiness for starting early in next month.

Peaches and Nectarines.—*Late Houses.*—Lifting and root-pruning trees should be taken in hand when the leaves are falling, having no regard to sappy lateral growths, as these will hold their leaves a considerable time longer than the matured wood, and though they may suffer from the check consequent on lifting, it is immaterial, as they will be cut away at the winter pruning, even accelerating root activity by the greenness of their parts while they remain. During the operation the house must be kept rather close, the trees lightly syringed if the weather be bright, and the roots as little exposed as possible. When the operation is completed and the trees quite leafless, except the laterals, ventilate freely in all weathers. If the trees do not require lifting, and the wood is not quite ripe, it will be advisable to keep the house rather close by day when there is sun heat, and to throw it open at night, which will soon harden the wood, especially if the growth be thin so as to allow of light and air having free access. If the wood be at all crowded it should be thinned. There must not be any deficiency of moisture at the roots, as they will not develop the buds properly, falling when they should be expanding in the spring.

Winter Cucumbers.—Add a little warm soil to the sides of the hillocks or ridges as the roots show, continuing this with late plantings at short intervals, which is better than supplying a quantity of soil at once. Complete the earthing of the autumn plants, and then feed at the surface with short sweetened stable manure, which will encourage surface roots, and stimulate steady growth by the matter supplied. The ammonia evolved, if not too strong, greatly benefits the foliage. On fine days it is better to turn off the top heat than have recourse to excessive ventilation, as sun heat has a wonderful effect on the foliage, and the more chlorophyll got into that the better the plants will prosper in sunless weather. Besides heat radiated at a high temperature is not good for the foliage, therefore blinds to draw down at night will lessen the need of fire heat, and save fuel. They must be used to interfere with as little light as possible.

HARDY FRUIT GARDEN.

Preparing Fruit Tree Borders.—Specially prepared borders either in the open in suitable places or against walls afford good positions for the choicer kinds of fruit, and walls with any aspect can be utilised for some kind of fruit or other. South, south-eastern, and south-western aspects should be reserved for Peaches, Nectarines, and Apricots where these succeed outdoors. Where they do not the space may be occupied with the most select varieties of Apples, Pears, Plums, and Cherries. Eastern and western positions also do for Plums and Pears; northern aspects for Morello Cherries, late Gooseberries, and Currants. Figs and Grapes must have a full south aspect. The best forms of trees for walls are espalier, cordon, and fan-shaped. Comparatively narrow strips of ground in favourable situations in the open may be occupied with espalier trees, as well as cordons, trained to fences of wire, also bush and pyramid-shaped trees. In numerous cases the borders selected need but little preparation beyond deeply digging or trenching the required width, working the soil thoroughly 2 feet deep.

Draining.—In very unfavourable subsoils, however, draining is required. Each border therefore should have a tile drain in connection with it, so constructed as to have a proper fall and outlet to a main land drain. The base of the border ought to have a concrete foundation 3 or 4 inches thick, the base inclining to the drain. With borders in the open the base must be slightly convex in shape, and a drain on each side. In subsoils cold, damp, and heavy, though not actually waterlogged, a less elaborate system may be adopted, this consisting of placing a foot depth of rubble at the bottom of borders, over that well-prepared soil, which should be raised 6 to 9 inches above the surrounding level.

Width of Borders.—The quality of the soil must regulate the width as well as the size the trees will ultimately attain to. On free stocks more room is needed, the largest trees trained on the highest walls not being accommodated in less than 9 or 10 feet width of border. For cordon trained trees 6 feet wide borders must be the limit for the longest, 3 feet usually being enough for those of lesser length, as well as for wall-trained Gooseberries and Red and White Currants.

Depth of Borders.—Good substantial materials, consisting mainly of loam firmly put together to the depth of 2 feet, or fertile garden soil sparingly manured now, but enriched previously and worked well to the above depth, provide a root run which is ample in all cases. If the upper soil be shallow and the subsoil inferior a portion of the latter may be removed, replacing with good vegetable soil from an adjoining quarter. This may be further improved by the addition of turf, wood ashes, and old mortar rubbish intermixed if the planting of stone fruit trees is contemplated and the soil is deficient in calcareous matter.

Distances for Planting.—Espalier or horizontally trained Apples and Pears on free stocks should be planted 20 to 24 feet asunder against 12 feet high walls, 6 feet less in distance on lower walls or espalier fences, on the dwarf stocks 12 feet apart; Peaches, Nectarines, and Apricots, Plums, and Cherries 15 to 20 feet asunder, the form of trees being dwarf-trained or fan-shaped. Upright and diagonal cordons may be planted 18 inches to 2 feet apart, pyramidal Pears on the Pear stock 10 feet, on the Quince 6 feet, pyramidal Apples on the Paradise stock 6 feet asunder. With regular root-pruning to prevent the trees making strong growth of an unfruitful character Apples and Pears on dwarfing stocks may be planted as close together as 4 feet, and on free stocks with root restriction 6 feet asunder.

Planting Fruit Trees in Grass.—Where it is intended to plant fruit trees in grass the turf should first be pared off within a circle of 9 feet diameter. The top spit soil will mostly be good; throw it on on

side, as well as the spit below; then break up the bottom, and if very stiff and clayey remove some of the worst and fill up with better material. Soil from the vegetable garden might be employed, mixing in some short manure, road scrapings, and mortar rubbish. A layer of the latter is useful to place over a course of drainage material if such is needed. Return the surface spits, adding to them turfy loam. If the stations thus prepared are left higher than the surrounding grass it will not matter. Drive a strong stake into the centre and plant the tree against that, securing it firmly with ligatures that do not cut the bark. In planting spread the roots out carefully, pruning damaged ends, if any, and see that the stem is not buried deeper than before. Standard trees are the best for orchards, planting 24 to 30 feet asunder. Mulch the surface with short manure, not returning the grass until the trees are fully established.

Planting Small Fruits.—Gooseberries, Raspberries, and Currants require richer soil in the first instance than is accorded to other fruit trees in the early stages. Trench as deeply as possible, turning in abundance of rich material, consisting of decayed manure, old turf and vegetable compost. Raspberries may be planted in lines or clumps, the former 5 feet apart and the latter 3 feet between, in rows 5 feet or 6 feet asunder. Gooseberries and Currants are quite close enough 5 feet apart, this giving room for cultural operations and ease in gathering the crops.

THE BEE-KEEPER.

APIARIAN NOTES.

HIVES DURING THE WINTER AND SPRING.

In order that the bees may not be subjected to fits and starts of breeding, then suddenly discontinuing it or "drawing" their brood, the hives should be kept at a uniform degree of temperature, and so protected that neither external heat nor cold affects the interior. No alteration of the covering or protecting material of the hive on any pretext whatever should be made, while the entrance to the hive ought also to be rigidly maintained at the same width. A strong hive progresses well with an inch to 1½ inch wide entrance, and should only be made wide when the hive is swelling and the spring is well advanced. A wide entrance admits damp from the outside and cools and condenses the perspiration from the bees upon the combs, causing mouldiness, making unsealed stores watery and sour. When kept cosy the bees are more comfortable, and are better able to withstand inclement seasons.

The material hives should be made from is a question on which bee-keepers differ greatly, and whether wooden hives ought to be painted. It is a mistake to do more than colour the outside of a soft porous wood, but by painting the inside as well as the outside we have a lasting hive, because little or no damp penetrates it. Double cased hives should have the outer shell thoroughly painted in and outside, and the inner one (moveable) may be painted, or left otherwise if a proper floor is provided. Where the old-fashioned solid floors are in use it is not advisable to paint, so that the perspiration can pass through the thin inner shell, the condensed moisture escaping between the two. Damp floors cause more deaths amongst bees than all the other ills put together, and is I believe conducive to incipient foul brood.—A LANARKSHIRE BEE-KEEPER.

QUEEN REARING.

To rear healthy long-lived queens should be the aim of all bee-keepers, for unless a colony is headed by a fertile queen it will result in failure, and having for several years past tried various experiments in this important matter, the experience so gained may be of benefit to other bee-keepers. In the first place it may be stated that I work my hives on the non-swarmer system, and endeavour to have a good harvest of honey, and not an increase in stocks. If the bees are not allowed to swarm, and no system of queen rearing had been carried out, the colonies would in time collapse, as the queen would eventually die. All my hives are numbered, and are entered in a small book that is carried in the pocket for that purpose. Against each number is placed the age of the queen and any other remarks for future guidance, and at the end of the season a note of which stocks have done the best. I found for several seasons that one stock had invariably done better than any other. From this stock I requeened upwards of twenty colonies, which have turned out a good hardy race of bees, though where there are a number of stocks kept some will always come out stronger than others in the spring.

The proper time to rear queens is at their natural swarming season. Should a stock by chance swarm a number of good queens can be obtained with very little trouble, and if the queen is an old

one kill her and return the bees to their old stock. In a few days divide the stock into as many nuclei as there are queen cells, adding frames of comb or foundation for the bees to cluster on, distributing the bees evenly amongst them. The young queens will hatch out, and if the weather is fine will be fertilised and laying in less than three weeks from the time the stock swarmed. If no swarming takes place select a colony whose queen is in her second or third year and kill her, then make some holes through the brood combs and notch them along the bottom, from which a number of queen cells will be started. If only a few are required the combs need not be interfered with. The young queens will be hatched out in about sixteen days. This stock should be divided as above stated after swarming, and the young queens will be laying in about ten days. These can then be introduced to stocks that have old or inferior queens by killing them off and giving the young queens at once. There will then be no loss of brood, as a good fertile queen will at that time of the year lay about 3000 eggs daily. If more queens are raised than are required for requeening stocks they will be useful in case of accident, or for making an extra stock. In some of my best colonies the queens are in their third year. These stocks will be requeened next year, but it is not advisable to keep a queen more than two years unless she is a very good one.

Queens reared late in the season often die during the winter or the following spring. I tried an experiment this year to raise a queen after the honey flow was over early in July, feeding the stock until the queen had filled several combs with brood. In August it was fed with my other stocks for the winter. At the end of October this hive was queenless; the same thing has happened before, either in the autumn or early in the spring, whereas upwards of twenty queens reared in June are all doing well. On March 16th this year I found a two-year-old queen nearly dead on the alighting board of one of my hives. I removed her, and instead of uniting the bees to another stock thought I would see how early I could obtain a young queen fertilised. In due course a queen was hatched, also some drones, and to keep up the strength of hive, a frame of brood from some of my other stocks was given every four or five days. This queen was disposed in about three weeks; another one hatched out, and failed to get fertilised; the third one was more successful, and was laying early in June. If from any cause a stock should be queenless from now till next May, it is better to unite the remaining bees to another stock. If not they will gradually dwindle away, and the stronger stock will rob the hive of its stores.—AN ENGLISH BEE-KEEPER.

TO CORRESPONDENTS

* * All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Chrysanthemum Vivand Morel (F. R. H.).—The bronze yellow flower is identical with Charles Davis, a sport from Vivand Morel, and a useful variety.

Pears for November and December (H. T. H.).—Two large varieties are Doyenné du Comice and Beurré d'Anjou; medium sized, Winter Nelis and Josephine de Malines.

The Burr Knott and Pebblestone Pippin Apples (C., Downpatrick).—We are unable to inform you where these varieties are procurable. If information reaches us on the subject we will forward it to you.

Chrysanthemum Books (A Beginner).—As you can obtain both Mr. Molyneux's and Mr. Iggulden's manuals from this office by post for 1s. 8½d., we advise you to read them attentively. They will not lead you astray. We do not know where you can get better value for money than in these practical treatises.

Insecticides (D. A.).—We do not think the kinds you mention have been advertised in our columns, and we have not tried them,

therefore cannot give you the desired information. They are certainly not the only preparations that will destroy insects without injuring trees, and we should doubt if they would kill every kind of insect by spraying either now or in the spring.

Caterpillars in Chrysanthemum Flowers (B. B. H.).—The caterpillars are those of the great yellow underwing moth (*Noctua* or *Tryphæna pronuba*), the brownish one being nearly full grown, the next in size just about to pass from the sickly green to the dull brown, variegated with rosy brown colour, and the least in size is only a few days from the egg and feeds day and night. We can only advise the remedy of hand-picking, looking over the flowers carefully in which they will be found coiled up by day. The caterpillars not only eat the blooms but the leaves of the plants, and sometimes hide in the ground as well as in the flowers, in fact they do that before the blooms commence expanding.

Fairy Rings (F. G.).—The following extract from an essay written by an authority some years ago, with the accompanying illustration (fig. 70), will answer your question:—"Several persons have written to me of late to ask what my 'theory' and what my 'hypothesis' is as to fairy rings. My reply has every time been

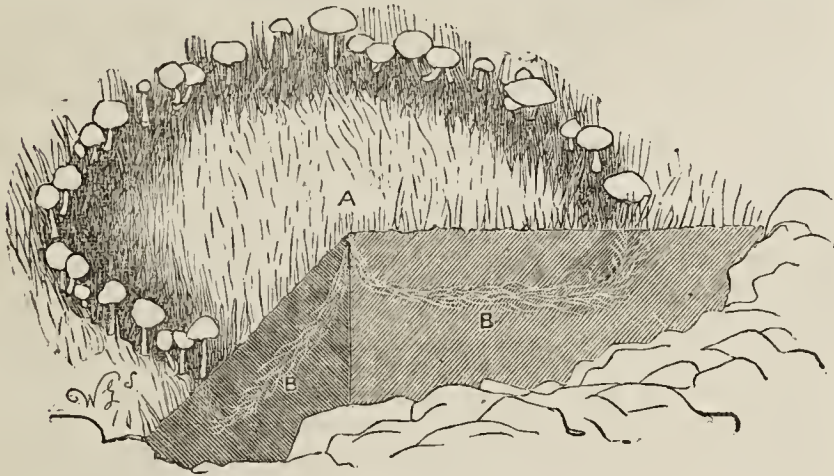


FIG. 70.—FAIRY RINGS.

that I have no 'theory' or 'hypothesis' either, for the facts are so perfectly well known that they do away with any necessity for a 'theory.' Many fungi have a great tendency to grow in circles. The spawn from which fungi spring commonly starts from a spot made up of germinating spores. This spot becomes a centre from which the spawn extends outwards in every direction; a crop of fungi appears on the outer circular line of spawn." The ground is partly shown in section, A, centre, where the original fungus has decayed, and whence springs the underground spawn B. B, of the fungus (*Marasmius oreades*), which gives rise to the fairy ring.

Begonia and Marguerite (Henri).—1, The Begonia appears to be *B. incarnata metallica*, which succeeds in an intermediate or cool stove house, and requires to be kept rather dry during the winter. It is, however, impossible to identify the variety definitely from a dried spray. 2, Marguerites are easily propagated by cuttings, inserting the young growing shoots, about 3 inches long, half their length in sandy soil, and placing in a house where there is a gentle heat, keeping moist and shaded from bright sun. They will soon root and can then be hardened off and potted singly. The "maggot" in the leaf is difficult to get rid of in bad cases, such as yours appears to be, as the fly keeps on breeding throughout the year. Remove the worst infested leaves and burn them, and squeeze the others (where the maggots are in the leaves) between the finger and thumb. There are, however, abundance of pupæ, and no doubt flies, so it will take some time to effect a clearance.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (S.).—A continental variety of handsome appearance, but very poor flavour. Cut down the tree, and graft with a good variety. (W. M. M.).—1, Too advanced in decay, possibly *Souvenir du Congrès*; 2, *Bergamotte Bufo*; 3, too hard. (W. N.).—We are sorry to say that the numbers had attached to the fruits were in the bottom of the box, having been rubbed off in transit. (A. B.).—1, *Baronne de Mello*; 2, hard; 4, *Autumn Pearmain*; 5, *Old Nonpareil*. (G. W. W.).—1, *Napoleon*; 2, *Beurré Diel*; 3, not known, inferior;

4, possibly *Beurré Hardy*. The Apples are probably local seedlings, though No. 5 somewhat resembles *Autumn Pearmain*. (C. Rose Peach).—1, 2, and 4, unripe; 3, *Josephine de Malines*; 5, *Marie Louise*; 6, *Aston Town*.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (H. P.).—*Chrysanthemums* are florists' flowers, which we do not name. See rule above relating to that fact. (C. F.).—1, *Adiantum gracilimum*; 2, *A. cuneatum*; 3, *Lomaria gibba*. (X. Y. Z.).—*Berberis Darwini*. (Yorks).—*Skimmia japonica*. (Suburban).—1, *Kalmia latifolia*; 2, *Jasminum nudiflorum*.

COVENT GARDEN MARKET.—NOVEMBER 14TH.

MARKET quiet.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, per half sieve ..	1	6	to	4	6	Lemons, case	10	0	to 15 0
" Nova Scotia, per						Peaches, per doz. ..	0	0	0 0
barrel.. ..	10	0		15	0	Plums, half sieve ..	0	0	0 0
Grapes, per lb. ..	0	6		1	6	St. Michael Pines, each	2	0	6 0
Cobs per 100 lbs. ..	22	6		25	0	Strawberries per lb. ..	0	0	0 0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per lb. ..	0	6	to	0	0	Mustard and Cress, punnet	0	2	to 0 0
Beet, Red, dozen	1	0		0	0	Onions, bushel	3	6	4 0
Carrots, bunch	0	3		0	4	Parsley, dozen bunches	2	0	3 0
Cauliflowers, dozen	1	6		3	0	Parsnips, dozen	1	0	0 6
Celery, bundle	1	0		1	3	Potatoes, per cwt.	2	0	4 0
Coleworts, dozen bunches	2	0		4	0	Salsafy, bundle	1	0	1 5
Cucumbers, dozen	1	0		2	6	Scorzonera, bundle	1	6	0 0
Endive, dozen	1	3		1	6	Shallots, per lb.	0	3	0 0
Herbs, bunch	0	3		0	0	Spinach, bushel	1	6	3 0
Leeks, bunch	0	2		0	0	Tomatoes, per lb.	0	2	0 6
Lettuce, dozen	0	9		1	0	Turnips, bunch	0	3	0 4
Mushrooms, punnet	0	9		1	0				

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.		s.	d.		s.	d.		s.	d.
Arum Lilies, 12 blooms ..	3	0	to	4	0	Pyrethrum, dozen bunches	2	0	to	4	0
Asparagus Fern, per bunch	1	0		2	0	Roses (indoor), dozen ..	0	6		1	0
Bouvardias, bunch ..	0	6		1	0	„ (outdoor), doz. bnchs.	6	0		12	0
Carnations, 12 blooms ..	1	6		3	0	„ Tea, white, dozen ..	0	6		2	0
Chrysanthemums, doz. bnchs.	3	0		9	0	„ Yellow, dozen ..	2	0		3	0
„ doz. blooms ..	1	0		3	0	„ Safrano (English), doz.	1	0		2	0
Encharis, dozen ..	2	0		4	0	„ Maréchal Niel, doz. ..	3	0		6	0
Gardenias, per dozen ..	2	0		4	0	„ (French), ye. low, doz.					
Geranium, scarlet, doz.						blooms ..	1	6		2	0
bunches ..	4	0		6	0	„ (French), Red, dozen					
Gladiolus, dozen sprays ..	2	0		4	0	blooms ..	2	0		2	6
Lilac (French) per bunch	3	6		5	0	Smilax, per bunch ..	2	0		3	0
Lilium longiflorum, per						Stephanotis, dozen sprays	4	0		6	0
dozen ..	6	0		9	0	Tuberose, 12 blooms ..	0	4		0	6
Marguerites, 12 bunches ..	1	6		3	0	Violets (English), dozen					
Maidenhair Fern, dozen						bunches ..	1	6		2	0
bunches ..	4	0		6	0	Violets (French), Parme,					
Mignonette, 12 bunches ..	2	6		4	0	per bunch ..	2	6		3	0
Orchids, per dozen blooms	1	6		12	0	Violets (French), Czar, per					
Pelargoniums, 12 bunches	6	0		9	0	bunch ..	1	0		2	0
Primula (double), dozen						Violets (French), Victoria,					
sprays ..	0	6		1	0	dozen bunches ..	1	6		2	0

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arbor Vitæ (golden) dozen	6	0	to	12	0	Ferns, in variety, dozen ..	4	0	to 18	0	
Aspidistra, per dozen ..	18	0		36	0	(small) per hundred ..	4	0		6	0
Aspidistra, specimen plant	5	0	10	6		Ficus elastica, each ..	1	0		7	0
Chrysanthemums, per doz.	3	0		6	0	Foliage plants, var., each	2	0		10	0
„ large, per doz.	9	0		18	0	Lycopodiums, per dozen ..	3	0		4	0
Cyclamen, per dozen ..	9	0		12	0	Marguerite Daisy, dozen ..	6	0		12	0
Dracæna, various, dozen ..	18	0		42	0	Mignonette, per doz. ...	6	0		0	0
Dracæna viridis, dozen ..	9	0		24	0	Myrtles, dozen ..	6	0		9	0
Erica, per dozen ..	9	0		18	0	Palms, in var., each ..	1	0		15	0
Euonymus, var., dozen ..	6	0		18	0	„ (specimens) ..	21	0		63	0
Evergreens, in var., per						Primulas, per dozen ..	4	0		6	0
dozen ..	6	0		24	0	Solanums, per dozen ..	10	0		12	0



ROUGH PASTURE.

SINCE writing the last article on this important subject we have surveyed for purchase a Leicestershire estate, of which the farms are almost entirely in permanent pasture; we have also made an inspection of some young pasture on a Staffordshire farm, and have been consulted about reclaiming some neglected pasture in Derbyshire. Each case served to strengthen

our conviction that farmers are awakening to the importance of pasture cultivation, and that they are ignorant of even the elementary principles of such work. Take for example manure. They are generally ignorant of what to use, or how and when to apply it to the land. Gladly do we bear testimony to a growing desire for information. One of the most pleasant things—certainly one of the most useful—in our connection with technical education is the consultation hour before an evening lecture, when anyone wanting advice on special subjects comes to us, and we are glad to say among such appeals for help pasture treatment crops up with more and more frequency. The most difficult matter in connection with this interesting work is to induce our pupils to grasp the full importance of persistent and thorough use of manure.

Our Staffordshire client has sound soil, which will carry sheep admirably all winter, yet was ignorant of the true value of sheep on such land. Sheep folding on pasture had never entered into his scheme of management, and when we advised him to turn to it at once for his young pastures he proposed to use sheep netting, and to take each meadow in drifts or sections extending right across the meadow, and so passing the sheep over the pasture. We had to insist upon small folds, a hurdle to a sheep or its equivalent—6 feet in length of netting, the duration of each fold to be forty-eight hours, and the sheep to have nourishing trough food in the folds. It is only in this way that the soil can be stored with fertility, the young plant well nourished, and a steady improvement maintained. No matter how well a flock is fed, if it wanders at will over a large part or the whole of a meadow there can be nothing like an equal distribution of fertility. We met with an example of this upon the Leicestershire estate. A dry knoll in a 20-acre meadow had its herbage of that rich green hue, which at this season of the year so surely betokens sustained fertility of soil, while the general aspect of the herbage surrounding the mound was the brown dead appearance which is an equally certain indication of soil poverty. In answer to our inquiry as to the cause we were told that the sheep always went to the dry mound at night. It is so in any other pasture; they will go always at night to dry soil or the most sheltered spot. Sheep folds will be used for about half the young pasture, and for the other half there will be a dressing of chemical manure about the last week of next February. We hope in due course to say something about the result here.

It is important that there should be no mistake about winter sheep folds on pasture. They are only possible on such mixed soil or on uplands with sound pasture that will not become a mud puddle under a two-nights fold. By all means turn the flock to full account in this manner; it is an embodiment of true economy. But wherever pasture is sufficiently extensive to afford a choice then apply sheep folding and dressings of chemical manure alternately, only taking especial care that all the pasture has an *annual* dressing by one means or other.

For a test of thoroughness go over pasture now. If it is fresh and green there is a fair residue of fertility in the soil, the work has been well done, the same process of folding or the same quantity of manure will suffice next time. But if the herbage is brown there can be no doubt of soil exhaustion, and if anything like systematic folding or manure dressing has been tried it has been inefficient. The folds were too large, the sheep badly fed, or the folding too brief. If much was used there had not been half enough of it—forty cartloads an acre is not a load too many. Or if chemical manure had been applied it was deficient either in quality, quantity, or in some essential constituent. How to apply a remedy in the latter case is a common difficulty. Pay no heed to the would-be adviser who comes down upon you with soil analysis or a lot of scientific jargon. Get pure manure from a reliable source,

keep to a well balanced proportion of nitrogenous and mineral constituents, increasing the quantity of all, because your soil is evidently so poor that it requires special treatment. Once get it right, and then ordinary practice will answer well enough.

WORK ON THE HOME FARM.

The dairy cows are now kept in the yards day and night. Of green food they have a moderate quantity of Giant Drumhead Cabbage with the addition of some Carrots. The best meadow forming the bulk of food with some crushed Oats at milking time. Such feeding is altogether better for the cows, and better for the milk and butter, than when they are kept late on pasture, the herbage at best now being low in quality and unfit for the dairy herd. Store beasts may answer upon it, but it should not be forgotten a falling off in condition is often traceable to beasts being compelled to clear up the fog, to being kept out upon pasture altogether now exposed to heavy rain, frost, and cold cutting wind. The poor beasts show plainly enough how naturally they seek shelter. Turn them into a strange pasture, and when they are full they will be found wherever there is a hedge or trees to break the force of cold wind; unerring instinct leads them there, and we should apply the hint given so unmistakably by affording them a hovel, or better still a hovel and well enclosed yard for shelter. We have only to feed them there at night, and they will always gather about the gate at dusk waiting to be let in.

Sheep folding is going on briskly upon White Turnips, Rape and Mustard. A run by rail on November 6th from King's Cross to Grantham enabled us to see what an abundance of green food and roots there is for the sheep this winter. Some late sheep dipping which we came upon on the following day was allowed to pass muster as the weather was open and mild. Under ordinary circumstances it would have been a month too late, but we are bound to say better late than not at all, because of the sufferings of undipped sheep all winter. The wool is a colony of parasites, and the ticks with their heads buried in the skins of the sheep cause them so much irritation that they incessantly rubbing and never at rest. How can they thrive under such punishment? This is just one of the matters of detail requiring timely attention as going to promote health and high condition in the flock.

OUR LETTER BOX.

Poisonous Plant in Pasture (J. G.).—Your statement is too vague to enable us to give definitive advice. The plant which appears in your field in autumn and is poisonous to cattle is probably the Meadow Saffron (*Colchicum autumnale*), well known as being injurious to stock. It is easy of recognition, as it has Crocus-like pale purple flowers in the autumn, followed in spring by large dark green sword-shaped leaves, with which appears the oblong fruit borne on a long slender peduncle which springs from the deeply buried bulb. If you recognise the plant from this description as being that causing the mischief in your meadow do not attempt digging up its bulbs, as they are so deep down in the soil as to render the work difficult, uncertain, and expensive. The best way is to pull up the leaves and seed stalk in the spring before the seed ripens. By repeating this once or twice this pest is destroyed. We may add that the leaves are dead when the flowers appear. If you have not noticed the leaves drive in a few pegs close to some of the flowers when they appear, so as to be certain of the leaves when they come in spring.

METEOROLOGICAL OBSERVATIONS.

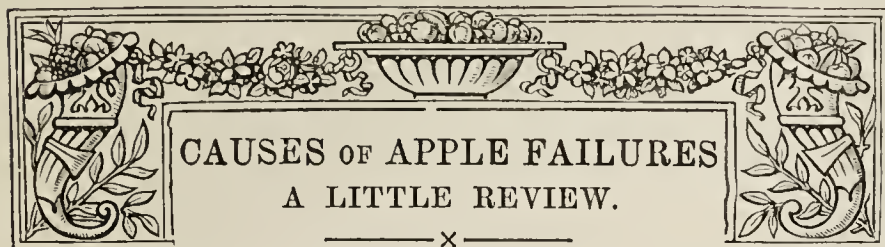
CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.	
1894. November.	Barometer at 32°, and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature			
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.		
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.	
Sunday ..	4	29.924	52.7	50.1	S. W.	52.1	58.4	50.0	85.4	46.0	—
Monday ..	5	29.931	55.7	53.2	S.W.	51.2	59.6	50.9	64.7	47.3	0.010
Tuesday ..	6	30.191	42.1	42.1	N.W.	51.0	55.2	41.3	73.4	38.2	—
Wednesday	7	29.912	54.9	52.0	S.	49.9	58.0	41.9	74.2	37.1	0.450
Thursday ..	8	29.635	45.9	43.2	W.	49.9	52.1	44.3	80.1	41.4	0.021
Friday ..	9	2 733	44.9	43.2	S.W.	48.0	53.6	39.9	60.0	35.0	0.034
Saturday ..	10	29.587	51.0	50.2	S.W.	48.7	55.6	44.3	80.3	43.1	0.072
		29.845	49.6	47.7		50.1	56.1	44.7	74.0	41.2	0.587

REMARKS.

- 4th.—Sunny almost throughout, and very mild.
 5th.—Overcast day, with slight showers between 3 and 5 P.M.; fine evening.
 6th.—Misty early, sunny all day; fair night.
 7th.—Cloudy mornings, but gleams of sun between 11 and noon, overcast from 1 P.M., occasional spots of rain after 3 P.M., and almost continuous rain from 5.30 P.M. to midnight; very heavy at 6.3 P.M.
 8th.—Bright sunshine almost throughout, but a heavy shower about 3.15 P.M.; bright evening.
 9th.—Dull and generally misty, with frequent drizzle.
 10th.—Bright sunshine till about 2 P.M., rain from 4 to 5 P.M.; bright moonlight evening and night.
 A mild wet week.—G. J. SYMONS.



I AM obliged to Mr. J. Hiam for his references on page 449. He observed I did not attribute the many failures in Apple crops this year exclusively to the frost of May. Well aware am I of the loss resulting from starvation—soil too dry, as after a scorching summer like that of 1893, also of barrenness through years of soil exhaustion by ancient trees. That is why I mentioned the alternative cause of the scarcity of Apples. It appears to have been the chief cause in Mr. Hiam's case, and it may be in some others. While admitting this, as I do most readily, and even hoping it may be so to a large extent, it is not the less true that in hundreds of gardens this year Pear trees were overlaid with fruit, while Apple trees grown under precisely similar conditions were disappointingly bare. If this were the case in even half the gardens there might be occasion to doubt that the frost of May was the chief cause of appleless trees, but when we find the facts represented in a ten-to-one ratio—ten well cropped Pear trees to one well laden Apple tree—we are compelled, I think, to look for the cause rather more above the soil than within it.

I should only be too glad if the main cause of the Apple failure could be traced to want of available food in the soil in the form of enriched moisture, because if this should be so future losses would be to a material extent preventable, as numbers of garden trees at least, if not orchard trees, could be sustained by copious supplies of water and liquid manure; but it is obviously beyond the power of cultivators to guard against such an admittedly destructive frost as that which destroyed millions of Apple blossoms and embryo fruits on the memorable morning of the 20th of May—the same frost which ruined thousands of acres of Strawberries in Kent and other counties, also wrought such havoc with Potatoes. If, perchance, it should be asserted that the frost did not destroy these, but they succumbed to impoverished soil, it may be desirable to point to a record in the *Journal of Horticulture* (page 489, June 21st) of Mr. Owen Thomas having men at work all night the eve of the frost covering 2 acres of Strawberries with litter, and thus securing a valuable crop of fruit, while both Strawberries and Potatoes that could not be covered were ruined. Apart from that, however, it is beyond the realm of reasonable argument that this disastrous May frost did not ruin our crops, nationally speaking, of Pears, for these have never been so abundant as during the present year. To assert, as a correspondent on page 444 did, that Apples and Pears were affected by the frost in an "identical manner" needs no confuting, viewing the matter in a broadly comprehensive and not a small local way, for the bountiful supply of one kind and the notoriously scant supply of the other place the matter beyond dispute, except for the fruitless purpose of mere disputation.

Pears, as a rule, survived the frost because the fruits were well set and swelling when it occurred, and also because of the sheltering leafage, which all know, if they will, is naturally much in advance of that of Apples. These latter succumbed because the fruit was not set and swelling when the cold wave passed over the land, and there were few or no sheltering leaves, for the all-sufficient reason that the time had not arrived for their expansion to the same extent as the earlier leafing Pears. To talk of the "fall of Apples before the frost" is somewhat amusing, for the sufficient reason that there were no "Apples" to fall then over

nine-tenths of the area of England where the failures were practically complete. It is quite true the frost ruptured the cuticle of many Pears that were exposed at the extremities of the branches and where there were no sheltering leaves, but more than enough were left uninjured.

That insufficient root moisture is prejudicial to the Apple yield may be frankly conceded, but is it not the same with Pears? Why then the abundance of one kind of fruit and the scarcity of the other if that was the governing factor? Want of root moisture was certainly not the cause of barren Apple trees everywhere. I could adduce an instance of as many varieties of hardy fruits as can be found in almost any private collection growing in land that is not far removed from a swamp. The water table even in the summer of 1893 was not 2 feet from the surface. There could be no question of drought there, yet under the best of management the Apple trees have been, with trifling exceptions, fruitless this season in comparison with Pears, of which the proprietor, like many others, had "more than he knew what to do with." This is a set off against Mr. Hiam's experience, though one case is as accurately represented as the other.

Yet there is truth in the lesson he teaches, for so far as I have seen—and I have been brought into contact with trees in many counties—the best crops and certainly the finest fruits were afforded by trees in generous soil. These trees did not suffer by the drought of last summer, or they could not have made such excellent growth as they did; and as the branches were thinly disposed, admitting the greatest possible amount of sun directly to the leaves, the wood in consequence was well stored with nutrient matter, or, in other words, exceptionally well ripened. All the finest Apples and Pears to which it has been my duty to assist in awarding prizes at the leading shows this autumn have been grown on young adequately supported trees, the wood of which was such as competent gardeners delight to see, and which they correctly describe as "thoroughly ripened,"—ripened because the work of the season is well finished.

Without this deposition of organised matter in the wood of trees and plants there can be few perfect flowers. This applies to Apples, Pears, Vines, Stephanotis, and Chrysanthemums, which have been mentioned in a recent discussion. Mr. Pettigrew was absolutely right in attributing failures of his Grape crops after wet and cold summers to immature wood—if "wood" it could be called. There is not a Chrysanthemum grower in England who has won a 10-guinea cup who could have done so if his plants had been grown in the shade, and consequently unmaturing. There is not a grower of Stephanotis for market in Great Britain who could make the flowers pay if the growths of his plants were not properly supported and ripened, because otherwise he could only have a miserable crop of miserable flowers to sell. Just as a rich store of starchy matter is essential to the maturation of seeds and invests them with value; just as a similar deposit is a necessity for the issue of the strongest stems and the finest flowers from bulbs, so is a similar storage equally essential in the stems of the Stephanotis and Chrysanthemum, also the pseudo-bulbs of Orchids, for the production of the finest flowers that issue from and are supported by those stems. Whether the flowers issue direct from the stems on single peduncles, or are borne on young growths that proceed from those stems, matters not in the least. The stored matter produces the flowers, the flowers in turn (and seed) using up that material—extracting it from stem and bulb, causing shrinking and shrivelling, as is often too apparent in the pseudo-bulbs of Orchids.

If well stored—ripened—wood of the Vine be microscopically examined the starch granules will be found to stand out bold and clear. The young growth from such wood will produce those sturdy flower clusters which gardeners love to see; but if, on the other hand, soft immature growth of the Vine be similarly examined no such granules can be found, and no such flower

bunches follow, for the best of all reasons, that the material is not there for their formation. So it is in respect to other plants and trees. What are the necessary conditions for the manufacture of and storage of the all-important nutrient matter in question? 1, Healthy root action in sweet, moist, fertile soil. 2, Sound, clean, perfect leaves, directly exposed to the sun. They cannot be perfect if infested with insects, nor if obscured from the sun, either by overcrowding, a continuously clouded sky, or by a densely shaded roof, under which they may be compelled to grow. Neither of those two conditions is in itself sufficient. An abundance of available food in the soil and very little sun from the firmament result in sappy, fruitless growth, because the formation of starch is prevented. The machinery (the foliage) is out of order for its manufacture. Long-continued and powerful sun, and at the same time a too dry and impoverished soil, cannot avail, because the roots do not gather what is absolutely necessary for conversion into starch. The leaves then turn limp, the wood shrinks, and becomes hard like bone. It is not then ripened, but more akin to being baked.

It is this outward appearance of wood, without giving a thought to what is *not* in it, that leads superficial observers astray on the question of ripeness. Such exhausted trees bear no fruit, and hence it is nothing new to hear "ripe" wood spoken of with contumely. It is perhaps only natural that it should be so after all, and it is certainly not in any way uncommon for persons who know the least about a subject to be the loudest in its praise or condemnation, according to their "views." It is perhaps, on the whole, best to regard this as pertaining to the frailties of human nature, and go on working on sound lines, hoping for better things.

To return to the question of exhausted trees. When trees bear superabundantly one year, and produce little or no blossom the next, the reason is as clear as daylight. The too heavy crops demand the last ounce of nutriment the trees can supply, and there is no reserve or overplus for storing. Another season is then needed for recuperation. If more than half the fruit had been removed by thinning, also extra support given to the trees, a crop would have followed the following season, frost and insects permitting. Insects can be subdued, or what is better prevented, when the requisite means are afforded; but frost cannot be averted. Let us then do what we can in assisting exhausted trees. I am not likely to underrate the value of liquid manure applied when the land is suitable for its reception during the winter—that is when the liquid will pass freely down to and below the roots. I was the first to advocate the method in the *Journal of Horticulture* many years ago, after having used probably a million gallons, and giving renewed life to previously exhausted trees. There is no method so quick and so sure in changing the character of the growth of stunted old trees and improving their fruit; but it is not and cannot be an antidote against injury resulting from severe frost when it occurs at a critical time.

It is not my intention to enter into a controversy with the correspondent who has chosen such an appropriate pseudonym, even though he bestows on me some attention (page 444). Had he answered pertinent and reasonable questions of others I would have answered his on the quality of fruit, though it is on a fresh subject. I am too old to follow the trail of literary red herrings. One of his arguments is pertinent, and it is easy to show its emptiness in a few words. On my pointing out the plethora of Pears and the paucity of Apples this year, I am told (page 445) I had forgotten that this was largely due to the recent "lavish amount of fruit tree planting." Seeing that at least twenty Apple trees have been planted to one Pear tree we ought, therefore, to have had twenty times as many Apples as Pears, whereas something like the reverse was the case in most gardens and orchards. Is another word necessary?

I have something better—more practical—to propose than the crossing of pens in a mere war of words. Your correspondent has been so good as to wish I could have been with him to see some

forest trees. That refers to the past, but there is a future; and if I can have an invitation (through the Editor) to see his fruit trees, I will try and arrange to do so during the ensuing season; and if his *bête noir* "Azoto," will similarly invite me, I will do my best to see him too. I should like to "interview" them both, and to tell what they are by their *work*, if not who they *are*, for on a personal matter I shall betray no confidences, though otherwise I shall claim a free hand for my pen. This latter is to be regarded as an unalterable condition and the inflexible decision of—
A JUDGE.

PLANTS FOR THE HARDY FERNERY.

ALTHOUGH *Dicksonia antarctica* will flourish in the conservatory, it is really no place for this useful and very effective plant. Under the dry atmospheric conditions of the conservatory this Fern soon becomes a prey to thrips, and gives endless trouble to clean and to keep it free from these pests. When once heavy syringings must be discontinued either on account of the flowering plants, or for the comfort of those who daily use these structures to sit in, the *Dicksonia* is one of the first plants to be attacked by thrips. The right position for this handsome species is the cool hardy fernery, where no fire heat whatever is employed. Under these conditions it is perfectly at home, and the plant grows luxuriantly in the cool shady moist atmosphere of such a structure, and is never attacked by insects. If the atmosphere is kept drier during the winter, severe frosty weather does the plant no harm whatever; we have had its fronds frozen stiff and no injury follow. For the past four winters plants have been kept in a cold house, and their appearance testify that it is the condition under which they thrive best.

A grand companion plant for the *Dicksonia* growing under the same conditions is *Woodwardia radicans*. Planted on the top of rocks it will make fronds 7 and 8 feet in length, and arches in a graceful manner. For baskets suspended from the roof in a cold house it has probably no equal; it is graceful and even picturesque. For hanging out of little pockets or for a groundwork *Pteris cretica albo-lineata* seems also to enjoy cold treatment. Good plants from their distinctive variegated nature are very handsome. Even some seedling *Adiantums* that appeared amongst some raised from *A. cuneatum* have also proved hardy, and one plant in particular has grown wonderfully well this season. *Pteris serrulata* also proved hardy and is useful, and we have no doubt that several of the crested forms will also prove hardy enough.

Dracæna congesta flourishes well in a cold house, and a few plants in suitable positions are effective amongst Ferns. Even the common green *Tradescantia* has stood several winters, and although somewhat damaged it has grown freely again in the spring. A little of this plant to hang over stones or from ledges near the top of the building is very effective. It produces roots so freely, and these hanging amongst the foliage give it rather a pleasing appearance. *Abutilon vexillarium marmoratum*, with its beautifully mottled foliage, to our surprise has also proved hardy under the conditions described, and keeps its colour very much better than we anticipated would be the case. To hang over a stone or for variety the plant is useful in the hardy fernery.—O. M.

THE FLORISTS' TULIP.

[By JAMES W. BENTLEY, Hon. Secretary to the Royal National Tulip Society.]

THE PROPERTIES FURTHER CONSIDERED.

(Continued from page 444.)

FEATHERED flowers are very much scarcer than flamed ones. There would seem to be in the Tulip a natural propensity to settle down finally as a flamed flower. I do not state this as an absolute fact, but the evidence in favour of it being so is very strong. Every Tulip grower knows that, occasionally, his feathered flowers "go flamed," and the old varieties of fifty or sixty years ago, that we still grow, although formerly famous as feathers, are now almost invariably flamed. Such varieties as *Polyphemus*, *Maid of Orleans*, *Vicar of Radford*, *Arlette*, and *Aglaia* may be instanced. There are a few exceptions, such as old *Comte de Vergennes* and *Heroine*, which are still found feathered, but even these are more numerous in the flamed state. The principal faults to which feathered flowers are liable are breaks in the feather, technically known as *skips*, and the presence of the marking colour on some other portion of the petals than the edges. Both faults are serious from an exhibition point of view, but both have to be constantly tolerated. The best way to keep up a stock of feathered flowers

is to carefully grow on all offsets from all bulbs which produce well feathered flowers; these when of blooming size are known as "maiden bulbs," and are most likely to produce good feathers. It is also of great advantage to grow a good stock of those breeders which are known to break feathered.

Flamed flowers are numerous, and there is generally little difficulty in obtaining sufficient passable flowers in this class. At the same time grandly flamed flowers are not easily found, for in addition to having a perfect feather, they must possess the bold branching beam and other qualities described in the previous chapter; having to combine more excellencies to produce the desired result, they are consequently liable to more defects than are feathered flowers. The most common defects of flamed flowers are skips in the feathering—a deficiency or redundancy of marking—the beam, instead of almost imperceptibly mingling with the feathering, going through to the edge of the petal in a solid mass of colour; the beam being broken and rendered indistinct by intervening and intrusive ground colour, and unequal distribution of marking, such as having too much on some parts of the petal and too little on others. This unequal distribution of marking often causes a defect which is known as being *fast in the base*. By this expression is meant that the beam is so broad and solid at the base that it entirely cuts off the ground colour instead of allowing it to unite with the base on each side of the beam. Another fault some of our flamed flowers, and particularly the older varieties, have is a narrow or deficient base. In many varieties now obsolete the beam almost touched the ovary, and the stainless circle of white or yellow that adds such brightness and charm to our modern flowers was practically entirely absent. We still grow flamed flowers, such as Duke of Devonshire and Masterpiece, which are sadly deficient in this respect. Considering everything, and much as I admire a fine feathered flower, I think a grand flame must be held as the highest type of the Tulip.

There is one other serious defect in marking which remains to be noticed. Some varieties show a kind of indistinctness in the feathering, caused by the colour on the edges of the petals being of two shades instead of one solid colour. When this occurs the feathering has a confused appearance, and such a feather is technically known as *grizzled*.

Faults of purity are still occasionally seen, and flowers with stamens tinged, and bases of at best doubtful purity have not yet been quite discarded. Impure bizzars have either a greenish or a greasy looking base, instead of a clear yellow one, and impure bybloemens and roses have either yellowish bases, or bases that appear as if the bottom of the flower had absorbed some dirty oil. Most impure flowers improve with age—that is, they get better every day when in bloom, and some may with great care and attention be fairly pure when the flower is about ready to shed its petals. As an instance of flowers of this character I may mention Mrs. Pickerill, a once famous feathered bybloemen. This variety is so yellow when it first opens that it might be taken for a bizarre, and I believe has been exhibited when very young as a bizarre. However, the yellow in the ground fades away day by day, and when the flower is old it is almost completely gone; in some favoured localities it does sometimes completely go, and if the happy grower can get it to the exhibition before the petals fall he does well. Such flowers are unworthy the florist's attention, and ought to be discarded. It ought, however, to be stated that some roses and bybloemens, which are yellow at the base on opening, become pure white in a day or two, such varieties are said to *bleach easily*. Aglaia and Modesty are varieties of this kind. The base of both is yellow when the flower first opens, but as the yellow disappears easily and completely it is no detriment to the flower. At the same time varieties that open perfectly pure and need no bleaching are preferable, and there are now so many of these that the days of the "yellow opener" are getting over.

Sins against purity are often apparent on the stamens of many varieties. Instead of being white they are tinged with blue, black or yellow in the case of white grounds, and with green or dirty olive in bizzars. Varieties that come constantly with impure stamens are worthless and should be discarded. There are, however, many varieties that generally come with pure stamens that are occasionally tinged with impurity. Many old growers used to consider that this was due to the pollen liquifying on the anthers and running down on to the stamens. I could never see any reasons to support this view, and certainly never saw any signs of the pollen melting or liquifying. A more probable explanation is that the circumstances and conditions at the blooming time are more favourable than usual to the development of colour, and consequently the anthers develop a little tinge of it. It must be remembered that the very old varieties had badly stained anthers, so there is nothing to wonder at, in an occasional relapse, under severe provocation, on the part of their descendants.

Defects of form have still to be put up with. The cup in many

varieties is too long; in others the petals are too narrow, or they curl outwards or inwards near the top, or they are pointed instead of being broadly rounded. Many varieties are also narrow and constricted at the base of the flowers; these flowers are often rather clumsily called "tundishy" from their resemblance to a kind of funnel, wide at the top and very narrow at its lower end, called a tundish, and used in brewing. Defects of form are more seen in feathered than in flamed flowers (although common enough in both classes), as owing to the scarcity of the former faults of shape have to be tolerated, which would render a flamed flower almost worthless. Large flowers, as showing good cultivation, are always desirable, provided they excel in other respects; but a medium or small-sized bloom, correctly marked and proportioned, is always preferred to a larger one deficient in marking or form.

I am reminded by an inquiry from a correspondent that another fault to which both rectified and breeder flowers are liable has not been mentioned. It has been stated before that the Tulip should have six petals, but it sometimes comes with as few as four and as many as twelve. A flower with more or less than six petals is considered valueless, as its shape is spoiled, but it must not be supposed that the bulb which has produced it is valueless also; it must be retained and esteemed just as much as if it had produced a perfect flower of six petals, provided, of course, the bloom was correctly marked. If, however, there are many flowers on a bed with too many petals it may be a sign that the culture is too generous, and a poorer compost is needed. The total absence of this fault cannot be entirely assured, but experience will soon reduce it to a minimum. In Tulip growing, as in everything else in this world, the absolute best is not attainable, and the best possible is what we must strive for and be content with.

Having now set down at some length the faults of my favourite flower, and feeling that they must appear somewhat formidable to the reader, I cannot help thinking what a pity it is and has been that the Dutch growers have not adopted our standards of perfection. They have all the industry and perseverance which, if rightly directed, would result in many fine and greatly improved new varieties. Unfortunately they seem to have no standards at all to work up to, judging by the quality of the varieties they praise most in their catalogues. On several occasions I have procured their so-called fine novelties from Holland, and invariably found them destitute of the qualities we prize here, and altogether inferior to the varieties our forefathers obtained from them over a hundred years ago.

(To be continued.)

ROYAL HORTICULTURAL SOCIETY.

NOVEMBER 13TH.

SCIENTIFIC COMMITTEE.—Present: Mr. Michael (in the chair); Mr. McLachlan, Dr. Bonavia, Professor Church, Professor Müller, and the Rev. G. Henslow, Hon. Sec.

Germinating Black Pepper.—Mr. Henslow exhibited specimens received from Mr. T. Christy. Pepper seeds, being usually collected before they are fully ripened, are often deficient as to their embryos; but the examples shown had germinated well, the large circular cotyledons carrying up the seed into the air. Their tips formed a club-shaped extremity and were retained within the embryo sac, usually called the amniotic sac. This apparently acts as a "digestive pocket" by secreting a ferment which dissolves the endosperm occupying the greater part of the seed. This is then conveyed into the plant by the included tips of the cotyledons.

Phenological Observations.—The Secretary having received the Reports for 1891, 1892, and 1893, from the Royal Meteorological Society, gave some account of an examination of them. The conclusion arrived at was that the first flowering of plants being noticed by one set of observers, and the meteorological data, temperature, rainfall and sunshine (hygrometric data wanting), being supplied by other observers elsewhere, any accurate adjustments between the two, in order to trace out local causes and effects, was next to impossible. Again, although "the observers are required under the new regulations [of 1891] to note each year the flowering of the same individual trees and shrubs, and in the case of herbaceous plants those situated in the same spots" (*Report, &c.*, 1891), yet the observers have not recorded the surrounding conditions, respectively, to show how far they all agree in any one of the "areas." The problem is thus further complicated, for a plant growing in a warm place may be greatly hastened in flowering as compared with one in a shady and cool place. Again, plant idiosyncracies vary greatly: thus, of two Horse Chestnuts, one frequently flowers as a regular feature before others growing side by side with it. Hence, without such and other additional data for strict comparisons, the really scientific value of the phenological observations does not seem to be very pronounced. For horticultural purposes their value is practically none. As illustrations of the above remarks there are four stations at Salisbury. In 1891 the Coltsfoot flowered at these places from February 15th to March 7th, a range of three weeks; at two places at Clifton the Blackthorn flowered, on April 26th and May 5th respectively; but there is no clue whereby one can trace the causes of these and other similar differences.



THE ROSE ANALYSIS.

BY a most stupid oversight on my part I have (page 445) questioned the accuracy of Mr. Mawley's figures as to the number of Teas at the Crystal Palace. Calculating, as I did, only the Tea classes, it was impossible for me to arrive at the same number as Mr. Mawley, seeing that many Teas were exhibited in the other classes, and I apologise most sincerely for questioning this point. I may go further, and say I have now been through the whole schedule, Hybrid Perpetuals and Teas, and on totalling up those classes I considered admissible, I came to the exact number named by Mr. Mawley—viz., 1883. The accuracy, therefore, of these figures I cannot impeach, and regret my attempt to do so. The earlier part of my remarks, in which I find myself in perfect unison with Mr. C. J. Grahame, remains, and it seems to me to mar the results of the analysis considerably.—Y. B. A. Z.

MR. GRAHAME (page 445) says that "Mr. Mawley has no need to apologise for a possibility of his explanation not being clear, as I think it is clear." This I am very glad to hear, as I have already gone over the same ground three times in almost similar words. I am also pleased to find that he "perfectly agrees with me that the common sense way is the only fair and reasonable mode of dealing with statistics." If it be correct that true science is only "glorified common sense," then it must also, I conclude, be to a certain extent a scientific method of treating them. At all events I have yet to learn that because a method is simple it ceases to be scientific.

In preparing these analyses my only object has been to give your readers the best and most practical results obtainable from the valuable statistics that I have collected. If any of them can suggest a better or more common sense way of treating them, I shall only be too glad to adopt it. If the figures at my disposal when tabulated showed themselves irregular and inconsistent, which they certainly are far from doing, I should be the last person in the world to apply any corrections whatever to them, and should simply give the crude results in every case for what they were worth.

This brings me to the reasons why I consider the last Rose analysis so satisfactory. In the first place many of the figures tabulated are surprisingly uniform, considering the variety of seasons and the changing dates of the exhibitions. Take for instance the records of one H.P. near the top of the table, two lower down, and one towards the bottom:—A. K. Williams, 39, 35, 34, 30, 37, 36, 40, 25, 32; Horace Vernet, 19, 11, 18, 14, 16, 12, 16, 26, 16; Prince Arthur, 17, 16, 18, 8, 19, 19, 18, 16, 18; Comte Raimbaud, 6, 7, 14, 6, 7, 7, 9, 14, 8. It would almost seem as if the prizewinners had each year been guided beforehand by the analysis as to what particular sorts they should place in their stands.

Then, again, looking down the column of averages these will be seen to fall by almost imperceptible gradations from the maximum, 45.5, to the minimum, 5.0. This would appear to show that, unlike most tables of the kind, the positions of the inferior varieties are given as accurately as those of the leading kinds. In future all brackets will be dispensed with, so that the decline will then become still more gradual. A friend has kindly suggested that in order to effect this, where the averages come out alike they should be carried to two or more decimal points instead of one in order to separate them, and this appears to me a capital way out of the difficulty, if such a small matter as this can be so styled.

A good deal has been said about the statistics being obtained at only one show in each year, and I, too, at one time thought that this would to a great extent upset the results. I was, however, a good deal comforted to find that when I compared the averages obtained at one of the N.R.S.'s northern exhibitions some years ago with those tabulated for the metropolitan show, the relative positions of most varieties were very little altered. An epitome of the results appeared in the *Journal of Horticulture* at the time, but I forget in what year.

A few days ago it occurred to me that I might further test my last analysis by comparing the results for some of the older varieties which are still as popular with exhibitors as ever with another analysis which came out in the *Journal of Horticulture* in 1884. For the preparation of this analysis all the leading gardening papers for the previous eight years had been searched for reports of Rose shows held all over the country, and the Roses in every complete prize stand were noted down and afterwards tabulated—8350 Roses in all. Of the first twelve of these established H.P.'s, in my last analysis only two, Dupuy Jamain and Louis Van Houtte, are absent from the first twelve in that for 1884. Then as to the first twelve Teas in the 1894 table, only Madame Bravy and Anna Olivier fail to find places in that for 1884.

Here are a few striking examples, the numbers showing their relative positions in the two sets of tables.

HYBRID PERPETUALS.								1894	1884
La France..	..	..	..	..	..	..	..	2	1
A. K. Williams	..	..	..	..	..	..	..	3	3
Marie Baumann	..	..	..	..	..	..	..	4	2
Charles Lefevre..	..	..	..	..	..	..	..	6	7
F. Michelon	..	..	..	..	..	..	..	9	10

TEAS AND NOISETTES.

	1894	1884
Catherine Mermet	1	3
Marie Van Houtte	5	4
Souvenir d'Elise	6	6
Niphotos	7	5
Caroline Kuster	9	10
Jean Ducher	10	7

If these agreements are only coincidences, they are certainly the most remarkable I have ever met with.

In order to show that I have tested the practical value of the 1884 analysis, I may state that when I moved to Berkhamsted in 1885 I took this analysis as my sole guide in selecting varieties for my new garden. This plan has proved so satisfactory that I can confidently recommend any exhibitor who may be starting Rose growing in a new locality to be guided in his selection by the most recent of these analyses—that for 1894. He will, of course, afterwards find as I did that a few of the varieties selected are unsuitable for his particular soil and climate; but that would from the necessity of the case follow when commencing or recommencing in any untried position.

The one weak point in these analyses, as I have often before pointed out, are the newer Roses, on account of the scantiness of their records. In order to deal with these more satisfactorily in future tables, a Rose friend has suggested that I should mark each with an asterisk, as showing the different footing on which it stands as compared with the established varieties. This, I think, is a very good idea. I propose also obtaining next year from our leading rosarians data which will enable me to append a short table, showing more clearly than can be gathered from the analysis itself the relative merits of these newer kinds.

The only remarks I need make on two letters which appeared in your last issue are the following:—The average for Ethel Brownlow is for two, and not three years, as stated by Mr. Grahame. Then, in reply to "Y. B. A. Z.," I may explain that trebles are always counted as units. The error into which he has fallen as regards the number of Tea Roses tabulated, is that he has forgotten the many blooms of these staged in the mixed classes.

I have now given every explanation that can reasonably be required of any writer, also my reasons for considering that the most recent tables give as close approximations as can be hoped for in an investigation of this nature, and therefore, as far as my own part in it is concerned, this discussion may be considered as closed.—E. M., *Berkhamsted*.

[We have always been satisfied that Mr. Mawley has only one object in view in these tabulations—namely, in producing a digest that shall be interesting and useful to growers of Roses. For this reason, neither he nor ourselves have objected to fair criticism, knowing, as we do, that critics may prove the best of helpers in pointing out defects and suggesting improvements, with the same objects in view as Mr. Mawley and ourselves. We are obliged to all who have aided, and may farther assist, in making Mr. Mawley's analyses acceptable to many readers of the *Journal of Horticulture*.]

RIPENED WOOD.

I SHOULD like to correct one rather important error appearing in my last letter, doubtless due to bad writing; 425 hours represents the difference between the 1893 and 1894 sunshine records occurring during a period of ten months (January 1st to October 31st) not "two months," as printed.

Having taken up my pen I cannot lay it down again without noticing Mr. Hiam's paragraph (page 449), virtually endorsing as it does the views I have been persistently pressing in your columns for months past. I am, however, inclined to go even further than he, and ascribe the failure of the Strawberry crop to the same cause as that of the Apple, and not to frost. Indeed, long before the cold snap in May most varieties showed only too plainly they had never recovered from the previous summer's drying and roasting process; their constitutions being evidently enfeebled by that very ripening of "the wood" (!) which so greatly rejoiced "E. K.'s" heart, and as a result their blooms came weakly or unfertile.—A SCEPTIC.

In penning my question to your correspondent "Sceptic" I was anxious to ascertain whether he belonged to the gardening world or not. "Sceptic's" answer fully justify my doubt on the subject. He does not, and therefore I must compliment him on the admirable way he has turned exterior into interior. He says his mealy bug tale shows how careful employers should be to see that they are not imposed upon. "E. K." says an employer once said to him, "I know a gardener's work is never done, and I consider it is never paid for."

I prefer an ounce of practice to a ton of theory. On page 444 "Sceptic" says, "It is the nature of both Pears and Plums to give heavy crops at rare intervals, and this year is one of those rare intervals." This remark appears to me delusive; for will "Sceptic" venture to assert that if last summer had been cold and comparatively sunless we should have had the heavy crop that the sun-ripened wood of last season has produced? Again, he asks, What has given the high flavour to Pears this year? The answer of practical men is very simple—viz., the well-ripened wood of 1893 and the early summer of 1894. His cultural knowledge of the Stephanotis must of necessity be very limited, for without the well-ripened wood of the preceding year it is useless to expect flowers from the succeeding young growth. This applies with more force to Vines, for unless the wood is fully ripened—matured—a weak break and poor bunches will be the result. May I suggest that if "Sceptic" had spent half the time in practical cultivation that he

has frittered on a useless theory he would have been a wiser and more useful member of the community.—W. CLARK.

MANY of your correspondents have written at length in reply to "Sceptic's" article on ripe wood. I would ask them simply, Is it worthy of all this trouble?—E. D. O.

[If the contributions of the correspondent alluded to had done no more than elicit the able articles of "Azoto" and "J. A." (page 380, October 25th), he would have done good service. The process of wood-ripening is there correctly described, and it is summarised in five lines by "J. A." on the page quoted. Including the references to the subject on page 463 of the present issue, it will be conceded we have given a generous amount of space to the discussion, and we think the disputants have earned a period of rest.]

LATE VARIETIES OF APPLES.

THE experience of each season in any department of horticulture generally impresses upon our minds in a forcible manner some lessons of great importance. Sometimes these lessons seem to indicate the necessity of conducting our operations on entirely different lines, or of pursuing them with greater diligence in directions hitherto attempted in only a limited way.

It seems to me that the experience of the British fruit grower in regard to the Apple crop of 1894, points in no uncertain way to the desirability of doing on an extensive scale what has frequently been urged in the pages of the *Journal of Horticulture*, viz., planting more late varieties of Apples. True there are seasons when early kinds prove remunerative, and this seems to have led to their being planted extensively, but it is well to bear in mind that whenever we obtain abundant crops of Pears and Plums, the value of early Apples must be materially lessened. This has been the case in a marked degree this season. Our markets were so glutted with Pears and Plums of a transient nature that the price of Apples was for a time brought far below the figure they should have realised, considering the lightness of the crop. Nevertheless, the early varieties were bound to be disposed of or allowed to spoil. With late Apples, however, the case is totally different, and those who have been fortunate enough to secure even a moderate crop will find it is a remunerative one.

Already the scarcity of English Apples in our markets seems to be painfully apparent, and we shall in due time be able to ponder over the unsatisfactory statistics, which will show how many millions of barrels of foreign Apples have been imported into this country. There is without doubt some cause for thankfulness to be found in the fact that when our native crops of any kind fail we are able to satisfy our requirements with the products of other lands. The point, however, which requires earnest consideration is this, that however abundant our Apple crops may be, the latest varieties always command remunerative prices if the samples are good. It is with these late varieties that the Americans do such an enormous English trade, and yet late varieties are no more difficult to grow in England than are early ones. It is not only among market growers that this scarcity of late Apples prevails, but in private gardens also the supply during April and May is usually a very scanty one. This ought not to be so, seeing that we have now many good late kinds which, with proper methods of storing, may be depended to supply a succession from March to the end of May.

Now that the planting season is in full progress, this matter deserves full consideration from all intending planters. I will enumerate below a few varieties which I know to be good keepers, and I trust other readers of the *Journal of Horticulture* will record their experience and ideas on this subject. Dessert varieties:—Nonpareil, Sturmer Pippin, one which ought to be extensively planted, seeing that it will keep perfectly fresh till June; Braddon Pippin, Court Pendû Plat, Scarlet Nonpareil, and Duke of Devonshire. Culinary:—Alfriston, Bramley's Seedling, Gooseberry Pippin, a splendid cooker with white flesh, keeps with greater certainty than any Apple I am acquainted with; Lane's Prince Albert, Newton Wonder, and Striped Beefing.—H. DUNKIN.



ODONTOGLOSSUM CRISPUM FRANZ MASEREEL.

At the meeting of the Royal Horticultural Society, held on the 13th inst., Messrs. Vervae & Co., Mont S. Amand, Ghent, exhibited blooms of a splendid form of *Odontoglossum crispum*

under the varietal name of Franz Masereel, and which attracted some attention. The flowers, as shown in the illustration (fig. 71), are of the ordinary size, but are noteworthy for the wonderful colouring. The sepals and petals are white, covered with red blotches, the lip being lemon yellow. It is one of the best varieties of this popular Orchid we have seen, and worthy of the first-class certificate awarded for it on the above-mentioned occasion.

ANGRÆCUM EBURNEUM.

THIS is a fine plant for a large tropical house, the fine broad foliage being very ornamental all through the season. It is a large growing species, often attaining a height of 3 to 4 feet. The leaves



FIG. 71.—ODONTOGLOSSUM CRISPUM FRANZ MASEREEL.

are 18 inches in length, light green, very thick and leathery in texture. The flower spikes appear in autumn from the base of the leaves, and are 18 inches in length, upright, and rather stiff in appearance. Each bears about a dozen flowers; the sepals and petals are narrow, greenish white; the lip has a short spur, the first portion being heart-shaped, an inch across at the base, and pure white. The blossoms are faintly but sweetly scented, and last eight or nine weeks in good condition.

A. eburneum succeeds best in sphagnum and charcoal, and should be given rather large pots, as it dislikes frequent disturbance. It is easily grown, and seldom gets out of condition, but should the plants appear sickly they must be shaken free of the compost, and the roots well washed in tepid water. At the same time cut away all that are decayed and repot, allowing abundant drainage. They will not probably flower so freely the first season after the disturbance, but when re-established in the new compost will grow away with great vigour. *A. eburneum* is also known as *A. superbum* and *A. giganteum*, and is a native of Madagascar.

CATTLEYA SPECIOSISSIMA.

I recently saw a fine plant of a good variety of this species, the flowers of which had none of the dull sombre colouring that characterises some of the earlier forms of this Orchid. *C. speciosissima* is, I think, in rather bad favour with growers because of its reputed paucity of blooming, and although it must be admitted that there is some truth in this, yet it will, if properly managed, produce good flowering growths in plenty. The fault here, as in many other cases, is insufficiency of sunlight; and at the risk of a charge of iteration I would again impress on growers the necessity of ripening, or, more correctly, consolidating the growths of Cattleyas as they are made, especially of those autumn-flowering species.

Give *C. speciosissima* a warm sunny position where there is a free circulation of air, and avoid excitement after the pseudo-bulbs are finished, and at the next flowering season there will probably be little cause of complaint. The flowers somewhat resemble those of *C. Mossiæ*, but are more clearly defined in outline; the petals are usually broader, and the lip more tubular and less spreading in front than those of the latter kind. The typical flower has sepals and petals purplish-rose; the lip has a blotch of yellow on either side of the throat, with radiating lines of deep purple. The varieties *alba* and *Schroderæ* are white, with the exception of the markings on the lip. Other varieties are *brilliantissimum*, *albescens*, and *marginatum*.—H. R. R.



CHRYSANTHEMUM MISS MAGGIE BLENKIRON.

THE massive incurved Japanese Chrysanthemum figured in the illustration (fig. 72, see page 475), which has been reduced from a photograph of a bloom kindly sent us by Mr. C. E. Shea, The Elms, Foots Cray, is already familiar to growers who have facilities for acquiring the latest novelties, but it has not yet found its way in every noteworthy collection. This it will doubtless do in due course, as for exhibition purposes it is a decided acquisition. As can be seen from the engraving, the flower bears a resemblance to the well known variety Lord Brooke in character, but it is much larger, and is most attractive when well grown. The florets are yellow and incurve regularly, the lower ones being tinted and streaked with crimson. This splendid variety was raised by Mr. C. E. Shea, and it is said that the plant grows to about 4 feet in height. It may be described as representing the "missing link" type which appears to be now attracting attention. According to Mr. H. J. Jones the buds should be taken about August 15th.

J. AGATE—JAPANESE OR INCURVED.

I FULLY agree with "A. D.'s" remarks (page 450) *re* the classification of Chrysanthemums. How the National Chrysanthemum Society could ever have placed J. Agate amongst Japanese Chrysanthemums I cannot understand. It is, to my mind, an incurved variety of the best type, and I cannot see the slightest difference between it and Empress of India. When I finished judging at Bristol Show last week I took a bloom of Empress of India from one of the stands and compared the two. The only distinction which several good Chrysanthemum growers and myself could see was that J. Agate excelled in size; so that, if classed as a Japanese, and allowed as such in the N.C.S.'s catalogue, we shall hear more about it eventually.

Take, for example, a prize offered for twelve or twenty-four blooms, Japanese, distinct varieties. Supposing one exhibitor shows J. Agate in his collection (in the same form as shown last week here), what would be the result? Disqualification without a doubt. What then? Why any amount of dissatisfaction and unpleasantness! Nor do I think it would be wise of an exhibitor to show it in a stand of blooms (distinct varieties) containing Empress of India.—JOHN BRADNER, *Bristol*.

DUKE OF YORK V. BEAUTY OF TEIGNMOUTH.

YOUR correspondent in his report of the Devon and Exeter Chrysanthemum show on page 457, says I unfortunately staged duplicate blooms of Duke of York, and was thus prevented taking second prize. I did nothing of the kind. Every bloom I staged was distinct. For your opinion I send the two blooms that were shown at Exeter, and which the judges considered one and the same thing—viz., Duke of York and Beauty of Teignmouth. You will notice the bloom of Beauty of Teignmouth, as that is the name it was shown under at Exeter, has not such a silvery reverse as Duke of York. It is entirely distinct both in foliage and growth. Beauty of Teignmouth grows 4 feet high, Duke of York to between 7 and 8 feet.

I also forward you two plants, a naturally grown one of Beauty of Teignmouth, the other Duke of York. You will then be able to give your opinion. If the buds of Duke of York are taken early they come hard and of no use, but with Beauty of Teignmouth the flowers open well on any bud.—G. FOSTER, *Teignmouth*.

[The blooms sent are dissimilar, that named "Beauty of Teignmouth" being decidedly richer in colour on the upper surface of the florets than the one named "Duke of York." The dissimilarity is equally apparent in the foliage, the leaves of the former being narrow, deeply and sharply lobed, those of the latter broad and rounded. Of one thing we are in doubt—namely, whether the "Duke of York" sent is true. We have not seen the variety so pale. Moreover, in his descriptions of new varieties, Mr. Molyneux represented Duke of York as of "dwarf habit," while the blooms we have seen in many stands resemble the colour of "Beauty of Teignmouth." It must be remembered, however, that the specimens were very far from being in characteristic form, the old blooms being half decayed and the young flowers not a quarter developed.]

CHRYSANTHEMUMS FOR EXHIBITION.

AT a meeting of the Wood Green and District Horticultural Society, held in the Masonic Hall, Wood Green, on the 13th inst., Mr. D. B. Crane gave an interesting lecture on growing "Chrysanthemums for Exhibition." Mr. Crane dealt with each stage of the growth in a clear

and able manner, taking for his headings the following:—When to propagate, how to propagate, first repotting, soils for subsequent repottings, stopping and cutting back, compost for final potting, top-dressing, taking the bud, damping, cups and tubes, staging for exhibition, and judging. Some valuable information was diffused by the lecturer, and his remarks were thoroughly appreciated by his hearers. Mr. Crane concluded his remarks by suggesting what, in his opinion, were the best twenty-four varieties suitable for amateurs to grow.

NATIONAL CHRYSANTHEMUM SOCIETY.

A MEETING of the General Committee of this Society took place on Monday last at Anderton's Hotel, Fleet Street, when Mr. R. Ballantine occupied the chair. After the minutes of the previous meeting had been read and confirmed, the Secretary read some correspondence, the most interesting letter being one received from the South Australian Gardeners' Society, from which it appeared that that Society has been in existence for upwards of twenty years, and that its sphere of operations covers the reading of papers on horticultural subjects, discussions, the holding of exhibitions of flowers, fruit, and vegetables, and the formation of a library of horticultural and botanical books. The following awards at the recent November show at the Aquarium were then confirmed:—Gold medal to Messrs. J. Veitch & Sons; silver-gilt medals to Messrs. Sutton & Sons, H. Cannell & Sons, B. S. Williams and Sons, and Mr. Hugh Graham of Philadelphia; silver medals to Messrs. J. Cheal & Sons, Robt. Owen, W. Cutbush & Sons, and Mr. H. J. Jones; bronze medals to Messrs. A. W. Young, Merridew, W. Amsden, and W. Clibran & Son. It was also announced that the money prizes awarded at the show will be paid over next week.

The Secretary stated that the sum of £369 14s. had been received on account of income, which was considerably more than that received at the corresponding period last year.

Eighteen new members were elected, making a total for the year of 119, and the Banbury Horticultural Society and the South Australian Gardeners' Society were admitted in affiliation.

Some discussion then ensued upon the dates of the exhibitions to be held in 1895, and it was finally resolved that they should be as follows:—October 8th, 9th, and 10th; November 5th, 6th, and 7th; and December 3rd, 4th, and 5th.

Mr. Briscoe Ironside called attention to the need for more meetings of the Floral Committee between the months of October and November, and the point will be referred to the Floral Committee after their re-election.

Several representatives of affiliated societies submitted questions for ruling by the parent Society. One of these was the proper definition of the term single-handed gardener. The Chairman decided it to be one who had no permanent paid help. Another question was, What constituted a cottager? But as the Society made no provision for such a class, the point was not authoritatively decided, owing perhaps to the difficulty existing in the case of cottagers resident in London suburbs, and those in or near country towns.

The Chairman formally announced the publication of the new Supplemental Catalogue.

FLORAL COMMITTEE MEETING—CERTIFICATED CHRYSANTHEMUMS.

A MEETING of the Floral Committee of the National Chrysanthemum Society was held yesterday (Wednesday) at the Royal Aquarium, Westminster, when Mr. R. Ballantine occupied the chair. There was a rather small display of novelties, which were of high average quality, and the principal contributions came from Messrs. Ernest Calvat, H. J. Jones, Briscoe Ironside, Cannell & Sons, and Robert Owen.

First-class certificates were awarded as follows:—

C. Harman Payne.—A large Japanese with very long drooping florets of medium width; colour rich rosy amaranth with reverse of silvery white. Raised and exhibited by Mr. Ernest Calvat.

Directeur Tisserand.—Another large bloom belonging to the Japanese section. Florets of medium width, colour deep ochre yellow, rosy crimson in the centre of the flower. Also from Mr. Calvat.

Miss Gertie Waterer.—A charming little blush Pompon, a sport from Snowdrop, centre yellow. Shown by Mr. P. Waterer.

Charles Cox.—This is a Japanese of great depth and a solid, substantial-looking bloom; canary yellow inside—reverse, silvery yellow. From Mr. C. Cox.

Enfants des Gaules.—An incurved Japanese of the hairy type; colour bright golden yellow tinted bronze; a large deep bloom; a French variety. Exhibited by Mr. Robert Owen.

Owen's Crimson.—An incurved of the old show type, with very broad florets and of great width; colour very rich deep crimson. Also from Mr. R. Owen.

John Fulford.—An incurved variety with very fine florets, base of flower crimson, passing off to deep golden bronze towards the centre. Shown by Mr. Owen.

Several other interesting flowers were exhibited, the chief being *M. Chenon de Léché*, a Japanese with narrow florets, colour warm salmon rose tipped yellow, which was commended; *Partridge*, a medium sized Anemone of American origin, colour rosy fawn, also commended, as was *Wm. Sabey*, a deep orange, decorative Pompon. *Mdme. Rozain*, large Japanese, with very long florets, colour silvery mauve; and *Mdme. Carnot*, the new white Japanese, were also exhibited in good form.

Votes of thanks were accorded to Mr. Robt. Owen and to Mr. Ernest Calvat.

CHRYSANTHEMUM PLANT GROUPS.

To Mr. W. Wells is largely due the newly aroused interest taken in the more pleasing construction of Chrysanthemum groups at shows. His small and very informal arrangement at the Royal Aquarium show in October, and his far larger and more attractive combination at the Crystal Palace recently, evidenced breaks away from the common group form with its solid wall-face of flowers, that there is now some hope the beginning of the end of these abominations is at hand. I have often felt so ill-disposed towards these heavy bizarre solid built banks of plants as to wish for a basket of half bricks to heave at them, if only for the sake of destroying that stolid formality that renders them so much alike and so intolerable—every bloom turned the same way, every plant severely relegated to its place, and if not high enough then set upon pots to fit into it, and then this sort of thing is by growers thought to be tasteful and artistic. I cannot look upon one of these abominations without feeling a shudder run through me. It is really marvellous that Chrysanthemum show committees should continue to encourage as well as tolerate such things.

Probably a sense of taste in plant arrangement never enters into the minds of people whose souls seldom soar above a prize list. I am far from admitting that Mr. Wells' Crystal Palace group was as good or as tastefully arranged as it might have been. Some of the flowers would have looked better if set up a little higher, so that anything like an even or formal surface be avoided, and it finished off too abruptly in the front. Yet it was so pleasant to find nothing whatever in it of the old horror, plant and flower faces built up with line and plummet. Why with such great scope as the cut flower classes present for the production of size and quality of flowers should that misleading term "quality of flowers," ever be introduced into the conditions for these groups? We have myriads of the most beautiful Chrysanthemums conceivable that produce flowers too small for boards, and yet are charming beyond all others when grown for grouping. It is these which decorative groups should be specially framed to encourage. Crowding huge, stiff, formal flowers into one flat face are things to be avoided by group arrangers. Will judges elsewhere have the courage shown at the Aquarium in October, and at the Crystal Palace last week, and go for groups that show taste, elegance, refinement in grouping, rather than the old stereotyped abomination? What a mistake it is to introduce so many colours.

Really some growers seem to think the more their group faces are thickly studded with variety in colouring the better the effect. That is a great blunder. But few colours or many, the greater error to avoid is the formal arrangement. I observe that the National Society have taken out of their November show the huge groups formerly shown by trade growers; that is a great relief. Also that the groups for private growers must now include foliage plants and be arranged for effect; that is a capital change in the right direction, and writing before the show I can but say that the arrangement of these groups will, I am sure, be scanned with exceeding interest. Would that other societies would copy the conditions. I have an earnest hope that trained Chrysanthemum plants may soon follow suit. I have never seen in the finest trained plants ever shown anything so beautiful as was a large clump of an old white Pompon, seen in a Middlesex cottage garden the other day.—A. D.

CHRYSANTHEMUMS AT CHILWELL NURSERIES.

MESSRS. J. R. PEARSON & SONS, whose successes at Hull and other shows have attracted so much attention recently, have again made an imposing exhibition of Chrysanthemums at their Chilwell Nurseries, Beeston, Nottingham. This collection comprises a large number of varieties, all which are good of the older kinds, while all the newer ones and a large number of seedlings have a fair share of attention. A large span-roofed house, 100 feet long by 30 feet wide, is filled with them. A bed of dwarf varieties is arranged down the centre, with sloping banks on each side. At the entrance stands the silver cup won at Leeds this year, and doubtless since my visit other trophies have been added.

This exhibition of Chrysanthemums viewed as a whole from the entrance presented, as may readily be imagined, a very imposing appearance. It was certainly thoughtful of the Messrs. Pearson, or their grower (Mr. Leadbetter of Liverpool fame), to arrange conspicuously leading varieties near the margin of the walks, so that they could be seen at a glance, the name in each case being written on cardboard, and attached just below the flower.

The flowers have suffered terribly from damp, although the roof was shaded inside with No. 3 tiffany. They had suffered more in this large structure, which must contain an enormous amount of moisture, than in a lengthy new house mainly filled with incurved varieties from which the public were excluded. It is a mistake to suppose that the exhibition to which the public had free access was entirely composed of large flowers. Such was not the case, for one corner was devoted to the best of the singles, amongst which Miss Mary Anderson was very striking. The same may be said of a bright dwarf free early flowering yellow named Ryecroft Glory, a grand kind for decorative purposes and for cutting. Amongst dark, almost blackish crimson varieties, Wm. Seward stood out prominently, so also did J. Shrimpton, a very fine flower and good colour. Colonel Chase was noticeable, being of good form and delicate in colour. A variety named J. R. Pearson, after the founder of this firm, was perhaps more curious than useful or beautiful. It was produced on a bud fully 18 inches above the foliage, and had long

drooping florets of a greenish white colour. A variety with a rather flat flower named Maude Pearson, is worth growing for decoration. It might be called an improved form of Belle Paule, although the petals did not droop as in that variety. Mdle. Thérèse Rey is a grand drooping white form that should be in all collections. Sunflower was also equally good. Charles Davis is a favourite, and the plants grown had throughout produced good blooms. Duke of York is bright purple with a silvery reverse, and is destined to take a leading position amongst exhibition kinds. Sarah Hill was in fair condition, being a pleasing yellow incurved Japanese. Madame C. Molin, with its bronzy yellow flower, was remarkably good. Eda Prass and Wilfred Marshall were both prominently placed. Primrose League, with its creamy yellow flowers of large size and substance, will we have no doubt be in many winning stands another year. Hairy Wonder was represented, but as seen, was not particularly striking. Lord Brooke, however, was grand, and the same may be said of The Tribune with its rather long drooping petals of soft primrose. Louise was in fine form, and so also was the White Louis Boehmer, equally as good as the type, and well worth growing. Good Gracious was noticeable, with white shaded pink flowers, and G. W. Childs stood out boldly amongst others. Mrs. H. Payne was probably the finest flower in the exhibition, some of the blooms of this variety being fully 7½ inches in depth. C. Shrimpton and Jules Chrétien were also worthy of note. Souvenir de Petite Amie, a new white variety, was really grand, and Commandant Blussett, as grown at Chilwell, will certainly replace Alberic Lunden.

The above are only a few of the most striking of hundreds of others in the best of condition. The plants throughout were well grown, but the wood not ripe enough to produce first-class flowers in every instance. The incurved kinds displayed a want of ripeness in the growth even more than the Japanese, several of the flowers being large but flat.—W. B.

SYON HOUSE.

THE gardens at Syon House are by no means devoted to the culture of Chrysanthemums exclusively, in fact about 1500 is the total number grown. This may sound somewhat extensive, but as several hundreds are grown simply for cutting from, it does not leave a great many for the supply of large blooms. But like everything else undertaken by Mr. G. Wythes, the well known gardener, they are done remarkably well, and numbers of blooms fit for the exhibition board could easily be cut. The plants are exceptionally dwarf this year, much more so than usual, and the wood is firm and clothed with healthy leafage such as one likes to see. The effects of the low lying position of the gardens and the long continued damp weather is perceptible here and there among the flowers in the form of damping, but all things considered, the collection has not suffered so much as might have been expected.

About Christmas time and during the month of January there will be a splendid show of plants grown on the bush system, the variety being Duchess of Northumberland. It is a seedling raised on the place, and is a small-flowered Japanese variety of the Meg Merrilies type. The colour is creamy white, and coming as the flowers do at Christmas they are most useful for decoration purposes. From the thirty-six plants grown in large pots many thousands of blooms will be cut, and a journey to Syon House, to see these if nothing else, would be time well spent. In addition to these bush plants there are hundreds of others, some in only 8-inch pots, and all literally smothered with buds. Many of these are upwards of 5 feet through, and all are in the most perfect health. For the object in view—cut bloom—nothing could be better adapted, as they are such as to invite you to cut and come again as soon as you like.

This collection cannot be termed strictly up to date, as many of the novelties are not included, and in fact not wanted, the older sorts being found to serve all the purposes required. Neither are the blooms so large as may be seen in many places, but what is lacking in size is amply made up in the excellence of the colours and the general elegance of the blooms. Really big flowers are not desired, or they would most certainly be had, as Mr. Wythes is the sort of man who perseveres when he has an object in view, and is generally credited with achieving what he sets his mind on. So much the more praise is due to him for the many excellent blooms that might be cut should the occasion for so doing arise.

As it is obviously impossible for the whole of the sorts cultivated to be named, a very brief selection will be made of those that were considered the best, though in this individual tastes differ to such an extent that one could not possibly choose for all, which is fortunate, as it would not do for us all to like the same thing. Japanese here, as everywhere else, largely predominate, though the incurved make show with such kinds as Golden Beverley, Mons. R. Bahuant, Robert Cannell, Mr. Bunn, Beauty of Hull, and Baron Hirsch. Of the first-named section Boule d'Or, W. H. Lincoln, and Sunflower may be mentioned as representing the yellows, though there is another in the form of a sulphur yellow seedling which gave promise of good points.

Avalanche and Bouquet des Dames are splendid whites that are still well able to hold their own, while it does not seem probable that the grand Edwin Molyneux will be superseded. William Tricker and Mrs. C. Harman Payne are both seen in capital form, and the same may safely be said of Colonel W. B. Smith, Lord Brooke, R. C. Kingston, Excelsior, and others far too numerous to mention. Considering the hundred and one things that must claim attention in such an extensive charge, the display provided by Mr. Wythes is an excellent one in every way, and such as cannot fail to elicit admiration and commendation from all who see it.



EVENTS OF THE WEEK.—The Committees of the Royal Horticultural Society will meet at the Drill Hall, James Street, Westminster, on the 27th inst., when another display of Chrysanthemums is anticipated. A few exhibitions remain to be held in northern districts, and the annual dinner of the National Chrysanthemum Society will be held at Anderton's Hotel, Fleet Street, on the 29th inst.

— **THE WEATHER IN LONDON.**—Changeable weather has again characterised the past week in the metropolis. Sunday was fine, but Monday opened foggy, with local showers. Tuesday proved fine, but it rained heavily at night, and Wednesday was dull and damp. Serious floods are prevalent in the Thames Valley, and thousands of acres of land are still under water, towns and villages in that district being inundated.

— **ROYAL HORTICULTURAL SOCIETY.**—At the next meeting of this Society, which will be held in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday next, November 27th, Mr. James Douglas will deliver a lecture on the "Principles of Judging at Flower Shows."

— **THE YORK GALA.**—The balance-sheet for 1894 shows an income from various sources of £2293, the gate money on the three days of the last exhibition amounting to nearly £1800. The expenditure includes prizes and Judges' fees, £654; music and amusements, £410; and tents, staging, and fittings, £390. During the years 1893 and 1894 nearly £560 have been given to the York charities, and the large amount of close upon £2300 stands to the Society's credit in investments and property.

— **GOLDEN WEDDING OF MR. AND MRS. BIDDLES.**—On Thursday last, the 15th inst., Mr. and Mrs. Biddles of Loughborough celebrated their golden wedding at the Middlefield Nurseries, when between eighty and ninety guests, including the employés, were entertained. Mr. Biddles is the head partner of the Penny Packet Seed Co. His health was proposed by Councillor Brett, the firm's manager, and enthusiastically received, the employés according musical honours.

— **HORTICULTURAL CLUB.**—The usual monthly meeting and conversazione took place on Tuesday in last week at the Hotel Windsor, Victoria Street, Westminster. The chair was occupied by Mr. C. E. Shea, and there were present Messrs. J. H. Pearson, C. E. Pearson, A. H. Pearson, Henry C. Seeborn, George Bunyard, George Paul, J. Asbee, H. Selfe-Lennard, J. E. Jeffries, Harry Turner, and others. A very interesting lecture was given by Mr. C. E. Pearson on the Flora and general characteristics of Iceland, from observations made during a recent visit to that island. He gave an account of the plants observed by him, and showed that the Flora is very similar to that of the British Isles. An interesting conversation took place afterwards, in which most of the members present joined. A vote of thanks was cordially given to Mr. Pearson.

— **GROS COLMAN GRAPE ON MADRESFIELD COURT.**—At Kidderminster Chrysanthemum show, held on the 13th and 14th inst., Mr. T. Pool, gardener to W. Hatton, Esq., Hill Grove, exhibited, with other Grapes, a bunch of Gros Colman, cut from a rod grafted on Madresfield Court. This showed a marked improvement in the berries, which were finer than usual, and of better colour than when this variety is grown on its own roots.—Y.

— **DESFONTANIA SPINOSA.**—It is certainly time to draw attention to any good shrub worth planting, and the above ought to find a place in all gardens of any size where choice plants find a place. It requires a sheltered position, and then proves perfectly hardy. We have a good sized bush here, although unfortunately it has been half smothered. It is, however, recovering fast, and in a year or two will be a very creditable plant 6 or 7 feet through. It grows freely in poor gravelly soil, and flowered fairly well during the past three or four years. This year it has been one mass of bloom. Its tube-shaped blooms of red and yellow were very effective.—W. B., *Osmaston Manor*.

— **MILD WEATHER IN DUBLIN.**—A correspondent writes:—"We have had a most wonderful mild November here. No frost to kill Castor Oil plants or Dahlias; abundance of rain, however."

— **A LARGE PEACH.**—What is the largest Peach on record? According to "Meehan's Monthly," Mr. W. A. G. Adams of Dallas, Texas, has raised "Chinese clings" 10½ inches in circumference.

— **BIRMINGHAM BOTANICAL GARDENS.**—We are informed that a large tract of ground, formerly used for exhibition at these Botanical Gardens, under an enormous tent, is now being converted into an alpine rockery garden, designed and planted by Messrs. James Backhouse and Son of York.

— **GARDENING APPOINTMENTS.**—Mr. James Clarke, for the last four years foreman at Roby Hall, Liverpool, has been appointed head gardener to Captain Trelawney, Shotwick Park, Chester. Mr. John Williams, late gardener for eight years to John Whitehead, Esq., Penwortham Priory, Greston, has been appointed gardener to W. H. King, Esq., The Brooklands, Garstang, Lancashire.

— **HIGHBURY GARDENS.**—Mr. William Earp, who succeeded the late Mr. E. Cooper as gardener to the Right Hon. Joseph Chamberlain, M.P., Highbury, Birmingham, is leaving to take up the active management of the Guildford Street, Nurseries, Hereford, of which he is now a proprietor, and the business will be carried on under the title of William Earp & Son. His successor at Highbury has been appointed, and Mr. H. A. Burberry retains entire charge of the Orchid department as usual.

— **OLEARIA HAASTI.**—Mr. W. Bardney writes:—"This plant is perfectly hardy, of dwarf compact growth, and flowers most profusely, in fact it is annually covered with its small white trusses of bloom. One advantage this plant possesses, and that is it flowers at a time when all other trees and shrubs have done. It is well worth a place at the front of shrubbery borders, or makes a very handsome bed. The plant appears to grow very well in all ordinary soil, but like the majority of other things, the better the preparation the stronger the plant grows."

— **METROPOLITAN PUBLIC GARDENS ASSOCIATION.**—At the monthly meeting of this association held recently, it was agreed to appeal for contributions towards the purchase of a recreation ground in West Ham, and playgrounds in Walworth and Deptford, S.E. Progress was reported in the laying out of the churchyards of St. Peter's, Walworth, and St. Mary's, Woolwich, and the wharf, Battersea, and in negotiations for the laying out of several other grounds; while among other matters brought before the meeting were questions relating to tree-cutting in Epping Forest and to tree-logging in London streets and gardens, the preservation of the site of a City church, the opening of Bessborough Gardens, S.W., and the acquisition of a strip of land belonging to the New River Company in Islington.

— **CYANASTRUM CORDIFOLIUM.**—According to a foreign contemporary "this is the sole representative of a new genus of Hæmodoraceæ, founded by Professor Oliver three years ago on a plant discovered in Lagos, West Tropical Africa, and figured and described in Hooker's "Icones Plantarum," t. 1965, where the Professor recommended it as a likely garden plant for tropical collections. It recently flowered for the first time in one of the stoves at Kew, and although not likely to please growers generally, it is, nevertheless, worth including in choice or botanical collections. It has a creeping rootstock, from which spring leaves 9 inches high, on erect peduncles 8 inches long, the blade 6 inches long, deeply heart-shaped and coloured shining green, of two shades. The flowers, which are purple, are borne on short erect scapes, and are an inch across, star-shaped, with six segments."

— **APODOLIRION ETTÆ.**—The genus Apodolirion is composed of six species of bulbous plants allied to Cooperia and Anoganthus, and confined to South Africa. They have tunicated bulbs, with leaves and flowers not unlike those of Crocus, coloured white or reddish. So far as I know, says a correspondent in the American "Garden and Forest," none of them had been introduced into cultivation until now, a few bulbs of A. Ettæ having lately been received at Kew from Natal, where this species is said to be rare and local. It was first described by Baker from a specimen collected in Natal and sent to Kew in 1885, the name being in compliment to a Miss Etta Stainbank. According to Mr. Baker, the flowers have a cylindrical tube 3 inches long, and a limb over an inch long, spreading as in Zephyranthes, and coloured white and rose. It is an interesting little plant, and a worthy addition to the smaller favourites among Cape bulbous plants.

— **CATALPAS.** — Which variety does your correspondent, W. Strugnell, allude to on page 367? Is it *C. syriaca* or the golden form aurea of this variety? There is also a variety known as *C. Bungei*. Am I right in concluding it is the former, with its large light green leaves? The golden form is a very handsome tree. We form this opinion of trees in a small state.—W. BARDNEY.

— **GRAFTING THE TOMATO ON THE POTATO.**—Seeing in your last issue (page 446) a paragraph relating to grafting the Tomato on the Potato, quoted from "Meehan's Monthly," it may be of interest to know that some years ago I received from Mr. John E. Jefferies a flourishing example of this. It was grafted late in the season, and although tubers were formed on the Potato it bore no Tomatoes, but it would probably have done so had the grafting been performed earlier in the season, as the haulm was about 2 feet high and bushy when the plant died.—JNO. MATTOCK.

— **SEED POTATOES.**—The mild open weather is likely to prove very trying to seed Potatoes, and may promote an all too early growth. There is no remedy in such cases but to keep the tubers dry and fully exposed to light and air. There has been of late so much of humidity that even such atmospheric moisture has sufficed to generate roots. Where a drier atmosphere can be obtained only by artificial heat, then the remedy may be worse than the disease, for warmth beyond what is natural only serves to force growth, and this it is so desirable to repress. Yet to rub out these premature growths in the hope of checking the tubers is an evil again. To spread out the tubers very thinly on shelves in a cool airy shed, and where it is light, or to have them set close together in single layers in shallow boxes are the best, indeed almost only ways of keeping sets in check and in condition of entire firmness. It is work that needs immediate attention.—A. D.

— **DOUBLE PRIMULAS.** — The splendid plants of these useful Primulas, shown recently at Kingston by Messrs. Mease and Mileham, two Leatherhead gardeners, serve to indicate how finely these may be grown for winter decoration if but fully understood; yet another Leatherhead gardener, Mr. Peters, sometimes shows them wonderfully well at Kingston. Mr. Mileham's plants were large, very profusely bloomed, but still rather past their best, as the heads had become loose. Mr. Mease's plants were, perhaps, hardly at their best, yet had fine heads of bloom, very beautiful, and they were finely foliaged. The sorts were White Lady and Marchioness of Exeter, and both splendid for furnishing pure white flowers for cutting; far before the best of any old double white. I hear that Mr. Mease purposes showing a collection of his plants at the Drill Hall on the 27th, when many persons will have an opportunity of seeing how finely those beautiful Primroses can be grown for winter blooming by those who understand them.—A. D.

— **WALTON, WEYBRIDGE, AND DISTRICT SOCIETY.** — The twentieth annual show of this Society was held on November 15th in the Public Hall, Walton, and taken all round it was a very good display of plants, flowers, and fruit. Mr. Swan, gardener to Murray Smith, Esq., took first prize for six trained plants, also for two trained Pompons, all grand specimens. Mr. Felgate was first for three trained plants. In the open class for forty-eight cut blooms Mr. G. Carpenter was a good first, Mr. Quarterman second, and Mr. Ridge third. In the class for eighteen Japanese and eighteen incurved blooms Mr. Quarterman was a splendid first, Mr. Hopkins second, and Mr. Carger third. The classes for reflexed Anemones, Pompons, and singles were well contested. There was also a good display of bouquets, floral ornaments, and table plants. Some of the most successful exhibitors were Messrs. Felgate, Cook, Hopkins, Swan, Ridge, Carger, Gardener, Pegram, and Cheeseman.—J. T.

— **NORTHAMPTON SHOW.**—A report of the show held in the Corn Exchange, Northampton, on the 7th and 8th inst., reached us too late for insertion. Mr. C. Orchard writes that on the whole it was a fine exhibition, the groups of Chrysanthemums having a very imposing appearance. Mr. J. Reeve, Cliftonville, was awarded the first prize for a group, and Mr. Guillam, Billing Road, had the best six trained plants; Mr. Manning also winning in another class. Cut blooms were good, and Mr. W. Pearce, gardener to S. Loder, Esq., Weedon, was first for eighteen incurved flowers, and also for the number of Japanese varieties. Table plants and Primulas made a good display, also did Grapes, Apples, Pears, and vegetables. The amateurs' productions were quite equal to the gardeners in many instances. Much praise is due to the Hon. Sec. (Mr. E. Draper) and his valuable assistants (Messrs. Fowkes, Stephens, and Gulliver) for the methodical arrangement of the exhibition.

— **WOOLTON GARDENERS' MUTUAL IMPROVEMENT SOCIETY.**—The usual fortnightly meeting was held in the Mechanics' Institute, Woolton, on Thursday in last week. Mr. G. H. Webster gave a most instructive paper on the cultivation of the Potato, and advocated the use of chemical manures, such as kainit and sulphate of ammonia. A vote of thanks to Mr. Webster closed the proceedings.—R. P. R.

— **PRUNUS PISSARDI.** — This is perhaps the best dark-leaved hardy plant grown. It retains its foliage long after the leaves of Purple Beech have fallen. It is also useful for planting where the Purple Beech would be out of place. It is a plant that contrasts admirably with *Acer Negundo variegata* either as bushes or standards. Both trees look well rising above evergreens of a dwarf nature. This *Prunus* can be kept in due bounds by cutting with a knife, which can be practised every spring, and must be done if it is planted to match the *Acer*, which does not make such luxuriant growth. The *Prunus* makes cleaner and freer growth when well pruned, and bolder foliage. It is well worth the attention of planters.—B.

— **SHIRLEY AND DISTRICTS GARDENERS' ASSOCIATION.**—The monthly meeting of this Association was held at Shirley, Southampton, on Monday, the 19th inst., the President, Mr. W. F. G. Spranger, presiding over a fair attendance of the members. Mr. C. W. Herbert Greaves, F.R.H.S., gave an interesting discourse on "Some Insect Pests and Fungi." The remedies recommended for the Potato disease were spraying with sulphate of copper, burning all haulm and weeds from infected plots, some weeds being liable to attack, the rotation of crops, and the selection of disease-resisting varieties for planting. Clubbing was also illustrated by diagrams, the use of gas-lime being said to be a good remedy on some soils, and also the planting of crops liable to club once only in five or six years on the same ground. A paper on the "Cultivation of the Eucharis" will be given next month by Mr. Jesse Jones, The Gardens, Terrace House, Southampton.

— **THE WINTER MOTH.**—I believe Mr. Hiam (page 425) and I have had some correspondence through the *Journal of Horticulture* about the above flying in pairs over grease bands. I have caught a number flying in this manner at different times, as a rule not far from the ground. Some years ago we had a strong proof that they were acting as stated amongst our dwarf fruit trees, all of which were grease-banded, and a man was employed doing nothing else but regreasing for weeks. No moths could pass over these bands without getting caught, yet eggs were deposited by millions in the trees, and the following spring we had the worst attack of caterpillars we ever had, either before or since. I spent hours night after night, when most people were in bed, watching to see how the moths got over the grease bands. All those which attempted that feat were settled, but great numbers got into the lowest branches by flying in pairs, and laid their eggs without hindrance. Since that year we have not grease-banded our dwarf trees, as it proved labour in vain. We have immense quantities of male moths now about the trees and hedgerows, but so far not many females have been seen, nor any great number of eggs; but if this mild weather continues we may expect more than enough of both. I saw the first male on October 8th, but until the last week comparatively few were about.—S. T. WRIGHT, *Glewston Court Gardens, Ross.*

— **BULLFINCHES.**—Many persons are under the erroneous impression that it is insects bullfinches seek and not fruit buds. From some years' experience I can testify that where bullfinches abound fruit, especially Damsons and Gooseberries, are scarcer in proportion. To substantiate my testimony I may relate the following:—Upon entering a situation as gardener a few years ago one of the first things my attention was drawn to by my employer (a lady) was the Damson trees. They were young, and appeared to be in good condition; but up to that time, from some unaccountable cause, they never bore fruit. Having satisfied myself as to the condition of their roots, which were satisfactory, I concluded that either the locality was subject to late frosts or that bullfinches were the cause of failure. However, when March set in my second supposition proved correct, for the bullfinches were thicker in the Damson trees than the fruit had been the previous September. I acquainted my employer of the discovery, and mentioned the only remedy—viz., caging or destroying. She was astonished, and could scarcely believe even when she saw them picking the buds, as she had never heard of fruit buds being destroyed by bullfinches. Being satisfied as to the cause of Damson failures, the choice then rested with my employer which should be sacrificed in future—the birds or the fruit; but on account of the pretty plumage of the former the balance for a time was in equilibrio, but, I need scarcely add, eventually turned in favour of the latter.—P. W. CHESHIRE.

CHRYSANTHEMUM SHOWS.

FARNHAM.—NOVEMBER 13TH AND 14TH.

AN exhibition of Chrysanthemums, fruit, and vegetables was held in the Corn Exchange, Farnham, on the above dates. The show may not have been quite so large as many others that were held last week in various localities, but the exhibits were certainly of a high quality. The arrangements were admirably carried out by the Hon. Secretary, Mr. F. Weller-Poley.

In the section for cut blooms the principal class appeared to be that in which a challenge cup accompanied the first prize. This was open to all except growers for sale within a radius of twelve miles of Farnham. Mrs. Anderson, Waverley Abbey, proved the winner, showing a fine stand of twenty-four Japanese and twelve incurved blooms. The varieties shown were—Japanese: Etoile de Lyon, Lord Brooke, William Seward, Thunberg, Miss Anna Hartshorn, Madame John Laing, Florence Davis, Mons. Bernard, Col. W. B. Smith, Chas. Davis, Meg Merrilies, W. A. Lincoln, Duke of York, Sunflower, Mrs. E. W. Clarke, Mrs. E. D. Adams, President Borel, Mrs. Alpheus Hardy, Boule d'Or, Avalanche, Carew Underwood, W. W. Coles, Improved W. H. Lincoln, Mr. A. H. Neve. Incurved: Mrs. S. Coleman, Empress of India, Hero of Stoke Newington, Miss M. A. Haggas, Mrs. Heale, Lucy Kendall, Violet Tomlin, Princess of Wales, Charles Gibson, Lady Dorothy, and Empress of India. Miss Kennedy was second in this class.

In another class for a similar number of blooms Sir William Rose, Moor Park, was placed first with a creditable stand, the thirty-six flowers being, on the whole, very good. Mrs. Anderson followed here with good flowers, the third prize going to Miss Kennedy. For a dozen Japanese blooms, distinct, Mr. A. W. Chapman, J.P., was first, the second prize going to Mr. E. Furse, Frensham Vale. Mrs. Anderson, Miss Kennedy, and Mr. G. Dolley won the prizes for six blooms.

For a collection of not less than thirty-six Chrysanthemums in pots, arranged in a semicircle, Sir William Rose was awarded the premier prize. This group was very good, as were those shown by Miss Kennedy, Mrs. Anderson, and Mr. A. W. Chapman. Mr. S. Mortimer, Swiss Nursery, Rowledge, won the first prize for a group of Chrysanthemums arranged for effect, Mr. Bide, Alma Nursery, being second, and Mr. J. Clarke, Albion Nursery, third. The two last named exhibitors won in the class for a group of miscellaneous plants.

Fruits and vegetables were also well shown, and Mr. Mortimer and Mr. Bide also had various not for competition exhibits.

HARTLEPOOL.—NOVEMBER 13TH.

ALTHOUGH only a local show it has been the means of stimulating the cultivation of the Chrysanthemum up to a high standard. Groups of Chrysanthemums were a fine feature, a healthy rivalry being shown in competition for the valuable silver challenge cup presented by the President of the Society, Alderman G. Pyman, J.P. Grapes and bouquets of Chrysanthemums were very well exhibited. Dinner table epergnes were much better done than those often seen at shows of greater magnitude and importance.

The first prize for a group of Chrysanthemums was awarded to an imposing collection of healthy plants, with fine fresh flowers, exhibited by Mr. T. Smith, the second prize falling to Mr. A. Taylor. Primulas were well represented, both single and double, the prizes falling to Messrs. Hayton and Read. Dinner table plants were of high quality, the prizes falling to Messrs. T. Patterson, C. Burton, and J. Smith in the order named.

Mr. A. Taylor, gardener to Alderman Launder, won for the third time the President's cup, which now becomes the property of the winner, with a good stand of twenty-four blooms, twelve incurved and twelve Japanese. His incurved flowers were as follows:—Queen of England, Empress of India, Lord Wolseley, Queen of England, Prince Alfred, Brookleigh Gem, Miss M. A. Haggas, Empress of India, Madame Darier, Violet Tomlin, Mrs. Heale, and Lord Wolseley. The Japanese were Mdle. Thérèse Rey, W. H. Lincoln, Vivian Morel, Mons. Bernard, W. Tricker, A. T. Ewing, C. Davis, G. C. Schwabe, Florence Davis, Sunflower, and W. H. Lincoln. The second prize was awarded to Mr. Jas. Hall, gardener to Alderman Pyman. The third prize went to Mr. Smith, gardener to W. Maclean, Esq.

Mr. A. Taylor again secured first honours for twenty-four distinct Chrysanthemums as follows:—Incurved: Lord Alcester, Lord Wolseley, Queen of England, Empress of India, Prince Alfred, Miss M. A. Haggas, Jeanne d'Arc, Golden Empress, Princess of Teck, Madame Darier, Mrs. Heale, Violet Tomlin. Japanese: Florence Davis, W. Tricker, Mdle. Thérèse Rey, Mrs. H. Payne, Gloire du Rocher, W. T. Ewing, W. D. Atkinson, Etoile de Lyon, W. H. Lincoln, Col. B. Smith, and Vivian Morel.

KIDDERMINSTER.—NOVEMBER 13TH AND 14TH.

THE second annual show of the Kidderminster St. George's Institute Chrysanthemum Society was held in the Town Hall on the above dates, and proved to be a marked improvement on the exhibition of last year. Not only Chrysanthemums, but winter flowering plants generally, also fruit and vegetables, are given good encouragement, so what with liberal prizes and a large number of classes, coupled with the efficiency of a hardworking Committee, a large number of entries is the result.

The honorary exhibits were a feature of this exhibition, and added greatly to its effect. The large groups of Chrysanthemums and miscellaneous plants sent by W. Hatton, Esq., Hill Grove, Kidderminster (gardener, Mr. T. Pool), and Sir Thos. Lea, Bart. (gardener, Mr. Kemp),

with grand blooms of incurved and Japanese Chrysanthemums by R. P. Martin, Esq., M.P. (gardener, Mr. Harvey), formed quite a feature. Special notice must be given to the dozen fine bunches of Grapes contributed by W. Hatton, Esq. In the miscellaneous honorary group of plants exhibited by this gentleman were half a dozen plants of *Cypripedium insigne*, each carrying about sixty flowers.

The principal prize was for a group of Chrysanthemums, flowering and foliage plants, to the money prize being added a special prize of a silver medal, presented by F. Elkington, Esq. The competition was very keen, there being seven entries. The first prize was awarded to E. Smith, Esq., The Heath, Bewdley (gardener, Mr. J. Bugby), who had very fine arrangement. Mr. William Shaw, Blakebrook, Kidderminster, came second; and M. Brown-Westhead, Esq., Lea Castle, Kidderminster (gardener, Mr. Farrant), third. For a group of Chrysanthemums only the second prize was awarded, and this to Mrs. C. Mayne (gardener, J. Smith). Three specimen plants of Japanese, the Bishop of Worcester (gardener, Mr. Whiteman) gained the first prize.

The cut bloom classes were well filled. In the class for twenty-four blooms, half to be Japanese and the remainder incurved, Mrs. W. B. Nash, Severn House, Bewdley (gardener, Mr. S. Wallis), was awarded the premier position. Amongst the Japanese were full, good coloured, and well finished blooms of Charles Davis, Vivian Morel, Sunflower, Mdle. Thérèse Rey, Beauty of Exmouth, and W. H. Lincoln. The best incurved were Miss Haggas, Madame Darier, Robert Petfield, Brookleigh Gem, Empress of India, Princess of Wales, and Baron Hirsch. The second prize went to J. R. Goodwin, Esq., J.P. (gardener, W. T. Hooper).

For twelve Japanese, distinct, A. Baldwin, Esq., M.P., Wilden House, Stourport (gardener, Mr. F. Walters), came first for a really good stand of blooms. Mrs. C. Mayne (gardener, Mr. J. Smith), was second; and E. C. Newmarch, Esq. (gardener, Mr. J. Woodbury), third. For twelve blooms, half Japanese and half incurved, Mrs. C. Mayne (gardener, J. Smith) came first; Mr. F. Walters second; and the Bishop of Worcester (gardener, G. Whiteman) third. Six blooms of Florence Davis, Mr. S. Wallis and Mr. J. Smith divided the honours.

For the best arranged epergne, hand bouquet, sprays, and button-holes, Mr. G. Barratt came first in each class, followed by Mr. W. Shaw. Primulas were best shown by Mr. G. Whiteman, and Zonal Pelargoniums by Mr. J. Steward. Mr. W. Shaw and Mr. J. Smith also won prizes.

Fruit and vegetables were well exhibited, and the Chrysanthemum classes, open to amateurs, were filled. Mention must also be made of the fine group of plants provided for the decoration of the orchestra by Mr. W. Shaw, also the fine collection of Apples and Pears exhibited not for competition by Messrs. W. B. Rowe & Co., Worcester. Mr. H. Turley carries out admirably the duties of Secretary, and for a comparatively new Society the arrangements are admirable in every way.

HULL.—NOVEMBER 14TH AND 15TH.

IF "Progress" is not the motto of the Hull and East Riding Chrysanthemum Society it might well be, for since its foundation eleven years ago it has moved steadily onward. Each year has brought its improvement with unflinching regularity, and this last has proved no exception to the rule. This is not surprising when the handsome prizes are taken into consideration, and, in addition, the admirable manner in which the shows are managed. Each and everyone seem to be pulling the same way, and as many, if not all, pull very hard, things are bound to go forward. When all are doing their utmost to make everything run smoothly it seems unfair to single out any particular persons, and yet when mention is made of Messrs. E. Harland and J. Dixon (the latter of whom has been heard to declare it is his annual holiday, though we hope he has an extra day or two when there is not quite so much work about), the Honorary Secretaries, and Mr. C. Judge, one of the Honorary Treasurers, none will say that it is undeserved, for they are simply indefatigable in their endeavours to do all things well. Others there are of whom precisely the same might be said, but they it is certain will not be jealous because their colleagues are "in print" while they are left out in the cold.

We have previously had occasion to mention with the highest approbation the punctuality with which the Judges are enabled to commence their duties, but notwithstanding this we do not hesitate to do so once more. The rule is that everyone shall have finished staging by ten o'clock, and ten minutes previous to that time Mr. Dixon takes his bell—acts, in fact, a sort of "Show Crier," and gives "warning." Everyone knows what this means, and is ready for a prompt exit when the same gentleman with the same bell makes his appearance as the hands of the clock point to ten, and announces, with a significant glance towards the door, "All out, please!" While lauding the Society, its methods, and its officers, a few lines may well be devoted to the exceptional promptitude with which a complete prize list is published. Let us take the present as our example. At ten o'clock the judging is commenced. As each class is done the names of the successful competitors are despatched direct to the printers, who immediately put them in type, and thus within a very few moments after the adjudication is finished all the names are set up and put on the machines. Very shortly after one o'clock the whole is complete and in the hands of the Secretaries for sale in the show and distribution among the Judges and the representatives of the press, and to the latter it need scarcely be mentioned is a very great boon. Why cannot other societies adopt these excellent and business-like methods? If it did not pay it would not be done by the wideawake officials at Hull.

Extensive as are the Artillery Barracks where the show is held, the space is by no means too great. One part of the building is devoted exclusively to the groups, another to the cut flowers, a third to the table decorations and bouquets, and a fourth to the trained plants, of which a good show is made. The Japanese blooms, taken as a whole, formed the best feature, the groups following very closely, and then the incurved. The blooms representing the first named were splendidly coloured, fresh, good shaped, and finely finished; while the reputation of the Hull groups needs no words of ours to teach English Chrysanthemum growers of their beauty. The incurved blooms were excellent, though not quite up to the standard of last year as regards size, but what was lacking in this respect was amply made up for in finish, form, colour, and general elegance. Anemone-flowered varieties were remarkably well staged, while the table decorations were models of lightness and grace, and in every way creditable to the exhibitors. The brief notes given in our last issue lacked particulars of varieties, and we propose to furnish these now. Though there will necessarily be some slight repetition, it will be seen to be unavoidable if a full report is given.

OPEN CLASSES.

Groups.—One of the chief features of this show is the group of Chrysanthemum and foliage plants, arranged for effect in a space not exceeding 100 square feet. This always brings strong competition, and this year six exhibits were shown, though the one arranged by the Hull Corporation Parks Committee was not actually in competition, for had it been it would have received the fourth prize. In addition to the first prize in this class Sir James Reckitt offers a silver challenge vase of a value of 20 guineas, which has to be won three times before becoming absolute property. It is a handsome piece of work, and it cannot be wondered at that it provokes such rivalry. This fine prize went to Mr. G. C. Coates, gardener to W. Wheatley, Esq., Anlaby Road, Hull, who was also successful last year. The more credit is due to this exhibitor from the fact that all the plants utilised had been grown within the town, and under all the deleterious effects of an impure atmosphere. Excellent taste had been displayed in the placing of the various plants to insure a harmonious blending of the colours. Ferns, Crotons, Palms, Dracænas, and Asparagus had all been judiciously used, and the Chrysanthemums, which comprised Vivian Morel, Charles Davis, Lord Brooke, Colonel W. B. Smith, Florence Davis, and Sunflower amongst others, were splendid examples of proper methods of cultivation. The second position was assigned to Mr. Gledhill Cottom, jun., Alma Gardens, Cottingham, who was very little behind the one previously named. His Chrysanthemums were not, perhaps, quite so fine, though quite equal to what are usually seen in groups. The varieties included Vivian Morel, Etoile de Lyon, W. H. Lincoln, Edwin Molyneux, Sunflower, and Avalanche. Foliage plants were represented by Palms, Ferns, Crotons, Aralias, and others, all proving good cultivation. The third position went to Mr. A. Pike, gardener to C. H. Wilson, Esq., M.P., Warter Priory, Pocklington, whose arrangement was, in comparison with the others, somewhat heavy. The plants contained therein were well grown, and carrying highly creditable flowers. The fourth prize was accorded to Mr. G. Poulsen, The Nurseries, Hull Road, Cottingham, who showed in capital form. The group staged by the Parks Committee of the Hull Corporation was very beautiful, and many fine plants and flowers were noticeable. The best of the Chrysanthemums displayed were W. H. Lincoln, Florence Davis, Vivian Morel, Etoile de Lyon, and Colonel W. B. Smith.

For a group of miscellaneous plants, arranged for effect in a space not exceeding 100 square feet, there were three competitors for the two prizes offered. Mr. G. Wilson, gardener to Sir Jas. Reckitt, Bart., Swanland Manor, Brough, was placed first with a very beautiful arrangement. The centre was an Asparagus-covered mound, out of which Calanthes were rising, the whole being crowned with a handsome Palm. Four corner plants were found in Crotons on a single stem about 5 feet high, feathered down to the pot, and were splendid examples of high culture. Other plants utilised were small Ferns, Cyrtipediums, Eulalia japonica zebrina, and Coleuses, all in excellent health. The second position was taken by Mr. F. Mason, gardener to A. Smith, Esq., Woodleigh, Hessle, whose group comprised Crotons, Palms, Orchids, Bouvardias, Roman Hyacinths, Liliums, and others, but was rather heavy in the arrangement.

Cut Blooms.—The various classes in this section were well filled, and the quality throughout ranged very high. One of the principal classes was for twenty-four incurved in not less than eighteen varieties, and with the first prize of which was a silver cup, value 5 guineas. Only two stands were staged. Messrs. J. R. Pearson & Sons, Chilwell, Notts, were first with an even exhibit, composed of Lord Alcester (2), Princess of Wales (2), Jeanne d'Arc, Mrs. Robinson King, Empress of India (2), Lady Dorothy, John Lambert (2), Miss Violet Tomlin, Miss M. A. Haggas (2), Queen of England, Golden Empress, Alfred Salter (2), Mrs. S. Coleman (2), Princess Teck, Mrs. Heale, Lucy Kendall, and John Salter. Though not of very large size, the blooms in this stand were well coloured, good shaped, and finely finished. Mr. D. Forbes, gardener to A. Holt, Esq., Crofton, Aigburth, Liverpool, was second. His stand contained Mrs. Robinson King, Empress of India, Queen of England, J. Lambert, Miss Violet Tomlin, Beauty, Lord Alcester, Golden Empress, and Miss M. A. Haggas amongst others, all highly creditable to their grower.

In the class for twelve distinct incurved there were five competitors. Mr. W. H. Lees, gardener to F. A. Bevan, Esq., Trent Park, New Barnet, was a splendid first with Miss Violet Tomlin, Jeanne d'Arc,

Brookleigh Gem, Miss M. A. Haggas, Hero of Stoke Newington, Mrs. Mitchell, Madame Darier, Princess Teck, Princess of Wales, Barbara, Mrs. S. Coleman, and Lady Dorothy, almost all of which were well coloured and of good shape. Mr. G. W. Musk, gardener to Lord de Ramsey, Haverland Hall, Norwich, was a good second. Mrs. S. Coleman, Lord Alcester, Miss Violet Tomlin, Miss M. A. Haggas, Empress of India, and Princess of Wales were amongst the best. Mr. J. R. Leadbetter, gardener to A. Wilson, Esq., Tranby Croft, Hull, was third with a fair stand.

The 5-guinea cup and first prize in the class for twenty-four distinct Japanese went to Mr. W. H. Lees, who showed in superb form the following varieties—Vivian Morel, Florence Davis, Le Prince du Bois, Mrs. W. H. Lees, President Borel, Niveus, Edwin Molyneux, Madame Charles Capitante, G. C. Schwabe, Beauty of Castlewood, Mrs. E. G. Whittle, Souvenir de Petite Amie, Henri Jacotot, L'Isère, Mrs. E. W. Clarke, Primrose League, Mrs. C. Harman Payne, Madame Ad. Chatin, Etoile de Lyon, Mdle. Thérèse Rey, Beauté Toulousaine, Miss Dorothy Shea, W. H. Lincoln, and Madame Octavie Mirbeau. Mr. W. Wells, Earlswold Nurseries, Red Hill, was second with good examples of Vivian Morel, Charles Davis, W. H. Lincoln, Robert Owen, Alice Seward, Lord Brooke, Duchess of York, and Mrs. Libbie Allen. The third prize was taken by Messrs. J. R. Pearson & Sons with a fair stand, in which Florence Davis, W. H. Lincoln, Mdle. Thérèse Rey, Duchess of York, Mrs. Falconer Jameson, and Primrose League.

Mr. W. H. Lees was again first for twelve Japanese, in distinct varieties, with Mrs. C. Harman Payne, L'Isère, Charles Blick, Charles Davis, Vivian Morel, Mdle. Thérèse Rey, Etoile de Lyon, Beauty of Castlewood, Mons. Bernard, Mrs. E. W. Clarke, W. H. Lincoln, and Souvenir de Petite Amie. All the blooms in this stand were remarkably fresh and well coloured. Mr. R. Willey, gardener to C. J. Ringrose, Esq., Cottingham Grange, was second. Florence Davis, Mrs. C. Harman Payne, Etoile de Lyon, W. W. Coles, and Vivian Morel were amongst the best blooms in the stand. Mr. G. W. Musk was a good third.

One of the novelties of the Hull show is a class for twenty-five Japanese, distinct, arranged with or without foliage for effect on a table 6 feet by 2½ feet, the object being to encourage a more graceful method of showing first quality blooms. Considering the space at disposal, the exhibit of Mr. J. R. Leadbetter was very creditable. His Chrysanthemums were grand, but the size of the table does not apparently leave sufficient latitude for taste in arrangement. Messrs. G. Wilson and G. Picker were second and third respectively.

The premier position for two bunches each of Mrs. G. Rundle, Mrs. Dixon, and George Glenny, went to Mr. V. Waterhouse, gardener to H. Witty, Esq., The Wellingtonias, Cottingham, with good examples. Mr. W. Goodhill, Trinity Street, Hull, was second, and Mr. A. Drewery, gardener to E. Harland, Esq., The Sycamores, Cottingham, being third. For twelve Anemones, in not less than six varieties, Mr. F. Mason was first with Annie Lowe, Lady Margaret, Glück, Delaware, John Thorpe, and Judge Benedict. Mr. R. Walker, gardener to Col. S. Clitherow, Hotham Hall, Brough, was second, and Mr. G. B. Burrows, gardener to Sir H. Bennett, Westland, Grimsby, third. Mr. F. Mason was first for twelve Japanese Anemones with fine examples of Fabiana de Mediana, Jean Marty, Dame Blanche, Nelson, Madame R. Owen, Sabine, and others. Mr. M. Murchison, gardener to F. B. Grotrian, Esq., West Hill House, Hessle, was second, and Mr. G. B. Burrows third.

Reflexed blooms were shown in splendid condition. Mr. R. Walker was first in the class for twelve in not less than six varieties. Pink and Peach Christines, King of Crimson, Cullingfordi, Chevalier Damage, and Cloth of Gold were all good. Mr. G. B. Burrows was a close second, Mr. A. Drewery a good third. The last-named exhibitor was first for twelve blooms of sweet-scented varieties, and Mr. R. Walker third. Mr. A. Drewery took the first and only prize for twelve bunches of Pompons as grown with a charming stand, and repeated this performance in the class for twelve bunches of singles, Mr. W. Wells being a good second.

To illustrate the decorative value of Chrysanthemums prizes were offered for a table of bouquets, wreaths, sprays, buttonholes, or other floral arrangements in which only Chrysanthemum flowers could be utilised. Messrs. C. Colebrook & Sons, Royal Nurseries, Grimsby, were deservedly accorded the first prize with a most beautiful exhibit; Mr. H. H. Taylor, Newland Nurseries, Hull, being second, and Mr. G. Cottam, jun., third. Mr. H. H. Taylor was first for a bouquet of Chrysanthemums, Mr. G. Wilson being second, and Miss Taylor, Newland, Hull, third, each with charming arrangements.

Plants in Pots.—These were extensively shown, but the effect was marred, as before noted, by the barriers used. For three trained specimens, Messrs. H. H. Taylor, G. C. Coates, and Mr. W. Mason, gardener to Lieut.-Col. A. K. Dibb, Kirk Ella, took the prizes in the order of their names. The latter was first for three standard trained plants, Mr. J. W. Backhouse, The Bar, Beverley, being second, and Mr. H. H. Taylor third. For six bush-trained specimens, distinct, Mr. W. Goodhill was first with Vivian Morel, Wm. Tricker, Mons. Bernard, Val d'Andorre, Avalanche, and Madame de Sevin, all finely grown. Mr. H. H. Taylor was a good second, and Mr. H. Thompson, gardener to F. Grewyer, Esq., Ivy Villa, Ganstead, a poor third. For three bush plants Mr. W. Goodhill was again first with Vivian Morel, Val d'Andorre, Mdle. Lacroix, all good, and Mr. H. H. Taylor second.

Mr. H. H. Taylor was first for six cut-backs with magnificent examples of Vivian Morel and Florence; Messrs. H. Willey and G. C. Coates were second and third as named. For three bush plants, open only to amateurs or single-handed gardeners, Mr. R. Smith, gardener to

H. Samman, Esq., Beverley, was first, and Mr. J. M. Clarke, gardener to A. Mayfield, Esq., Beverley Road, Hull, second. For three trained specimens, subject to the same restrictions as the previous class, Mr. J. M. Clarke was first, Mr. G. C. Coates second, and Mr. W. Higgins, 28, Maple Street, Hull, third.

DISTRICT CLASSES.

These classes were open only to residents in the East Riding of Yorkshire and within twenty miles of Hull in Lincolnshire. Many of the blooms staged were of excellent quality and highly creditable to their growers and the show. For twelve incurved, distinct, Mr. J. R. Leadbetter was a capital first with Alfred Salter, Golden Empress, Prince Alfred, Empress of India, Miss Bella Wilson, Mrs. S. Coleman, Queen of England, Lord Alcester, Princess of Wales, Mrs. Heale, and Miss Violet Tomlin. Mr. G. Wilson, the only other competitor, was a good second. In this class Messrs. E. P. Dixon and Sons gave a silver cup value two guineas with the first prize. Mr. J. R. Leadbetter was again first for twelve incurved in not less than nine varieties, with John Lambert, Mrs. Heale, Prince Alfred, Miss Violet Tomlin, Golden Empress, Madame Darier, Empress of India, Alfred Salter, and Lord Alcester, each in good condition.

Messrs. E. P. Dixon & Sons offered another silver cup of the same value as the one previously named for twelve Japanese, distinct, and it was won by Mr. J. Backhouse, North Bar Street, Beverley, who showed Chas. Davis, Mrs. C. Harman Payne, Amos Perry, Florence Davis, Louise, Edwin Molyneux, Miss Dorothy Shea, Marie Hoste, Kentish Yellow, Vivian Morel, Chas. Shea, and Stanstead White. These blooms were well coloured and finished. Mr. G. B. Burrows was second, and Mr. J. R. Leadbetter third.

Mr. W. E. Martin offered three prizes for twelve Japanese, in not less than nine varieties, and the first prize was taken by Mr. R. Walker with Vivian Morel, Etoile de Lyon, Sunflower, Chas. Davis, W. W. Coles, Marie Hoste, Mdle. Thérèse Rey, Wm. Tricker, W. H. Lincoln, and Avalanche; Mr. J. R. Leadbetter being second, and Mr. G. Wilson third. In the class for twelve incurved in not less than six varieties, Mr. V. Waterhouse was first with John Lambert, Miss Violet Tomlin, Lord Alcester, Miss M. A. Haggas, Queen of England, Empress of India, Baron Hirsch, Golden Empress, and Prince Alfred, each in good form. Mr. W. H. Clark, gardener to Miss Veal, Westland Corner, Bargate, Grimsby, was second, and Mr. J. Hare, gardener to John A. Hudson, Esq., Longcroft, Beverley, third. Mr. G. R. Walker was also first for twelve Japanese in not less than six varieties, staging Sunflower, Chas. Davis, Wm. Tricker, Florence Davis, Vivian Morel, Edwin Molyneux, Marie Hoste, Etoile de Lyon, W. H. Lincoln, Mrs. C. Harman Payne, Duke of York, and Avalanche. Mr. W. Gillett, 96, Plane Street, Hull, was second, and Mr. W. H. Clark third. These two classes were restricted to amateurs or single-handed gardeners.

AMATEURS' CLASSES.

Fourteen classes were provided for the amateurs, and they staged good flowers in large numbers. Though they were extensive the quality was exceptionally good, especially, of course, in the Japanese section. In the class for twelve incurved, in not less than six distinct varieties, Mr. W. Gillett, Plane Street, Hull, was first; Mr. W. H. Clark, Somerscales Street, Hull, being third. No name could be found to the stand that was accorded the second prize. Mr. W. Gillett was again first for twelve Japanese, in not less than nine varieties, and his flowers of Chas. Davis, Duke of York, The Tribune, Beauty of Exmouth, Wm. Tricker, Vivian Morel, Wm. Seward, Lord Brooke, Alberic Lunden, and Sarah Owen were very good indeed. Mr. W. H. Clark was a good second, and Mr. J. W. Bearpark, Great Thornton Street, Hull, third.

Only two stands were staged in the class for six reflexed, Messrs. J. W. Bearpark and W. Gillett taking the prizes. Mr. J. Melbourne, Albert Avenue, Anlaby Road, Hull, was first for six Anemone-flowered varieties, Mr. W. H. Clark being second, and Mr. W. Gillett third. Mr. J. Melbourne was first for six bunches of Pompons, Mr. J. W. Bearpark being second, and the Rev. W. M. Bennett, Elloughton Vicarage, Brough, third. For twelve blooms of any varieties Messrs. J. Melbourne, W. Gillett, and the Rev. W. M. Bennett took the prizes as their names are given. Messrs. R. Thirsk, Grove Hill Road, Beverley, J. Melbourne, and R. Petch, Prospect Street, Hull, were the successful competitors in the class for six blooms; while for thirteen Messrs. R. Thirsk, J. W. Bearpark, and the Rev. W. M. Bennett were the prizewinners.

Pot plants were well shown in this section, the exhibits proving skill and care on the part of the growers. Different styles of training were displayed in the various classes, and Messrs. R. Petch, R. Thirsk, W. Higgins, W. H. Clark, W. H. Young, F. Pope, and J. Melbourne were the most successful exhibitors.

LADIES' CLASSES.

The classes open only to ladies are extremely popular at Hull show, and the most exquisite taste is displayed in the arrangement of the flowers. To increase the interest in this section George Bohn, Esq., offers a piece of challenge plate, to be held by the winner for a year, and not becoming absolute property until it has been won three times, not necessarily consecutively. The value of this is 5 guineas, while in addition the Society give 4 guineas. Mrs. Topham, Hotham Hall, Brough, was the successful competitor in the class for a dessert table laid for six persons, fruit being allowed, Chrysanthemums and any kind of foliage could be utilised, and gained the above handsome awards. The arrangement was light and extremely graceful, and thoroughly deserved the high position accorded to it. The second, third, and fourth prizes went to Mrs. H. L. Leonard, Ivy House, Preston; Mrs.

T. F. Judge, Helmsley, Cottingham; and Miss Ayre, The Cottage, Hessle, as named. For a hand bouquet of Chrysanthemums and foliage Miss Judge, Brooklands, Newland, Hull, was first. Mrs. W. H. Clark, Somerscales Street, Hull, second; and Miss Mabel Ayre third. The prizewinners in the remaining classes were Miss M. Ayre, Miss Judge, Mrs. E. Harlands, and Miss Elsie Todd, Tranby Park. Master G. Cottam was first in the children's class for the most tasteful arrangement of Chrysanthemum flowers, Miss M. E. Dixon being second, and Miss E. Young third.

MISCELLANEOUS EXHIBITS.

These were not very numerous, but of uniformly good quality, and comprised bulbs from Mr. W. E. Martin, Market Place, Hull; Zonal Pelargoniums and Chrysanthemums from Messrs. H. Cannell & Sons, Swanley and Eynsford; Chrysanthemums from Mr. W. Wells, Earlswood Nurseries, Redhill; Chrysanthemums and other plants from Mr. Walton, Newland Toft Nursery; Orchids from Mr. J. W. Wilson, South Cave; Coniferous and other plants from Messrs. E. P. Dixon and Sons, Hull; and very beautiful bunches of Pompons from the Hull Corporation.

BRISTOL.—NOVEMBER 14TH AND 15TH.

THIS Society held their thirty-first exhibition of Chrysanthemums in the Colston Hall, Bristol, on the 14th and 15th inst. Specimen plants were not strong in numbers, but some good examples were shown by Mr. J. Ayres, gardener to Mrs. Gibson, Clifton, who was the most successful exhibitor in this section. Japanese blooms were numerous, and in most instances staged in good condition. Incurved varieties were less numerous, but of fair average merit. Hardy fruits were abundant and of excellent quality, Grapes also being well shown.

There were four entries for groups of Chrysanthemums, Mr. J. Marshall, gardener to J. Dole, Esq., taking the premier award with a well arranged group, having many good blooms; J. C. Godwin, Esq. (gardener, Mr. J. Maculloch) second, and A. Shipley, Esq., third. In the class for groups arranged with Palms and Ferns Mr. Bannister, gardener to H. St. V. Ames, Esq., was rather an easy winner, J. B. Brain, Esq. (gardener, Mr. J. Attwell), being second, and J. Saunders, Esq., third. Prizes were also offered for a bank of miscellaneous plants, excluding Chrysanthemums, J. Saunders, Esq. (gardener, Mr. J. Newbery), winning the first prize with a very good collection, including many fine Orchids. Ornamental foliage plants and Primulas were all well shown.

For twenty-four blooms incurved, not less than eighteen varieties, Mr. J. Dumble, gardener to Sir Chas. Phillips, Bart., Picton Castle, was first, showing some good flowers of the following:—Queen of England, Mrs. R. King, Mrs. J. Colman, John Lambert, J. Doughty, Jeanne d'Arc, Prince Alfred, Empress of India, Lucy Kendall, Golden Empress, Brookleigh Gem, Miss Haggas, Lord Wolseley, Lord Alcester, Princess of Wales, Lady Dorothy, Miss Violet Tomlin, and Princess of Teck; Mr. J. Bayliss taking second honours, and W. M. Baker, Esq., third. W. Meath Baker, Esq. (gardener, Mr. J. Aplin), was first with twelve, R. Whitehead, Esq., second, and Mr. G. Bayliss third. W. Pethick, Esq., was placed first for six incurved, Lord Justice Lopes being first for twelve large flowered Anemone blooms, and also first for twelve reflexed.

Mrs. Beddoes (gardener, Mr. A. Holbrook) was awarded first prize for twenty-four Japanese, distinct, showing good Vivian Morel, Lord Brook, Stanstead White, Mr. F. L. Ames, Mons. Bernard, Mrs. Bruce Findlay, Miss Dorothy Shea, Etoile de Lyon, Mdle. Thérèse Rey, Mrs. Adams, Mrs. F. Jameson, E. Lonsdale, Robert Owen, Duke of York, Marie Hoste, Mrs. Harman Payne, G. C. Schwabe, Golden Wedding, Colonel Smith, Sunflower, White Louis Boehmer, Primrose League, Edwin Molyneux, and R. Cleveland; W. M. Baker, Esq., second, and Mr. J. Marshall third. Mr. Robinson, gardener to Lord Justice Lopes, was first with twelve Japanese incurved; F. Tagart, Esq., being second. Mrs. H. A. Smith won with twelve Japanese distinct; Mr. A. K. Bailey second, and W. Pethick, Esq., third. For six new Japanese Mrs. Beddoes was placed first, Lord Justice Lopes being second.

In the class for eight varieties, three blooms of each in bunches, arranged on a groundwork of Ferns, J. Hole, Esq., won rather easily, Mrs. Beddoes being second, E. W. Pillers, Esq., being third. The silver medal of the National Chrysanthemum Society for the best bloom in the show was awarded to Captain Marling for a good flower of Florence Davis.

Mr. Bannister was the winner of the Veitch Memorial prize of £5 and medal for twenty-four varieties of Apples, and twelve of Pears.

A sale of plants, fruits, and cut flowers was held during the exhibition on behalf of the Bath and Bristol branch of the Gardeners' Royal Benevolent Institution.

DUBLIN.—NOVEMBER 14TH AND 15TH.

WITH reports of gales and floods prevailing over the Midland and Southern counties of England, our winter show has been favoured by fine weather. Held in the commodious premises of the Royal Horticultural Society of Ireland at Ball's Bridge, there was room and to spare, though several new features were added this time in the way of exhibits of horticultural appliances arranged under the galleries. The new Secretary, Mr. G. M. Ross, earned the thanks of exhibitors and the public by having a neat catalogue of the exhibits and awards published in the buildings on the first day, his arrangements by which the exhibits were placed in the consecutive order of the schedule greatly facilitated inspection and comparison. Compared with last year a falling off in the

plant entries was noticeable, three classes being vacant, amongst the cut blooms competition was keener.

In the section for Chrysanthemums in pots Lord Ardilaun's prize for a group of not exceeding thirty-six plants, staged on a space of 15 feet by 8, was easily taken by Mr. McKenzie, gardener to Mrs. Pease of Willow Park, with brightly coloured, well foliaged plants, arranged in a free and graceful manner. Mr. Byrne, gardener to J. R. Stewart, Esq., was second with even fresh-looking plants. For a group arranged on a

King (very fine), Princess of Wales and Jardin des Plantes. Amongst his Japanese the refined and elegant Colonel Chase was much admired. The second and third prizes went respectively to W. P. Lloyd Vaughan, Esq., (gardener, Mr. Tobie) and Mr. McKenzie. Class 9 was the principal event of the show, and those who saw the huge challenge cup, valued at twenty sovereigns, presented by the gardeners of Ireland, for twenty-four distinct Japanese, could not fail to think so. Mr. Crawford, too, secured this trophy; if he has taken the advice given has purchased



FIG. 72.—CHRYSANTHEMUM MISS MAGGIE BLENKIRON. (See page 468.)

space of 50 superficial feet, the challenge cup, also presented by Lord Ardilaun, was taken by Mr. Toner for J. M'Entaggart, Esq., Miss Tisdall being second. The first prize for the specimen plant was easily taken by the grand W. H. Lincoln from Willow Park, mentioned in previous notes as being 5 feet 3 inches across. J. M'Entaggart, Esq., was second.

The Waterhouse challenge cup for eighteen Japanese and eighteen incurved cut blooms, not more than two of any variety, brought up nine competitors. Mr. Crawford, gardener to the Earl of Pembroke, Mount Merion, took first honours, the strongest feature in his stand being the incurved, the best of which were Mons. R. Bahuant (2), Mrs. Heale, Jeanne d'Arc Alf. Salter, Baron Hirsch, Miss Haggas, Mrs. Robinson

a blunderbuss to keep his charge inviolate for the next twelve months at least. Staged on the regulation boards of the Royal Horticultural Society of Ireland which, 2½ feet in depth, allow of four rows as against three in London. His back row consisted of Etoile de Lyon, Mrs. E. W. Clarke, Mdle. Marie Hoste, E. Molyneux, Princess Victoria and Mrs. C. H. Payne. Second row: Mdle. Thérèse Rey, Charles Davis, Mrs. Hubbuck, Violetta (fine), President Borel, Viscountess Hambledon (a grand bloom). Third row: Van der Heede, Sunflower, Florence Davis, Silver King, Princess May, Miss Dorothy Shea. Front row: Primrose League, A. Lunden, Colonel Chase, Mrs. F. Jameson, Louisa and Excelsior. Mr. Bradshaw, for the Marquis of Downshire, took second honours. In this stand were fine blooms of Mrs. E. D. Adams,

Mrs. J. Clarke and Stanstead White. Mr. Fernie, gardener to R. de la Poer, Esq., was third. Six competitors staged for this trophy.

For the prize given by J. G. Nutting, Esq., J.P., five competed. This class was for thirty-six Japanese, in not less than eighteen varieties nor more than two of any one kind. Here again Mr. Crawford led the way with an even stand, with Mr. Fernie and Mr. Bradshaw at his heels. The class for twenty-four incurved blooms, in twelve varieties, brought out four stands; and Messrs. Crawford, Tobie, and Bradshaw swept the board in the order named. For twelve incurved, in six varieties, eight stands were staged, the first prize going to R. McComas, Esq. (gardener, Mr. O'Connor), with even well finished blooms. Mr. J. H. Cumming, gardener to Lord Gough, was second, having fine examples of Golden Empress in his stand; and Mr. McKellar, gardener to Viscount Ashbrook, was third.

For twenty-four reflexed blooms Mr. McKenna, gardener to Lady E. Bury, was first; Robt. McMullen, Esq., second; and Mr. Egan, gardener to A. Robertson, Esq., third. For twelve reflexed Mr. Cumming and Mr. Taylor were awarded first and second. For twelve Japanese, in six varieties, eight competitors staged, Messrs. Cumming, Taylor, and O'Connor taking the lead. There were seven competed in the class for twelve Anemone-flowered, Mr. Cumming and Mr. McKenna being first and second. Mrs. Ross was first for a charming stand of Pompons. For a stand of six white Japanese, one variety, Mr. McKenzie was first, Mr. Toner second, Mr. O'Connor third; and for six Japanese, one variety other than white, Vincent Jackson, Esq., was awarded the first prize for a stand of Edwin Molyneux. Zonal Pelargoniums made a brilliant colouring. The honours were divided by Messrs. Toner, McKellar, and McKenzie. The fruit classes were fairly well filled. Mr. R. Jameson had a fine seedling Tomato, also a tastefully arranged group of plants. Other groups were contributed by Messrs. Ramsay of the Ball's Bridge Nurseries, and Messrs. Henderson of Templeogue. Messrs. Dicksons (Limited) of Chester had a table of 350 dishes of Apples and Pears, some contributed from their own nurseries, but the main portion came from ten Irish counties, and were grouped accordingly. Edmondson Brothers of Dublin tabled a collection of fruit from Messrs. T. Rivers and Sons of Sawbridgeworth; and from Cork came Apples and Pears staged by Messrs. Saunders.—E. K., *Dublin*.

BARNSELEY.—NOVEMBER 14TH AND 15TH.

THE annual show of the above Society was held in the Public Hall. Cut flowers in the open class were well represented, but in the local classes a falling off in quality was noticed.

For twenty-four blooms, half incurved and half Japanese, the prizes of £7, £4, and £2 were offered, which brought five entries, the blooms in first three stands being of very high quality. Mr. J. Vaughan, gardener to T. Brocklebank, Esq., Woolton, Liverpool, was first. In his stand were grand blooms of Mdle. Marie Hoste, Mdle. Thérèse Rey, Vivian Morel, G. W. Childs, and Mrs. F. Jameson. Mr. Ketchell, gardener to C. Simpson, Esq., Ackworth, Pontefract, was second, his incurved being of high quality. Third, Mr. Alderman, gardener to J. D. Ellis, Esq., Sparkden, Worksop, Notts, whose Japanese were fine, but the incurved blooms lacked solidity and finish.

For twelve incurved Mr. Vaughan was again first, being followed by Mr. Alderman. In the class for twelve Japanese Mr. Alderman was first, having a good stand, the most noticeable being Mdle. Marie Hoste, Louise, Amos Perry and Stanstead White. The second prize went to Mr. Vaughan.

A handsome challenge cup was offered in the local class for twenty-four blooms, half Japanese and half incurved, but only two stands were staged, and the first was won this year by Mr. Popplewell, gardener to Mrs. Burnley, Braithwaite Hall, Barnsley, with a fair stand, G. Senior, Esq., Beevor Hall, being second. Mrs. James Fox, Hasbro' Hill, Barnsley, was first for a group of plants, there being only one entry.

Grapes, Pears, Apples and table plants were very good, the principal winners being Messrs. Ketchell and Wenman.

SOUTH SHIELDS.—NOVEMBER 14TH AND 15TH.

THIS exhibition was held on the above dates at the Royal Assembly Hall, South Shields. Mr. Bernard Cowan, Honorary Secretary, with Mr. J. T. Reed, Hon. Treasurer, and Messrs. A. Purvis, Charles Wood, and R. Robson, the staging Committee, assisted each other to make the exhibition a success, and they were justly rewarded for their labours.

The chief interest in the cut bloom classes centred in the large class for Japanese, twenty-four blooms, the competition being very close. Mr. Joseph Corbett, Mulgrave Castle, was awarded first; Mr. G. E. Smith, Floral Cottage, Hull, second; and Mr. Thomas Wheeler, Jesmond Towers, third. The first prize stand contained, amongst others, very fine blooms of Vivian Morel, Mons. Bernard, Waban, Avalanche, Charles Davis, W. Seward, Gloire du Rocher, W. H. Lincoln, Florence Davis, Colonel W. B. Smith, and Kentish Yellow. The National Chrysanthemum Society's certificate was also awarded to this stand. The incurved was not up to the standard, evidently they had felt the effect of the very bad season. Mr. G. E. Smith had the best twenty-four, with Mr. T. Wheeler being second.

For eighteen Japanese Mr. G. Walker, Low Fell, was first for a good stand; Mr. J. Corbett, second; with Mr. G. E. Smith, third. The same leading exhibitors were successful for twelve Japanese, with Mr. T. Wheeler third. The remaining prizes for incurves fell to Messrs. G. E. Smith and Corbett. The large Anemones were beautifully developed, Mr. G. E. Smith winning with a good stand; Mr. T. Wheeler,

second. The Pompons were also good, Mr. R. W. Kennedy, first; Mr. T. Richardson, second; and Mr. T. Wheeler, third.

For a group of Chrysanthemums and foliage plants Mr. Jas. Woods, Riverside, Morpeth, was first with grand plants carrying good blooms. The National Chrysanthemum Society's certificate was awarded this exhibit. Mr. Wm. East, South Shields, was second in this class with a most meritorious stand.

The various classes devoted to amateurs and local residents were well filled, some fine bush plants being exhibited, and the cut blooms very creditable. Mr. Thos. Whitfield offered an extra prize to the chief prizewinner in the amateur classes. This was won by Mr. Joseph Langley of South Shields.

The bouquets and table decorations were an exhibition in themselves. The first prizes in both the coloured and bridal bouquets were well won by Mr. W. Summers, Sunderland; Messrs. Perkins & Sons, Coventry, second; Mr. T. Battensby, Blayden, was third; and Messrs. G. Knight and W. Knight, Middlesborough, were awarded extra prizes for their most excellent arrangements.

Table plants and Primulas were well represented, and the fruit and vegetable classes were well filled, the latter being extra good, Messrs. Bernard Cowan, W. Knight, W. Stevenson, R. C. Hope, J. Price, J. W. Judson, and L. Collins being the chief prizetakers.

(BIRMINGHAM.—NOVEMBER 14TH AND 15TH.

IN our last issue we published a brief notice of a few of the leading prizewinners here, but the exhibition throughout was so good and the exhibits so numerous, there being seventy-one growers competing, that we readily give a more extended report of the show. The specimen plants were very numerous and good. In the class for nine large flowering (Japanese excluded) Mr. Brasiere, gardener to Lady Martineau, was well first with a superb specimens of uniform size, admirably bloomed and grown. Mr. W. H. Dyer, gardener to Mrs. Marigold, was a good second. For six plants (incurved) Mrs. Marigold was first, and Mr. J. Maldrum, gardener to G. Cadbury, Esq., second. For three specimen Japanese Mrs. Marigold was first, showing, with others, a grand plant of Col. W. B. Smith with fully fifty blooms.

Groups are always a marked feature at the Birmingham meeting, and all from local growers. Six superb groups were staged in one class, and Mr. Dyer was placed first with a grand group in which the solidity of his blooms, with a bright arrangement of colours and tasteful general arrangements told. F. Jenkins, Esq., Olton, was a close second, and a new exhibitor, J. Whitfield, Esq., Moseley, had also a fine group, but deficient in tasteful arrangement. In the class for smaller groups there were five competitors, Mr. E. Knight, gardener to Herbert Chamberlain, Esq., being first.

In the cut bloom section the large prizes, six in each class, for twenty-four incurved and twenty-four Japanese respectively, brought out a strong competition, there being twelve stands of the latter, and quality in the stands generally was evident. For twenty-four incurved Mr. J. Crookes, gardener to the Dowager Lady Hindlip, was first with splendid blooms of Lord Alcester, John Lambert, Violet Tomlin, Queen of England, Alfred Salter, Golden Empress, John Doughty, Empress of India, Mrs. S. Coleman, Jeanne d'Arc, Miss M. A. Haggas, Lucy Kendall, Mrs. Heale, C. B. Whitnal, Mr. R. King, Princess of Wales, Brookleigh Gem, Lady Dorothy, Hero of Stoke Newington, Mrs. N. Davis, Lady Harding, Barbara, Empress Eugénie, and Princess of Teck. The second prize was won by Mr. W. Pearce, gardener to S. Loder, Esq., Weedon, with an excellent stand, in which Lord Alcester, Robert Cannell, Miss Haggas, and Brookleigh Gem were especially fine.

The class for twenty-four Japanese brought out a great display of fine blooms, and here Mr. S. Loder's gardener had a strong stand which took the first prize. The varieties were Stanstead White, William Seward, Florence Davis, Charles Davis, E. Clarke, Mrs. Bruce Findlay, M. Schwabe, Vivian Morel, J. P. Kendall, Lilian B. Bird, Etoile de Lyon, Meg Merrilies, M. Bernard, Silver King, M. A. Carrière, E. Molyneux, W. H. Lincoln, Vice-President Audiguier, Condor, Mrs. C. Pinard, Sunflower, Mrs. Wheeler, Alberic Lunden, and Boule d'Or. Mr. Austin, gardener to the Earl of Dudley, Witley Court, was second. Five other prizes were awarded. For eighteen blooms of incurved, distinct, the Dowager Lady Hindlip was first, C. B. Whitnal and Mrs. S. Coleman being especially good in this stand.

For eighteen Japanese, dissimilar, Mr. J. Robinson, gardener to R. W. D. Harvey, Esq., Brampton Bryant Hall, was first with Mr. Harman Payne, Princess May, Vivian Morel, Madame Cambon, Alberic Lunden, Etoile de Lyon, Mrs. E. Beckett, W. H. Fowler, Edwin Lonsdale, Mr. F. Jameson, Stanstead White, Sunflower, Col. W. B. Smith, W. H. Lincoln, Florence Davis, E. Molyneux, and Niveus. Mr. R. Jones, gardener to C. N. Smith Ryland, Esq., Basford, Warwick, was second. For twelve blooms of incurved, distinct, the Dowager Lady Hindlip was first with blooms of fine quality. Other classes for Chrysanthemums were well filled.

Primulas were very fine, Messrs. Thomson & Co., Sparkhill Nurseries, being first in all the four open classes, amongst the singles being their new varieties Princess May, Duke of York, Fairy Queen, and Mont Blanc. Messrs. Pope & Sons, King's Norton Nurseries, were second. Mr. W. Earp, gardener to the Right Hon. Joseph Chamberlain, M.P., was first for twelve superb Cyclamens in size, quality, and variety, and was successful in other classes. In the class for six Orchids Mr. J. Palmer, gardener to Wm. Brown, Esq., Bush Lane, was first with good specimens. Messrs. Perkins & Sons, Coventry, and Mrs. Thewles of Birmingham had beautiful bouquets, and these, with Messrs. Thomson's

exhibits of floral artistic work, were most deservedly admired, and silver medals awarded to them. Messrs. Shuttleworth & Co. and Messrs. Heath & Sons also had banks of Orchids, to which silver medals were awarded.

There was an excellent display of Grapes. In the class for six bunches of Grapes eight exhibited, and Mr. Bannerman, gardener to Lord Bagot, was first; Mr. Elphinstone, gardener to E. M. Mundy, Esq., Shipley Hall, was second. For three bunches of black Grapes eight exhibited. First, Mr. Elphinstone; second, Mr. J. Bates, gardener to J. F. Harris, Esq., Stone. For three bunches of white Grapes—first, Mr. W. Harman, gardener to the Earl of Denbigh, with well finished Muscats; four other exhibits in this class. A good competition in the other classes for Grapes and Pines, and also Apples and Pears in their respective classes.

In the various classes for collections of vegetables, given by Messrs. Thomson & Co., Messrs. Webb & Son, Mr. Robert Sydenham, and Mr. J. Hughes, there was a keen competition throughout, which brought together the finest display of vegetables yet seen in Birmingham, and of wonderfully high quality generally. Mr. Wilkins, gardener to Lady Theodore Guest, sent a display of his very fine Banbury variety of Onions, for which a silver medal was awarded.

RUGBY.—NOVEMBER 14TH AND 15TH.

WITH good general support and able management the Rugby and District Society has for some years maintained a satisfactory position, assisting in a material degree to encourage the horticulture of an important locality, with especial reference to the cultivation of Chrysanthemums, fruit, and vegetables. The show, to be briefly noted, was held, as usual, in the Town Hall, and the number of entries for competition was larger than at previous gatherings, the whole available space being occupied.

In the lower hall groups of plants and collections of vegetables constituted a fine display, and in the chief classes the competition was extremely keen. Three excellent groups of Chrysanthemums were shown in class 1. After careful consideration the first prize was adjudged to Mr. Newman, gardener to Mrs. Molesworth, Bilton Road, Rugby, for a group which comprised a large number of varieties, and good quality flowers, the arrangement also being effective owing to bright and light tints being in due proportion. Mr. Blakeway, gardener to P. A. Muntz, Esq., M.P., Dunsmore, was a very close second, with scarcely a point against him, some of his blooms being of excellent quality; and Mr. A. J. Kilbourn, gardener to Miss B. Simpson, Bilton Hall, was third with dwarf plants, very well grown, and tastefully arranged, but with rather too many white or light coloured varieties. These constituted the best feature of plant classes, and the National Chrysanthemum Society's certificate was awarded to the first prizewinner.

The cut bloom classes were arranged in the large upper hall, and there again the quality was most satisfactory, and the competition close. With twenty-four incurved blooms, not less than eighteen varieties, Mr. W. Tustin, gardener to H. James, Esq., Coton House, Rugby, won premier honours, showing clean, fresh, well-built blooms of the following:—J. Lambert (2), Violet Tomlin, Princess Teck, Queen of England (2), Jeanne d'Arc (2), Jardin des Plantes, John Doughty, Golden Empress, Camille Flammarion, Mrs. R. King (2), Lord Wolseley, Miss M. A. Haggas, Baron Hirsch, Empress of India (2), Alfred Lyne, Lord Alcester, Mons. R. Bahuant, Lady Hardinge, and Prince Alfred. Mr. F. J. Blake, gardener to G. Singer, Esq., Coventry, was second with larger but not quite such clean blooms, nevertheless a creditable stand; and Mr. Pearce, gardener to S. Loder, Esq., Floore, Weedon, was a good third.

In the corresponding class for twenty-four Japanese blooms, in not less than eighteen varieties, Mr. Blake was successful in winning the leading prize with large, handsome, bright, fresh blooms of the following:—Mrs. E. W. Clark, Vivian Morel (2), Advance, W. H. Lincoln, Florence Davis, J. W. Moorman, F. Davis, Mrs. Harman Payne (2), Pearl Beauty, Sunflower, R. C. Kingston, Mdlle. T. Rey (2), C. Davis, Duchess of York, J. Shrimpton, Primrose League, Excelsior, and Etoile de Lyon. Mr. S. Cole, gardener to the Rt. Hon. Earl Spencer, Althorpe Park, Northampton, secured the second place with good blooms; and Mr. Tustin was third; an extra prize going to Mr. Pearce. In other classes the chief awards were taken by Messrs. Newman, Kilbourn, Blakeway, and Tustin were the leading exhibitors.

A silver challenge cup was subscribed for by several ladies and gentlemen in the district, and was offered for competition open to gardeners, amateurs, and cottagers in the parish of Rugby. Eighteen blooms were required, nine incurved and nine Japanese, each in not less than six varieties. An easy class, and as many prizes were offered in addition to the challenge vase, much better competition might have been fairly expected. Mr. Newman was successful in securing the cup for the first time with small but neat blooms. Mr. McKay, gardener to E. Edwards, Esq., Rugby, being second; but no doubt next year this will be a better class.

Grapes were well represented by handsome bunches of Muscat of Alexandria from Mr. Harman, gardener to the Right Hon. Earl Denbigh, Newnham Paddox, for which the first prize was awarded, and by large bunches of Alicante from Mr. Blakeway. Pears were numerous and good, Messrs. Harman, Cole and McKay, having the best, Apples being similarly well shown by Messrs. Waddings, Cole and Farn.

Primulas, Cyclamens, bouquets, baskets, besides vegetables, also

formed many features of interest, while several non-competing exhibits were noteworthy, especially some handsome and tasteful designs of dried leaves in frames from Mrs. Robinson.

The Chairman, Mr. Linnaeus Cumming, M.A., and the Secretary, Mr. W. Bryant, together with the other officials and the Committee, deserve much praise for their untiring efforts in connection with the Society.

YORK.—NOVEMBER 14TH, 15TH, AND 16TH.

ALTHOUGH four other important exhibitions were held in the north of England on the same dates the competition here, as hinted in our last issue, was never previously so keen nor the quality of the exhibits so high. A silver cup presented by the Lord Mayor of the City and £2 in cash were offered by the Society for the best group of Chrysanthemums interspersed with foliage plants. The prize was won by Mr. R. McIntosh, gardener to J. T. Hingston, Esq. The second prize was awarded to Mr. G. Slater, gardener to Alderman Close, for an imposing group. Mr. S. Hardcastle was placed third; and H. Leetham, Esq., fourth.

In the class for a group of Chrysanthemums arranged for effect the first prize was won by Mr. E. Everard, gardener to Mrs. Gutch, Holgate Lodge, who also secured chief honours for classes of Chrysanthemum plants. The second prize fell to E. H. Newton, Esq. Primulas were well shown, as were table plants.

The collection of fruit of eight varieties brought together five exhibits, the best being Mr. McIntosh; the second Mr. Knight, gardener to Basil T. Woodd, Esq.; third, H. Leetham, Esq. (gardener, Mr. J. Smallwood). The first prize for six bunches of Grapes was won by Mr. J. Allsop, gardener to Lord Hotham, which included two perfect bunches of Mrs. Pearson, two bunches of Alicante, and two bunches of Muscat of Alexandria. Mr. McIntosh second; Mr. Findlay, gardener to R. H. Jones, Esq., third. Vegetables made a grand exhibition. The principal prizewinners were Messrs. Scupham, Theakstone, Leetham, West, and Exelby.

The citizens' challenge cup, value 20 guineas, for thirty-six Chrysanthemums, eighteen incurved, eighteen Japanese, twelve varieties of each section, not more than two blooms of one variety, brought forward seven competitors, every one of them being highly meritorious exhibits, making a display such as had never previously been brought together in York. The first prize was won by Mr. George Haigh, gardener to W. H. Tate, Esq., Woolton, Liverpool, with nearly perfect specimens of Lord Alcester, John Salter, Mrs. Heale, Miss M. A. Haggas, Empress of India, Golden Empress, Lucy Kendall, Emily Dale, Violet Tomlin, John Doughty, Princess of Wales, Queen of England, and Madame Darier. Among the Japanese Mrs. C. H. Payne, Thos. Wilkins, Vivian Morel, Chas. Davis, Mdlle. Thérèse Rey, G. C. Schwabe, Waban, W. H. Lincoln, Mons. Bernard, Madame M. Hoste, Etoile de Lyon, and Boule d'Or were conspicuous. The second prize went to Mr. B. Calvert, gardener to Col. Houblon, Bishop Stortford, Herts, who showed fresh, solid flowers of fine quality in the incurved, his Japanese being much lighter than the first prizewinner's stand. The incurved were Queen of England, Jeanne d'Arc, Miss M. A. Haggas, Princess of Wales, Lord Alcester, Miss S. Coleman, Queen of England, Violet Tomlin, Golden Empress, Alfred Salter, Empress of India, Jardin des Plantes, and John Doughty. The Japanese included Etoile de Lyon, Col. W. B. Smith, White Louis Boehmer, Mdlle. Thérèse Rey, Criterion, Chas. Davis, Vivian Morel, Mohawk, R. Brocklebank, E. Molyneux, Lillian B. Bird, Mrs. Dorothea Shea, Sunflower. Mr. J. Folkard, gardener to Sir Jas. Walker, Sand Hutton, York, was third; and Mr. G. Anderson, gardener to A. Milnthorpe, Esq., Tower Hill, Cattal, York, fourth.

For twenty-four blooms, twelve incurved and twelve Japanese, W. H. Tate, Esq., Woolton, Liverpool (gardener, Mr. J. Haigh), was first, showing Lord Alcester, J. Salter, John Doughty, Mrs. Heale, Violet Tomlin, Golden Empress, Madame Darier, Princess of Wales, Emily Dale, Miss M. A. Haggas, and Baron Hirsch amongst the incurved. Of the Japanese kinds, Mrs. C. H. Payne, Lord Brooke, Waban, Mdlle. Marie Hoste, Duke of York, Mdlle. Thérèse Rey, Boule d'Or, Charles Davis, Princess May, W. W. Coles, Vivian Morel, and Etoile de Lyon were represented. The second prize went to Col. A. Houblon, Bishop Stortford, Herts (gardener, Mr. B. Calvert), whose flowers included Lord Alcester, Princess of Wales, Mrs. Heale, John Lambert, Mrs. S. Coleman, Violet Tomlin, Queen of England, Alfred Salter, Golden Empress, John Doughty, Miss M. A. Haggas, Empress of India, Vivian Morel, Florence Davis, J. Shrimpton, Criterion, G. C. Schwabe, Chas. Davis, Beauty of Exmouth, Louis Boehmer, E. Molyneux, Ralph Brocklebank, Etoile de Lyon, and Mdlle. Thérèse Rey. Sir R. G. Walker, Sand Hutton, York (gardener, Mr. J. Folkard), was third; and Messrs. G. Longster & Sons, Malton, fourth.

For twelve incurved blooms, A. Milnthorpe, Esq., Tower Hill, Cattal (gardener, G. Anderson), was first with Lord Alcester, Nil Desperandum, Alfred Salter, Queen of England, Mrs. Heale, Jeanne d'Arc, Empress of India, Princess of Wales, Miss Haggas, Cherub, Violet Tomlin, and Mrs. R. King. The second prize went to Col. A. Houblon, and the third to Sir J. Walker, Sand Hutton, York.

For twelve Japanese blooms, W. H. Tate, Esq., Woolton, Liverpool, was first, showing Etoile de Lyon, W. H. Lincoln, Louise, Vivian Morel, Madame Thérèse Rey, C. Davis, Mdlle. Marie Hoste, E. W. Clark, Madame Mirabeau, Mrs. C. H. Payne, Florence Davis, and Col. B. Smith. R. H. Jones, Esq., Badsworth Park, Pontefract (gardener, Mr. J. Findley) was second, Col. A. Houblon third.

BIRKENHEAD.—NOVEMBER 15TH.

THE eighth annual exhibition was held on Thursday last. Cut blooms made a charming display, and were a great advance on last season. The Japanese flowers were bright and fresh, and incurved solid.

The first prize for eighteen Japanese blooms went to Mr. J. Williams, gardener to C. J. Procter, Esq., with a beautiful stand, the best being Mdlle. M. Hoste, G. C. Schwabe, Vivian Morel, L. B. Bird, very fine; Col. Smith, E. Molyneux, and Florence Davis. Mr. G. Burden, gardener to G. B. Cockburn, Esq., Claughton, came a close second, having Vivian Morel, Mrs. C. H. Payne, Mdlle. Marie Hoste, L. B. Bird, and E. Molyneux; the third going to Mr. J. Edwards, gardener to H. Tate, Esq., jun., Allerton Beeches. Six staged.

For eighteen incurved blooms Mr. Edwards was a good first. Second, Mr. Howard, gardener to A. S. Mather, Esq., Woolton, having a splendid Mrs. R. King, Lord Alcester, Lucy Kendall, and Baron Hirsch. Mr. Burden was third with Robert Cannell and Robert Petfield, very fine. For twelve incurved Mr. J. Trelford, gardener to C. Gatehouse, Esq., Noctorum, was an easy first, having Empress of India, Robert Cannell, and Miss Haggas especially good. Mr. J. Williams was a meritorious second with Golden Empress in excellent condition. For twelve Japanese, open class, only two staged. Mr. A. Price, gardener to F. Jevons, Esq., Claughton, was an easy first with E. Molyneux and Mrs. C. H. Payne as the best. The second went to Mr. E. Ledson, gardener to W. G. Leete, Esq., Noctorum.

The local class for same number brought out five stands, Mr. J. Williams being a splendid first with Vivian Morel, Chas. Davis, Sunflower, Florence Davis, Colonel Smith and Stanstead White, excellent. The second prize went to R. R. Anderson, Esq. with a fresh stand. For six Japanese, Mr. A. Brown, gardener to G. Webster, Esq., Upton, came first with E. Molyneux and G. C. Schwabe as the finest flowers. For six Japanese blooms for those who only employ one gardener, Mr. E. Ledson was first. For twelve incurved, local, four competed, Mr. G. Cubbon, gardener to G. E. Moses, Esq., Higher Bebington, being an easy first, having as best Lord Wolseley, and Madame Darier. Mr. T. Pink, gardener to J. Sealby, Esq., Noctorum, had a very fresh stand for second position. For six Japanese and six incurved, Mr. W. Ewhank, gardener to J. Heap, Esq., Claughton, put up some massive blooms, particularly good being Mrs. C. H. Payne, Charles Davis, W. W. Coles and Baron Hirsch. A very fresh second was Mr. J. Edwards, gardener to A. Billson, Esq., M.P., with Baron Hirsch, excellent. Amateur class were weak, J. H. Gair, Esq., Birkenhead, winning.

The groups were bright and fresh, flowers everything to be desired, Mr. J. Williams winning with a good arrangement throughout. The second prize went to Mr. A. Brown.

There was a fine display of Grapes and hardy fruit, the principal winners being Messrs. Barker and Ferguson (Rock Ferry), Davies (Leominster), C. Worker (Mollington), A. B. Young, R. Hanagan.

Miscellaneous plants formed a strong competition, Primulas especially so, the winners including Messrs. W. Thomas, A. Price, and Brown. Epergnes and bouquets are always a feature, Mr. J. Williams winning in an easy manner with very effective arrangements. Dickson's, Chester, had a choice stand of plants, and Messrs. Ker's, Aigburth, a charming bank of Cyclamens.

WINCHESTER.—NOVEMBER 15TH AND 16TH.

MANY good autumn exhibitions have been held in the Guildhall of this ancient city in previous years, but the one in question was undoubtedly the best of the series. Not only was the competition keen, but the quality of the blooms, especially the incurved section, was quite equal, if not superior, to any which have been staged this season. To Mr. Chaloner Shenton, the Hon. Secretary, and an efficient Committee belong the honour of so effectively managing such a fine show.

Cut blooms were undoubtedly the feature of the exhibition, and therefore demand a prior notice. The principal class was that for forty-eight in thirty-six varieties, half to be incurved and the remainder Japanese. A challenge cup with £7 added was offered as first prize, with good money prizes following. This class produced a grand array of blooms. Mr. N. Molyneux, gardener to J. C. Garnier, Esq., Rooksbury Park, Fareham, was distinctly ahead with a splendid stand of well developed blooms. The Japanese were especially bright and fresh; the incurved heavy and beautifully finished. So good were they that we append the names of the premier prize blooms:—Japanese: M. C. Molin (2), C. Davis (2), Comtesse de Galhert, President Borel, L'Isere (2), Mrs. C. H. Payne, Wahan, excellent (2); International, Vice-President Audiguier, Niveus (2), splendid; G. C. Schwabe (2), Princess Victoria, Golden Gate, Primrose League, Miss D. Shea, Silver King, Mdlle. M. Hoste, and Mdlle. Thérèse Rey. Incurved: Lord Alcester (2), C. B. Whitnall (2), grand blooms; Empress of India (2), Golden Empress (2), very deep; Beauty, Miss M. Haggas, Golden Queen of England, R. Petfield, Queen of England (2), Princess Teck, Sir Titus, Nonpareil, Lady Dorothy, Barbara, Mrs. S. Coleman, Mr. Mudie, Princess of Wales, and Mrs. N. Davis. Mr. J. Hughes, gardener to W. Baring, Esq., Norman Court, Salisbury, was a good second. The Japanese were heavy, bright, and fresh; the incurved were less deeply built. Mr. W. Neville, gardener to F. W. Flight, Esq., Cornstiles, Twyford, Winchester, third. Mr. Inglefield, gardener to Sir J. Kelk, Bart., Tedworth, Marlborough, fourth.

For twenty-four Japanese, Mr. J. Agate, Havant, was distinctly first for a capital stand of blooms, containing many new varieties. Bruce Findlay, Maggie Blenkiron, Mrs. W. Murray, L'Isere, Mrs.

T. Denne, Niveus, Captain Torrens, James Myers, and J. H. Runchman were the most noteworthy. Mr. C. H. Holloway, gardener to F. W. C. Read, Esq., Selborne, fresh but not large. Mr. Neville third. The class for twelve incurved, distinct, produced keen competition. Mr. N. Molyneux just succeeded in defeating Mr. Hughes with a stand of even well-finished blooms. Empress of India, C. B. Whitnall, R. Petfield, Beauty, Sir Titus, and Mrs. Coleman were especially noticeable. Mr. Agate secured the third position. Mr. Molyneux followed up his previous success by securing premier award for twelve Japanese, distinct, with heavy, fresh blooms. Mrs. E. D. Adams, Golden Gate, L'Isere, Niveus, Miss D. Shea, and G. W. Childs were the most noteworthy. Mr. Hughes second.

A special class for six blooms of any one variety of the "Queen" family was provided. Mr. Hughes won first prize with Lord Alcester in superb condition. Mr. N. Molyneux second with Golden Empress. For six incurved, any variety, excluding the various members of the "Queen" family, Mr. Molyneux was placed first with magnificent blooms of C. B. Whitnall, to which was awarded the Society's certificate also. Mr. Hughes followed with Princess of Wales in good condition. The last named won the premier award for six any white-flowered Japanese with Avalanche in really good condition. Mr. G. Trinder, gardener to Sir H. Mildmay, Bart., Dogmersfield Park, Winchfield, won the premier honour for six any Japanese variety, excluding white, with Vivian Morel in fine order. Mr. Hughes second with Etoile de Lyon. For twenty-four blooms, any section in eighteen varieties, Mr. Bowerman, gardener to C. Hoare, Esq., Hackwood Park, Basingstoke, won first place with a creditable collection. Mr. Holloway second. Mr. Agate staged the finest lot of twelve bunches Pompons, three blooms to a bunch, which contained an exceedingly pretty bluish-coloured new variety—Our Fred.

Chrysanthemum plants were well shown. For a group arranged in a space 8 feet by 7 feet, Mr. F. Smith, gardener to Lady E. Wodehouse, Winchester, won easily with well grown plants, carrying fully developed blooms. Mr. G. H. Street, gardener to Rev. D. Fearon, The College, Winchester. For eight plants, distinct, Mr. G. Adams, gardener to Col. F. A. Dicker, Winchester, was an easy first with capitally grown examples. Mr. E. Astridge, gardener to W. Barrow Simmonds, Esq., Winchester, second. Mr. E. Carr, gardener to W. A. Gillett, Esq., Fair Oak Park, Winchester, won premier award for four plants, also for incurved and reflexed varieties. Mr. Carr won premier honours for a group of miscellaneous plants arranged for effect in a space of 10 feet by 7 feet, with a pleasing arrangement of choice plants. Mr. Astridge second. Mr. F. Broomer, The Weirs, Winchester, third. For the most tastefully arranged stand of Chrysanthemums, foliage, grasses, &c., suitable for table decoration, confined to ladies only, Miss Ladham, Shirley, Southampton, was distinctly ahead of all competitors with a pleasing arrangement. Miss Elsie Wadmore, Basingstoke, second; Miss Norah Flight, Winchester, third.

Fruit was a feature of the show, space, however, forbids more than saying that Grapes were grandly shown by Mr. J. Gardener, gardener to Col. H. Stratton Bates, who won the first prize, also a silver medal for superior cultivation. Vegetables also made a grand display. Mr. E. Hillier, Winchester, staged "not for competition," a splendid collection of hardy shrubs and trees, and many dishes of Apples and Pears. Mr. Molyneux, gardener to W. H. Myers, Esq., M.P., Swanmore Park, Bishop's Waltham, had a collection of Chrysanthemums, embracing all sections, quite first-class in point of merit.

EDINBURGH.—NOVEMBER 15TH, 16TH AND 17TH.

AS usual the autumn exhibition of the Scottish Horticultural Association was held in the Waverley Market, and was in every respect a success. As showing the enthusiasm of residents in and near the Scotch capital, £770 were taken at the door. This with the sale of tickets and other sources of income cannot fall far short of £1000. Between 25,000 and 26,000 persons visited the show during the three days. The cut blooms were slightly below the quality possessed in those staged last year, but on the whole they were quite up to the average of other shows.

Cut blooms were the most important feature of the show. The principal class was that for forty-eight distinct varieties. A silver cup, value £20, given by the Corporation as first prize, being sufficient to tempt seven exhibitors to strive for its possession. Mr. James Beisant, Castle Huntley, Longforan, repeated his success of last year, and won the coveted trophy with a stand of fine blooms well staged. The varieties staged were Etoile de Lyon, Stanstead White, M. Panckoucke, Viscountess Hambledon (grand bloom), Charles Davis, Mdlle. Thérèse Rey, Wahan (large), Amos Perry, Vivian Morel (rich), Madame C. Molin, G. C. Schwabe, Sunflower, Florence Davis, Mr. C. H. Payne, Niveus (full), Charles Shrimpton, Mdlle. Marie Hoste, Madame Cawhon, Mdlle. J. Panckoucke, President Borel, Lilian Bird, Boule d'Or, E. G. Hill (richly coloured), Mohawk, Mrs. E. Beckett, Madame A. Jacobs, W. H. Lincoln, White Louis Boehmer, Mrs. Hubbuck, Princess May, Madame C. Audiguier, Mrs. E. S. Trafford, Excelsior, Miss A. Hartshorn, W. W. Coles, Gloriosum, W. Seward, Sarah Owen, W. Tricker, Golden Dragon, E. Molyneux, Beauty of Exmouth, Louise, J. Shrimpton, Rostrevor, Louis Boehmer, Miss Muriel Scott and W. H. Atkinson. Mr. J. Carruthers, Hillwood, Corstorphine, was a good second with a stand containing many excellent blooms. To the latter was awarded the prize for the premier Japanese bloom, a fine Chas. Davis. Mr. D. Nicoll, Rossie, Forgandenny, was awarded third prize, and Mr. Wells, Earlswood, Redhill, Surrey, fourth.

The Scottish challenge cup and £5 were offered as first prize for thirty-six Japanese, distinct, the competition in this class being confined to Scotland. But two exhibitors entered for the trophy. The first place was easily secured by Mr. W. Rutherford, Airthrey Castle, Bridge of Allan, with well developed blooms. Mr. D. Airdrie, Larbert House, Larbert, was second. For twenty-four distinct five competed. Mr. D. Alexander, Eaglescairn, Haddington, secured premier award with blooms possessing much quality. Mr. Thos. Dale, Aikenhead, Cathcart, was a good second, and Mr. R. Rae, Sunlaws, Roxburgh, third. For twelve distinct no less than thirteen competed, making a grand display, so close were they in point of merit. Mr. J. Beisart followed up his previous success by securing the leading position with excellent blooms. Mr. James Day, Galloway House, Gairliestown, a close second, and Mr. A. Owens, St. Margaret's, South Queensferry, third.

The class for twelve incurved Japanese brought but one entry—Mr. R. Grossart, Binrock, Dundee. For six distinct fifteen competed. Mr. A. E. Cameron, Foggielea, Dundee, was the most successful. Mr. Galloway, Gogar Bank, Corstorphine, was second, and Mr. D. Alexander, Eaglescairn, third. For six white, distinct, Mr. D. Nicoll won with a stand of clean examples. The other competitor was disqualified for including a bloom of Puritan. Prizes were offered for six yellow, distinct, and for the same number of pink and crimson varieties, distinct. The only exhibitor in the former was disqualified for including Boule d'Or. In the second the same occurred, owing to the inclusion of Mrs. W. H. Fowler and Vivian Morel, and in the latter for including such varieties as Duke of York and M. Bernard. Mr. Grossart won for six bronze with a stand of fair blooms. For six, any one variety, Mr. E. Curtis, Oakville, 29, Greenhill Terrace, staged Vivian Morel in excellent condition, and secured premier award.

Incurved varieties were but moderately represented. Of five stands of twelve varieties Mr. D. Nicol was an easy winner. Mr. W. Mauchline, Bellsfield, Windermere, second, and Mr. D. Airdrie third. Mr. J. Foster, jun., Selkirk, won for six blooms. For six any one variety, Mr. T. Dale, with M. Bahuant in good condition, won premier award, Mr. McIntyre, Woodside, Darlington, was second with Empress of India. There was but one entry for twelve reflexed, and that was disqualified for including La Triomphante. Six Anemone flowered was best staged by Mr. Pirrie, Sunderland Hall, Selkirk. Mr. McIntyre was second.

In the nurserymen's division Mr. Wells, Earlswood, easily won the premier award for forty-eight varieties, any section; this stand included by far the finest incurved bloom in the show, Mrs. S. Coleman. Mr. R. Wood, Carnoustie, was second. Amateurs staged remarkably good blooms in the several sections set apart for them. The Society's silver medal for the best Chrysanthemum not yet in commerce was won by Mr. Carruthers with Duchess of York.

A feature is made at this Show with Chrysanthemums cut with long stems and arranged in vases, three blooms in each, twelve distinct varieties. No less than twelve competed, making a really grand display. Mr. Wells succeeded in obtaining the premier award with well developed examples of Vivian Morel, Viscountess Hambledon, Mdle. Thérèse Rey, Robert Owen, Charles Davis, and W. H. Lincoln, the blooms being quite up to best exhibition form. Mr. Clark, Selkirk, was second; in this stand was included several good incurved blooms. Mr. J. Kyles, Corstorphine, was third. In the class for twelve blooms arranged in one vase there were fifteen competitors. Mr. R. W. E. Murray, Blackford House, was first, Mr. Carruthers being second, and Mr. J. Foster, Selkirk, third.

Non-competitive exhibits were numerous, added much to the display. Foremost amongst these was that of Mr. John Downie, Princess Street, Edinburgh, who had a grand display of floral designs. Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham, London, repeated the display he made at the Royal Aquarium show in London, much to the satisfaction of visitors, and for which was awarded the Society's gold medal. Messrs. Thomas Methven & Sons, a table of Chrysanthemums and foliage plants, very effectively arranged; Messrs. R. B. Laird & Sons, Edinburgh, foliage, flowering plants, and Chrysanthemums; Mr. R. Owen, Maidenhead, Chrysanthemums. Messrs. Buchanan had a charming exhibit of coloured Vine leaves, Grapes, and Tomatoes, for which they gained the Society's silver medal. Fruit was also well shown in the competitive classes.

ECCLES AND PATRICROFT.—NOVEMBER 16TH AND 17TH.

IT must be gratifying to the Committee to find such a fine show as the one opened in the Drill Hall, Patricroft, on the above dates. As there were three cups to be competed for, the competition was keen in some of the classes.

In the open class for twelve incurved and twelve Japanese five staged, last year's winner, Mr. T. Carling, gardener to Mrs. Cope, Dove Park, Woolton, again carried off the silver cup, he having to win it another season before it becomes his own. His blooms consisted of Mrs. C. Harman Payne, Boule d'Or, Mdle. Marie Hoste, J. P. Kendall, Rose Wynne, E. Molyneux, Col. W. B. Smith, Florence Davis, Vivian Morel, Mdle. Thérèse Rey, Madame Octavie Mirabeau, and Chas. Davis; incurved—John Lambert, Queen of England, Princess of Wales, Empress Eugénie, Mrs. S. Coleman, John Salter, Mrs. R. King, Miss Haggas, Violet Tomlin, and Mrs. Heale. Mr. G. Dutton, gardener to G. Clegg Thomas, Esq., Otterspool, was second, and Mr. R. Pinnington, gardener to Mrs. Banner, Blacklow House, Roby, a close third. Mr. Carling also won with the twenty-four miscellaneous blooms, Mr. R. Pinnington being a good second, and Mr. J. Roberts, gardener to H. Lightbourn, Esq., third.

Some excellent stands were staged for twelve incurved and twelve

Japanese blooms, Messrs. Carling and Dutton winning in the order named. The classes for six Japanese, six incurved, and six Anemones, all went to Mr. R. Pinnington. Amateurs made a large display, the prizes for twelve incurved and twelve Japanese going to Mr. W. C. Bagshaw, gardener to Russell Allen, Esq., and Mr. J. Morton. The varieties in all the above classes are similar to those exhibited at Bolton. Mr. Bagshaw was also first for six incurved and six Japanese, Mr. J. Wynne scoring with the miscellaneous. For six incurved and six Japanese a handsome silver cup was presented by W. Locket Agnew, Esq., Eccles, the fortunate winner of the season being Mr. T. B. Wroe, Patricroft, with an even stand; Mr. T. Morton, last year's winner, was second. The same exhibitor won for twelve miscellaneous. Other amateur classes were fairly well represented, the Anemones throughout being excellent.

Groups are always well done here, and are equal to any in the kingdom. The first prize and National Chrysanthemum Society's silver medal were again won by Mr. J. Horrocks, gardener to J. C. Chorlton, Esq., Didsbury, who seems almost invincible in arranging groups. The second went to Mr. T. Mulloy, gardener to Thos. Harker, Esq., Fallowfield, and the third to Mr. Wm. Powell, Eccles. Plants were also very effective, the same exhibitor winning with six good specimens; other winners being Messrs. W. Elkin, and W. B. Upjohn, Worsley. There were many other well-contested classes.

Primulas, Roman Hyacinths, and table plants were all shown in splendid condition, the silver cup for twelve cut blooms, presented by Stewart Garnett, Esq., being won by the indefatigable Secretary, Mr. H. Huber. Mr. Jno. Mosley, florist, Bolton, won with bouquets, and Messrs. Clibran staged an excellent stand of new Chrysanthemums, noticeable being Souvenir de Jambon and W. Firkins, their beautiful yellow sport from Bouquet des Dames. The Secretary and Committee all work with a vigour, to which may be traced the increasing success of the Society.

BOLTON.—NOVEMBER 16TH AND 17TH.

THE eighth annual show was held in the Town Hall, Bolton, on the above dates. Groups and plants have long been a feature here, and these were quite equal to former years; whilst the cut blooms were admirable in both Japanese and incurved, the competition being very close.

In the class for twenty-four cut blooms, twelve Japanese and twelve incurved, there were five competitors, the premier position being awarded to Mr. G. Dutton, gardener to the Cheshire Lines Committee, Otterspool, Liverpool. The best blooms were Charles Davis, G. C. Schwabe, Etoile de Lyon, Florence Davis, and Mrs. Lane. Fine amongst the incurved were John Doughty, Mrs. R. King, Lord Alcester, Miss Haggas, Violet Tomlin, Golden Empress, and Beauty. A very close second was Mr. J. Kirkman, gardener to Jno. Stanning, Esq., J.P., Leyland. Mr. J. Bracegirdle, gardener to the Lord Mayor of Liverpool, was third, and only 3½ points separated first and third.

For twenty-four miscellaneous blooms five staged, Mr. R. Pinnington, gardener to Mrs. Banner, Blacklow House, Roby, Liverpool, being a somewhat easy first with a well arranged stand, the best blooms being Mdle. Marie Hoste, Mdle. Thérèse Rey, Vivian Morel, G. C. Schwabe, Florence Davis, William Seward, Queen of England, Empress of India, Mrs. Coleman, Lucy Kendall, Mrs. Judge Benedict, and Cullingfordi. Mr. Bracegirdle came second, his incurved being good. Mr. Craig, gardener to A. Heine, Esq., Fallowfield, Manchester, third. For twelve incurved, Mr. R. Pinnington again scored with a good even stand. Mr. Kirkman followed; Mr. Bracegirdle being third. Mr. Kirkman won with twelve Japanese; Mr. Dutton being second.

In the local class for twelve incurved and twelve Japanese a handsome silver cup was presented by the President, Charles H. Shaw, Esq., as the first prize, the fortunate winner being Mr. T. Macgregor, gardener to William Howarth, Esq., jun., Wallsuches. Mr. H. Shone, gardener to G. W. Makant, Esq., was a good second; and Mr. W. Wainwright, gardener to Mrs. J. K. Cross, third. Mr. Macgregor also won with twelve Japanese; no name being placed on the second card. For twelve incurved, Mr. J. Wainwright, gardener to Mrs. E. Cross, came in with a fresh, even stand. Mr. George Corbett, gardener to A. Knowles, Esq., second. For the twelve miscellaneous blooms Mr. H. Shone won; the prizes for six Japanese and six incurved going to Mr. T. Eastwood, gardener to H. J. Howarth, Esq.

Plants made a bright display, there being many excellent specimens, and in the open classes Mr. H. Shone won five out of the seven prizes, also a bronze medal, the others going to Mr. J. Hicks (gardener to Mrs. Haslam), and Mr. Wainwright. Amateurs were equally good, the winners being Messrs. W. Eckersley three classes, Jno. Eckersley three classes, and Mr. R. Fairhurst. Miscellaneous plants were excellent, Primulas specially good. In these classes the winners were Messrs. Allen, Mosley, Geo. Cross, J. Wainwright, and H. Shone. Three groups had been arranged, the latter exhibitor being first, a close second being Mr. F. Pownall, gardener to M. Musgrove, Esq.

Grapes were in grand condition, the winners being Messrs. Callow, gardener to John Harwood, Esq., J.P., and W. Wainwright. Vegetables were admirable, and consisted of Sprouts, Tomatoes, Mushrooms, Leeks, and Celery. The winners were Messrs. Barnes, R. Fairhurst, M. Fairhurst, and T. Hindle. Worthy of mention was a dinner table for eight persons, arranged with fruit and flowers for effect, the successful one being a collier, Mr. P. Eckersley.

Nurserymen exhibiting were Messrs. Dickson, Brown & Tait, and Dickson & Robinson, both of Manchester, who staged miscellaneous

plants in variety; and Messrs. W. Clibran for a fine stand of cut blooms.

The courteous Secretary, Mr. J. Hicks, the genial Chairman, Mr. Smith, together with a good Committee, had all arrangements completed by 10.30 A.M., thereby giving the judges every facility to give satisfaction.

CHESTERFIELD.—NOVEMBER 16TH AND 17TH.

DURING the past six years no show has been held under the auspices of the Chesterfield and District Chrysanthemum Society, until this year it was decided to attempt its resuscitation, and as a result an exhibition was held in the Market Hall on the above dates. The number of classes was very limited, as also were the entries, but it is hoped that next year will find a decided improvement in every way. The prizes were, in many of the classes, very good indeed. For instance, £5 were offered as a first prize in an open class for twenty-four Japanese, and yet only three competitors staged. More certainly ought to have been forthcoming, and also in the remaining classes, in which there was also a disappointing dearth of exhibits. Mr. A. H. Johnson, the Honorary Secretary, is to be congratulated on the manner in which the show was managed.

As has been said, only three stands were shown in the class for twenty-four Japanese, in not less than eighteen distinct varieties, and Mr. T. J. Nelson, Ashgate Lodge Gardens, was placed first. The stand comprised Vivian Morel (2), Sunflower, Florence Davis (2), Miss Dorothy Shea, Wm. Tricker, Edwin Molyneux (2), Mrs. C. H. Wheeler, Stanstead White, Boule d'Or, Vice-President Darquier, Criterion, Mons. Bernard, J. Stanborough Dibben, Col. W. B. Smith, Madame J. Laing, W. H. Lincoln, Madame Baco, Avalanche, Mrs. C. Harman Payne, and W. W. Coles, all creditable blooms in good condition. Mr. H. Broomhead, Sheffield, was a good second. Amongst the most noticeable of his blooms were Vivian Morel, Florence Davis, White Louis Boehmer, Avalanche, G. W. Childs, and Mrs. C. Harman Payne. Mr. N. Buxton was third.

In the open class for twelve Japanese, distinct, Mr. N. Buxton was first with W. W. Coles, Mrs. C. Harman Payne, W. H. Lincoln, Vivian Morel, Florence Davis, Sarah Owen, Charles Davis, Mons. Bernard, Sunflower, G. C. Schwabe, Avalanche, and Wm. Tricker, each in fair form. Though somewhat thin, Messrs. Johnson & Wheeler's stand that gained the second prize was far more interesting, containing almost all new or lately introduced varieties, such as Hairy Wonder, Rose Wynne, Mdlle. Thérèse Rey, and W. W. Coles.

For twelve incurved in not less than eight distinct varieties, Mr. H. Broomhead was a somewhat easy first with examples of Mrs. Clibran, Mons. R. Bahuant, Mrs. S. Coleman, Jeanne d'Arc, Hero of Stoke Newington, Baron Hirsch, Beethoven, Lord Eversley, Mrs. Brunlees, Princess of Wales, N. Davis, and Lord Wolseley. Mr. T. J. Nelson was second, and Messrs. Johnson & Wheeler third. Each of these classes was open to the whole of England.

The group of Chrysanthemums arranged for effect in a space of 40 square feet by Mr. H. Horsnall, gardener to J. C. Clayton, Esq., Thomfield, was very good in every way, the plants being clean and carrying charming flowers; Mr. W. R. Bloxham, Tupton Grove Gardens, was a good second, and Mr. E. Austen, Barry Hill Gardens, a close third. Another class was for a small group arranged in a space of 9 square feet, none of the plants to exceed 2 feet in height, including the pots. Mr. T. J. Nelson was first with a tasteful display, including Ferns, Crotons, Coleuses, and other plants. Mr. S. Polkinhorn was second, and Mr. W. R. Bloxham third.

Mr. T. J. Nelson was first for twelve Japanese, in not less than eight varieties, with Mrs. C. Harman Payne, Col. W. B. Smith, Mons. Bernard, W. W. Coles, W. H. Lincoln, Florence Davis, Vivian Morel, Edwin Molyneux, Charles Davis, Etoile de Lyon, and J. Stanborough Dibben. Mr. J. H. Clements, Bramley House Gardens, was a fair second, and E. Austin third. For six Japanese the last-named exhibitor was first. His stand comprised Etoile de Lyon, Ralph Brocklebank, Sunflower, W. W. Coles, and Mrs. C. Harman Payne. Messrs. H. Horsnall and N. Buxton were second and third in the order of their names. Mr. N. Buxton was first for six distinct incurved, showing Lord Wolseley, Mrs. Heale, Princess of Wales, Lord Alcester, Princess Teck, and Madame Darier. Mr. Horsnall was second, and Mr. E. Austin third.

The amateurs' classes were not very well patronised, but doubtless more plants will be grown now that the Society has decided to hold annual shows, in which case succeeding years will bring better displays in every respect.

SHEFFIELD.—NOVEMBER 16TH AND 17TH.

THE Corn Exchange, in which the Sheffield Chrysanthemum Society held its annual show on the above dates, is an admirable building for the purpose, and the effect produced by the whole of the exhibits was very beautiful. There were three tables running down the centre of the room, the sides and ends being occupied by groups of various kinds. The exhibits were not quite so numerous as has been the case in previous years, but the quality was high throughout. Though the show was essentially one for Chrysanthemums, a few Grapes were seen, as also were miscellaneous foliage and flowering plants, many of which were excellent. In the section confined to cottagers some very fine flowers were seen, but the effect was greatly detracted from by the paper collars in which many of the blooms were staged, and it would be advantageous if a rule could be passed prohibiting their use at future exhibitions. The arrangements of the show were admirably carried out

by Mr. H. Broomhead, the Hon. Treasurer; Mr. W. Houseley, Secretary; and the Committee of Management. The names of the prizewinners in the principal classes will be found in the report given below.

OPEN CLASSES.

In this section ten classes were provided and some handsome prizes offered. The blooms throughout were of very high quality and shown in fairly large numbers. Two classes of this number were for Grapes, and the remainder for cut blooms of Chrysanthemums. The number of entries was also very good, the exhibitors being attracted by the substantial prizes.

Only two stands were presented, however, in the class for twenty-four incurved, in not less than eighteen distinct varieties, and the premier position was accorded to Mr. E. Crooks, gardener to Lady Hindlip, Droitwich, who showed John Doughty (2), Jeanne d'Arc, Miss M. A. Haggas, Lord Alcester (2), Mrs. S. Coleman, Brookleigh Gem, Miss Violet Tomlin (2), Empress of India (2), C. B. Whitnall (2), Queen of England (2), Lucy Kendall, Mrs. Norman Davis, Mrs. Robinson King, Mrs. Heale, Golden Empress, Barbara, Princess of Wales, and Princess Teck. The blooms were beautiful in colour and of good average size. Mr. J. Jellicoe, gardener to F. H. Gossage, Esq., Liverpool, was second, his best blooms being Empress of India, Miss Violet Tomlin, Emily Dale, Miss M. A. Haggas, and Mrs. S. Coleman.

For twenty-four Japanese, in not less than eighteen distinct varieties, Mr. W. Wells, Earlswood Nurseries, Redhill, was a splendid first with a stand containing Mrs. C. Harman Payne, Madame Calvat, Chas. Davis (2), President Borel (2), Mrs. Libbie Allen, Mdlle. Thérèse Rey, Duke of York, Lord Brooke, Charles Blick, Vice-President Calvat, Mons. Panckoucke, Vivian Morel (2), Madame Ad. Chatin, W. H. Lincoln, Beauty of Castlewood, Mons. Charles Molin, Louise, Niveus, Robert Owen, and Madame Carnot. This was a good, even exhibit, the blooms shown being fresh and well coloured. The second position was allotted to Mr. G. W. Drake, Cardiff, who showed in a highly creditable manner. Mdlle. Thérèse Rey, Charles Davis, Mrs. Falconer Jameson, Excelsior, W. H. Lincoln, and Lord Brooke may be named as being among the most noticeable in the stand. Mr. J. Jellicoe was a close third; and Mr. R. Willey, gardener to C. J. Ringrose, Esq., Cottingham Grange, Hull, fourth. The first prize in each of these classes was £8, and such an amount should have brought more exhibitors.

Four stands were shown in the class for twelve distinct incurved, Mr. E. Crooks being placed in the highest position. The varieties represented were Lord Alcester, C. B. Whitnall, Golden Empress, Queen of England, Miss M. A. Haggas, Jeanne d'Arc, Miss Violet Tomlin, Princess of Wales, Lucy Kendall, Empress of India, Mrs. S. Coleman, and Mrs. Heale, all in capital condition. Mr. J. Vaughan, gardener to S. Brocklebank, Esq., Liverpool, was second with Golden Empress, Queen of England, Baron Hirsch, Miss M. A. Haggas, Miss Violet Tomlin, and others in creditable form, Mr. J. Jellicoe being rather a poor third. For six incurved, distinct, Mr. E. Crooks was again first with Empress of India, Miss M. A. Haggas, Lord Alcester, Mrs. S. Coleman, C. B. Whitnall, and Miss Violet Tomlin; Mr. J. Vaughan being second, and Mr. J. Jellicoe third, each staging good stands of flowers.

Mr. A. Alderman, gardener to J. D. Ellis, Esq., Worksop, took the premier position in the class for twelve Japanese, in distinct varieties, with creditable blooms of Mrs. C. Harman Payne, Charles Davis, Stanstead White, Miss Dorothy Shea, Marie Hoste, W. W. Coles, Edwin Molyneux, Mons. Bernard, Mons. Panckoucke, Amos Perry, Louise, and Florence Davis. Mr. J. Vaughan was second with best examples of Vivian Morel, Avalanche, Etoile de Lyon, Mrs. C. Harman Payne, and G. W. Childs. Mr. G. W. Drake secured the third place with a rather weak stand. Mr. J. Vaughan was a good first for six Japanese, distinct, with Chas. Davis, Etoile de Lyon, Boule d'Or, Mdlle. Thérèse Rey, Mrs. C. Harman Payne, and Marie Hoste, each in good form. Mr. J. Jellicoe was second, Vivian Morel and Wm. Tricker being particularly noticeable in his stand. Mr. R. Willey was a poor third.

Anemone-flowered varieties were not very extensively exhibited, but those that gained the first for Mr. J. Jellicoe, in the class for six distinct, were very fine, both in form and colouration. The varieties were Delaware, Duchess of Westminster, J. Bunyan, Nelson, Lady Margaret, and J. Thorpe, jun. The second and third prizes were taken by Messrs. R. Willey and J. Vaughan, who both showed well. For six reflexed, distinct, exclusive of Japanese, Mr. J. Jellicoe was again first with Dr. Sharpe, King of Crimson, Cloth of Gold, Cullingfordi, James Carter, and Chevalier Domage, all in good condition and form. Mr. C. Scott, gardener to J. Colley, Esq., Sharrow House, was placed second, and the only other competitor was disqualified for showing a reflexed Japanese flower.

DISTRICT CLASSES.

The number of classes in this section was much greater than in the one previously mentioned, and comprised Ferns, Primulas, and other plants, besides Grapes and Tomatoes, but with the exception of the group of miscellaneous plants space precludes our giving a detailed report, except in the principal Chrysanthemum classes. Taken as a whole this section was an exceedingly good and interesting one, especially when it is borne in mind that only growers within a radius of twenty miles of Sheffield Parish Church were eligible to compete.

The chief class was for a group of Chrysanthemums arranged for effect in a space not exceeding 60 square feet, and Mr. E. Green was deservedly accorded first honours. Though the arrangement was somewhat stiff and formal, the flowers were excellent in form and quality, the plants being sturdy and clothed with stout healthy foliage. Mr. J.

Holding, Pitsmoor, was a fair second, and Mr. H. Wilford, Walkley, a rather weak third. Specimen plants trained in various styles were also shown, and the principal prizetakers were Messrs. C. Scott, C. Green, and Mr. R. Agar, gardener to S. Roberts, Esq., Queen's Towers.

The group of foliage and flowering plants arranged by Mr. F. Stocks, gardener to J. Rhodes, Esq., Rotherham, was very beautiful, and had been arranged with much taste and skill. Amongst the plants utilised were Ferns, Palms, Coleuses, Paper White Narcissi, White Roman Hyacinths, Cypripediums, and Caladium argyrites. The first prize was thoroughly deserved. Mr. A. Wilford was a capital second, and is to be congratulated on the position he attained as an amateur exhibiting against professional gardeners. His arrangement contained Crotons, Calanthes, Bouvardias, Ferns, Palms, Primulas, and other plants. Mr. E. Green, gardener to Sir Henry Watson, Shirecliffe Hall, was a fair third.

The blooms that gained the first prize in the class for twelve incurved, distinct, for Mr. Alderman, were very fine, and comprised Lord Alcester, Jeanne d'Arc, Madame Darier, John Doughty, Mrs. Robinson King, Princess of Wales, Golden Empress, Amie Hoste, Jardin des Plantes, John Lambert, Empress of India, and Miss Violet Tomlin. Mr. C. Scott was second, his best examples being Lord Alcester, Miss Violet Tomlin, Alfred Salter, Miss M. A. Haggas, Nil Desperandum, and Princess of Wales; and Mr. C. Green the third. For six incurved, distinct, Mr. Alderman was again first with Lord Alcester, Jeanne d'Arc, Madame Darier, Golden Empress, John Doughty, and White Venus, all clean, fresh, and well finished. Mr. F. Stocks was second, and Mr. C. Scott third.

Mr. Alderman repeated his previous successes with twelve Japanese, distinct, with one of the best stands in the show. It contained Edwin Molyneux, Louise, Princess May, Vivian Morel, Mrs. E. W. Clarke, Madame Baco (exceptionally good), Charles Davis, Mdlle. Thérèse Rey, Miss Dorothea Shea, Amos Perry, W. W. Coles, and Florence Davis. Mr. C. Green, with small but fresh flowers, was second, and Mr. F. Stocks was third. There were four entries in this class. Once again Mr. Alderman occupied the coveted first position, this time with six Japanese, distinct, showing Mdlle. Thérèse Rey, Boule d'Or, Florence Davis, Mrs. C. Harman Payne, Mons. Panckoucke, and Stanstead White, each in fine form. Mr. W. Wenman, gardener to Viscount Halifax, Hickleton Hall, Doncaster, was second, his best blooms being W. W. Coles and Sunflower; and Mr. C. Green third.

Reflexed blooms in six distinct varieties only brought two stands. Mr. C. Scott with Pink, Peach, White and Golden Christines, James Carter, and Cullingfordi, being given the first place, and Mr. W. Wenman the second. There was only one competitor in the class for six bunches, and the first prize was awarded to Mr. C. Scott for a charming stand. Bouquets and buttonholes were staged somewhat extensively in this section, and some beautiful combinations were noticeable.

AMATEURS' CLASSES.

It was very plainly apparent from the number of blooms shown and their uniformly good quality that the amateurs of Sheffield are enthusiastic Chrysanthemum growers, and at the same time very successful ones. Twelve classes were provided for them, and the competition in almost every one was very keen.

Mr. H. Greaves, Sheffield, arranged a very good group in a space not exceeding 50 square feet. The plants were well grown and flowered, but the placing was somewhat too thin. The flowers in the second prize exhibit, staged by Mr. R. Gascoigne, were decidedly past their best, but evidences of former merit were very apparent. The last named exhibitor succeeded in taking the premier position in the class for a group of miscellaneous flowering and foliage plants, arranged for effect in a space of 36 square feet. His exhibit comprised Ferns, Chrysanthemums, Crotons, Primulas, and other plants, all of which had been well grown. Mr. T. Lygo, Sheffield, was a fair second.

The cut bloom classes in this section were well filled, and Messrs. B. Glossop, H. J. Broomhead, J. Gibbins, W. Willgoose, R. Allen, and G. Needham may be mentioned as having been amongst the most successful competitors. Excellent prizes were also offered to cottagers, who responded with good and numerous exhibits.

Miscellaneous exhibits were fairly numerous and of excellent quality. Miscellaneous flowering and foliage plants came from Messrs. Fisher, Son & Sibray, Handsworth Nurseries, Sheffield; handsome Zonal Pelargoniums and Chrysanthemums from Messrs. H. Cannell & Sons; Swanley; Cattleyas and other choice Orchids from Messrs. Charlesworth and Co., Heaton, Bradford; and miscellaneous plants from Mr. S. W. Seagrave, Sheffield; Mr. Benjamin Crosslands, Handsworth; and Mr. W. Artindale, Sheffield.

BRADFORD.—NOVEMBER 16TH AND 17TH.

THE eighth annual show was held in the St. George's Hall on the above date. Cut flowers were remarkably well shown, but the groups and plants were not very extensively displayed.

For twenty-four Japanese blooms, in not less than eighteen varieties, Mr. Wells of Earlswood Nurseries, Redhill, Surrey, was first amongst six competitors, and his stand was a remarkably good one. The varieties were Etoile de Lyon, W. G. Newitt, Vivian Morel (2), Princess May, Chas. Davis (2), Mdlle. Thérèse Rey, W. H. Atkinson, Col. Smith, Wm. Seward, Charles Blick, Frank Wells, C. Shrimpton, W. H. Lincoln (2), President Borel, Mons. Panckoucke, Lizzie Seward, Lord Brooke (2),

Louise, Robert Owen, and Vice-President Calvat. The second prize was taken by Mr. G. Burden, gardener to G. B. Cockburn, Esq., Lingdale Lodge, Birkenhead. Third, Mr. Barber, gardener to C. J. Ormerod, Esq., Green Royd, Brighouse, with a good stand. In the corresponding class for incurved Mr. Burden was first for a neat stand of well finished blooms. Mr. Barber was a good second; and Mr. G. Jarvis, gardener to Mrs. Whittaker, Hessle, near Hull, was placed third.

The best of eight stands of twelve Japanese was from Mr. C. Rollinson, Gledhow, Leeds. Messrs. Burden and Barber followed in the order named. Seven stands of twelve incurved were staged, Mr. Rollinson being first with superb flowers. Mr. Burden was a close second, and Mr. Blair, gardener to the Duke of Sutherland, Trentham, third.

In the local class for twelve incurved flowers, Messrs. H. Clark and Son, Radley, Leeds, were first, being followed by Mr. Newbould, gardener to Adolph Jacobs, Esq., Rawdon, near Leeds, while for the same number of Japanese, Mr. Burrell, gardener to J. W. Cockesall, Esq., Shipley, was first with a fine stand of blooms, Messrs. H. Clark and Son and Newbould following in the order named. All the local classes for cut blooms were well filled, the principal winners being Messrs. H. Clark & Sons, T. Burrell, Newbould, Dean and Brooke. Mr. Newbould took three first prizes for Grapes, there being no other competitors.

Only one group was arranged, although a handsome silver cup presented by the Mayor was offered in this class, and was won by Mr. Bell, gardener to J. H. Rand, Esq., Woodside, Raillam.

The orchestra was decorated with a fine background of Palms and other foliage plants from Mr. T. Horsman of Bradford, and in front was a fine group of Orchids from Messrs. Charlesworth & Co., Heaton Nursery, Bradford. A magnificent plant of Asparagus deflexus was staged by Mrs. Jowitt, Heaton. Messrs. Perkins & Son, Coventry, took all the principal prizes for bouquets, and sprays, all of which were very tastefully arranged. Messrs. G. Bunyard & Son, Maidstone, Kent, exhibited about 100 dishes of Apples in leading varieties.

TWICKENHAM.—NOVEMBER 20TH AND 21ST.

THIS exhibition was held in the Town Hall on Tuesday and Wednesday last. Collectively it was a good show, but the system of placing the various exhibits in different rooms somewhat marred the arrangements. In the largest hall the groups and bouquets made a charming display, and the cut blooms arranged in a smaller room were fairly well represented. Mr. E. F. Green, the Honorary Secretary, worked hard to make the show a success.

The incurved blooms were as good as many seen at much larger shows this year. In the class for a dozen flowers Mr. J. Portbury, Putney, was a good first with Golden Empress, Brookleigh Gem, Queen of England, Prince of Wales, John Salter, and Miss Haggas as the best. Mr. C. J. Waite, Esher, was a close second, and this stand included a very fine specimen of Brookleigh Gem. The third prize went to Mr. T. Osman, Chertsey. Mr. J. Simmonds won in another class for twelve incurved flowers. Mr. G. Springthorpe secured the first prize for half dozen blooms of any incurved variety, showing Empress of India in splendid condition. Mr. J. Simmonds was second with Emily Dale, and Mr. A. Farmer third with Mrs. S. Coleman.

Mr. C. J. Waite succeeded in winning the first prize for twenty-four blooms, half Japanese and the remainder incurved flowers, with an even stand. The best of the Japanese were Mrs. C. H. Payne, A. H. Neve, Vivian Morel, Mrs. C. Wheeler, Louis Boehmer, and Florence Davis; of the incurved Mrs. Heale, Lucy Kendall, Violet Tomlin, and Princess of Wales showed up most conspicuously. The second prize went to Mr. J. Portbury, who had good flowers. The last-named exhibitor was first in the class for twelve Japanese, showing fine blooms of Mdlle. Thérèse Rey, Lord Brooke, Pearl Beauty, Etoile de Lyon, and Florence Davis amongst others. Mr. T. Osman was second, and Mr. G. H. Sage third. Mr. Symonds won in another class for twelve Japanese blooms. For six blooms of any Japanese variety, Mr. G. H. Sage was first with Louis Boehmer. Mr. Waite second with Etoile de Lyon; and Mr. Springthorpe third with the same variety.

Anemone varieties were fairly well shown, Mr. Waite being first in the class for a dozen blooms, closely followed by Mr. Springthorpe. Pompons were best staged by Mr. G. Springthorpe and Mr. J. T. Hoar.

Mr. A. H. Richwood won the first prize for a group of Chrysanthemums, staging well-grown plants, all bearing good flowers. Mr. J. Simmonds was a very close second, this group having a margin of Maidenhair Ferns. Mr. A. Tracey was first with a group of Orchids, the second prize going to Mr. A. W. Crosse. Mr. J. Simmonds won with a group of foliage plants, the second award going to Mr. J. E. Burton, whose plants included some splendid specimens. Hampers of plants were a feature, and in this class the prizewinners were Messrs. J. Warden, A. H. Richwood, and A. W. Crosse.

Epergnes and vases of flowers made a good display, the best coming from Miss C. B. Cole and Miss Jessie Wright. Cyclamens were also above the average for the time of year, and Messrs. G. Warden, A. Pentney, and R. Smith secured the prizes for these. Mr. G. Garrard had the best Primulas, and was followed by Messrs. T. P. Macgregor and J. Warden. Messrs. Macgregor, Portbury, and Waite won with table plants.

Miscellaneous exhibits included a collection of Apples from Mr. Will Taylor, Osborne Nursery, Hampton, a group of plants from Mr. H. E. Fordham, Twickenham. Fruit and vegetables were also well shown.

HEREFORD.

THIS society held their annual exhibition again in the Shire Hall on the 14th and 15th inst., and was a success, the fruit being very fine and completely filling the large hall and corridors. The Chrysanthemums were also excellent both in the groups, plants, and cut bloom classes.

Messrs. Bunyard & Co., Maidstone, won the silver cup for 100 dishes of Apples, which were very fine, including magnificent specimens of Peasgood's Nonesuch, that secured the prize for the best dish of culinary Apples in the show. Mr. J. Watkins, Pomona Nurseries, Withington, Hereford, was a splendid second, having Schoolmaster, Atkins' Seedling, Royal Russet, Yorkshire Beauty, Blenheim Orange, and Mère de Ménage, especially fine. The English Fruit and Rose Co., Hereford, came third with beautiful fruit.

In the class for thirty dishes of Apples the competition was very close between Mrs. Evans, Moreton Court, Hereford, and C. Lee Campbell, Esq., Glewston Court, Ross, who took the prizes in the order named, Lady Emily Foley, Stoke Edith, securing third place. In the single dish of Apple classes C. Lee Campbell, Esq., Mrs. Evans, Lady Emily Foley, P. A. Clive, Esq., English Fruit and Rose Company, Miss Bulmer, and W. E. King-King, Esq., took chief honours.

In Pears Messrs. Bunyard & Co., obtained first place for twenty-four dishes with very large and even fruit. Mr. J. Watkins ran the famous Kent growers very close indeed in this class, having fruit of unusual size and colour. The English Fruit and Rose Company came third with smaller fruit. For Grapes and collections of fruit, F. A. Clive, Esq., C. Lee Campbell, Esq., Sir Joseph Pulley, G. F. Morgan, Esq., and Rev. Sir George Cornwall took most of the prizes.

The competition for the silver cup for the best group of Chrysanthemums was very keen. Sir Joseph Pulley secured the coveted position with a remarkably fine group, including a large number of incurved blooms. Messrs. W. Earp & Son, Hereford, were a close second. In the cut bloom classes the latter firm secured first position for thirty-six blooms, distinct; second, P. A. Clive, Esq. For twelve Japanese, and for twelve incurved, Mr. J. Lockyer was the most successful in each case. For thirty-six, and for twelve confined to the county, C. Lee Campbell, Esq., took first honours in each class in a strong competition, followed by J. M. Bannerman, Esq., and C. Loder Gilbert, Esq. The English Fruit and Rose Co. had a good collection of Chrysanthemums and other plants not for competition, and Mr. C. Whiting sent a selection of Palms and floral designs. Lord Llangattock also sent three grand Pines, perfect in shape and colour, of great size.

It may be stated that nearly 3000 dishes of fruit were staged, and scarcely an inferior dish amongst the whole. The system of arrangements are admirable, and reflect the highest credit on Mr. Ough (the able Secretary) and the Committee. Each exhibitor's entry is numbered, and the exhibition cards are enclosed in an envelope, with the number marked on the outside, corresponding with the same in the Secretary's book. As the awards are made the envelopes are opened, and the prize marked on the cards. The plan is very simple. No mistakes are made, each exhibitor has only to look for a similar number to those on his envelope in the classes he has entered in, and put his exhibits there, and no reflection can be cast on the Judges having turned the cards up before giving any awards, as is sometimes done by disappointed exhibitors.

A fruit conference was held the second day of the show, the President (C. Lee Campbell, Esq.) presiding. Papers were prepared by Mr. J. Cranston on "Renovating the Orchards and Fruit Growing for Profit;" Mr. J. Watkins, on "Reduction of the Varieties of Apples and Pears;" and by Mr. S. T. Wright on the "Future of Hardy Fruit Culture." A very interesting discussion followed.

[The above are all the reports for which we can possibly find space this week. Priority has naturally been given to those shows which have been advertised. Those which are crowded out will appear in a future issue. We desire to thank all who have favoured us with notes on Chrysanthemums and on shows in various parts of the kingdom, and to assure them that their co-operation is highly appreciated.]



FRUIT FORCING.

Vines.—*Earliest Forced in Pots.*—The earliest started Vines will now be showing signs of growth, so that the temperature may be slightly increased, maintaining 55° minimum and 65° maximum by fire heat, with 10° more from sun heat, proportionately increasing the atmospheric moisture. The ventilation will require to be moderate, and what is given should be at the top of the house. If side ventilation be employed the cold air must be made to pass the heating surface, so as to become warmed, for cold currents of air are extremely pernicious.

Houses Cleared of Grapes.—When the Vines are leafless and the Grapes cut attend to the pruning. If the Vines are strong, having stout, short-jointed, thoroughly ripened wood, they may safely be pruned to a couple of eyes. If, however, the base buds are small and the Vines from

similar buds in previous years have not given as large bunches as desired, the growths may be left a little longer. It is necessary that a plump round (not flat or pointed) well developed bud on stout, hard, well matured wood be selected for pruning to, striving for a close compact bunch of well set berries with a stout footstalk. Avoid small sharp-pointed buds, they are not usually productive of bunches, and if they are on long-jointed wood the bunches have a tendency to revert to tendrils, or if on weak growths they shrivel instead of developing. Wash the house thoroughly with soap and water, using a brush, and cleanse the glass both inside and outside. Remove the loose bark from the Vines, leaving no harbour for insect pests to hibernate in or under, yet do not damage the live bark. Wash the rods with tepid softsoapy water, not stronger than 4 ozs. to a gallon of water, using a brush so as to reach into every hole, angle, and crevice. Follow with an approved insecticide, or dissolve 4 ozs. of softsoap in a quart of boiling water, preferably by heating and boiling in an iron pan, removing from the fire when thoroughly dissolved and adding a wineglassful (four tablespoonfuls, 2 ozs., or half gill) of petroleum, mixing thoroughly by agitating briskly with a birch switch or egg-beater. This will form an emulsion which can be diluted with hot water to 1 gallon, or as required, using one part of emulsion and three parts water by either weight or measure. It is quite strong enough to kill mealy bug, red spider, and scale, and will not injure the Vines.

Remove the mulching or loose surface material from the border, and place on an inch or two thickness of good fresh loam, mixed with about one-sixth of old mortar rubbish, night soil, and wood ashes in equal parts, the old mortar being passed through a quarter-inch mesh sieve. If these are not available use a mixture of bonemeal, five parts, and sulphate of potash, three parts, mixed, sprinkling 4 ozs. of the mixture on each square yard, and wash in moderately, or if the soil be moist enough mix lightly with the surface soil. The early waterings will wash the assimilated matter down to the roots, and fresh feeders encouraged into the surface soil by the nutrient matter can be kept there by surface dressings, mulching with short manure after the Grapes are set, and feeding with liquid manure, or applications of chemicals washed in. If the houses must be used for plants they should be kept cool, admitting air freely, not exceeding 40° to 50° by artificial means. It is best, however, to dispense with the plants, admitting air in all but severe weather, a few degrees of frost doing no harm to the Vines, but ensuring complete rest.

Houses of Thin-skinned Grapes.—There is no question of these being most esteemed for table purposes so long as they can be had in good condition. Black Hamburgh never surfeits, Foster's Seedling seldom comes wrongly, Madresfield Court always is appreciated, and Muscat of Alexandria by universal acclaim is superior to all Grapes. The somewhat heavy and continued recent rains have saturated the soil and atmosphere. Air is the great secret in keeping thin-skinned Grapes, for a moderate amount of air moisture is necessary to avoid undue evaporation and consequent shrinking of the Grapes, it not being so much air moisture as a stagnant atmosphere—the deposition of moisture on the berries—that is fatal to the keeping of Grapes. Slight warmth will be required in the pipes almost constantly to maintain an equable temperature, but this must not be high, or it will cause the berries to shrivel prematurely, 50° not being exceeded by artificial means, or 5° more for Muscat of Alexandria, ventilating freely and early in bright weather, so as to prevent moisture being condensed on the berries. The outside border will have been covered with some material to throw off the rains, glazed lights being the best, and the inside borders are better covered with ordinary or straw mats, so as to prevent their cracking, and to keep down moisture likely to arise and prove injurious.

Cucumbers.—Damp weather often leads to attacks of mildew on old plants, as the discontinuance of syringing gives a free hand to the fungal germs to obtain a seat and push mycelium over the leaf surface, with suckers here and there for hold and drawing supplies of nourishment from the tissues of the plant. Dusting with flowers of sulphur is the best preventive and remedy for this parasite on Cucumber plants, or brush the hot-water pipes with a cream formed of sulphur mixed with skim milk, and the fumes will kill mildew, red spider, and white fly. In dull cold weather the fruits are liable to become stunted, either damping at the ends, or failing to swell properly. This can only be avoided by careful management, being cautious in ventilating, providing it, however, whenever a favourable opportunity offers, but not when the external air is sharp and cold. In bright but keen-air weather turn off the top heat when the sun is powerful and likely to raise the temperature above 80°, damping the house morning and afternoon, closing early so as to enclose and gather solar heat. In damping do not wet the embryo fruits, or they will decay. Water will be required at the roots about twice a week, erring on the side of dryness rather than that of wetness. Maintain a night temperature of 60° to 65°, and 70° to 75° by day, and allow an advance of 10° to 15° from sun heat.

The plants from the August sowing that were planted in September have grown to the extent of the trellis, or nearly so, and have been kept from bearing by nipping off all flowers as they appeared. This should be continued for some time longer, for unless the plants are unduly vigorous it is not desirable to allow them to bear fruit for a few weeks, as the stronger the plants the better they will stand the strain of bearing during the winter. Attend frequently to stopping, thinning, and tying the shoots, avoiding overcrowding, and remove every decayed leaf promptly. If canker appears rub quicklime into the affected parts, and repeat as necessary. Aphides sometimes attack the plants, and are perhaps best subdued by repeated moderate fumigations

with tobacco. Strong doses must be avoided, or they may damage the foliage irreparably.

THE KITCHEN GARDEN.

Protecting Broccoli and Cauliflowers.—That valuable variety, Veitch's Autumn Protecting Broccoli, is far from being hardy, but pays well for protection. Merely tucking old leaves over the more forward hearts has been up to now equal to preserving them from frosts, but it is not well to depend upon such light protection after this date. Those that are nearly or quite fully grown should now be raised out of the ground and laid in thickly in a shed, or where they can be matted over when a severe frost is expected, and these will then keep for a fortnight or longer. Those with hearts only just forming ought to be lifted with a small ball of soil about the roots, and be replanted in either deep pits, frames, or in cool vineries, protection from frosts being afforded in either case. Pack them only moderately closely together, removing only the very oldest outside leaves, and firmly surround the roots with rich moist soil. If kept airy and not allowed to become dry at the roots they will produce medium-sized, very clean, and most acceptable hearts during December and the early part of January. Other varieties of autumn Broccoli might be similarly treated, but it is somewhat early to interfere with Snow's Winter White. If there are any late planted Autumn Giant Cauliflowers not yet cut, or still to produce hearts, these also should be treated similarly to early Broccoli.

Celery.—Advantage should be taken of a dry time to push on with the earthing up of Celery. If once the leafstalks are frozen through they will soon commence decaying, and this decay gradually spreads downwards, till at last the hearts are reached. The very latest will not, in many cases, be forward enough for the final moulding up, but the leafstalks ought to be brought up together, and enough fine soil placed round them to keep them so, a final moulding being given early in December. It should be remembered that Celery does not keep any better for not having soil banked up around it till very late in the autumn, and undue delay may have quite the contrary effect. What the cultivator has to guard against is premature earthing up the soil, pinching the stalks together to the extent of preventing the proper development of the hearts. Soil only moderately moist is the best protection against frosts, and if it is banked up high enough to enclose at least the lower half of the leaves, and so smoothed over and rounded off as to throw off much of the water that falls, there will not often be many losses. In low wet positions surrounding the Celery with ashes, or, better still, fine ballast answers well, this also keeping the hearts cleaner or freer from slugs. In all such cases high planting rather than planting in deep trenches should be practised, and grips ought also to be cut with a view to running the top water away quickly. If further protection is thought necessary let it be in the form of boards nailed together V fashion, and inverted over the rows. Straw litter and bracken hovered over the plants when dry protect effectively, but when it gets wet it does more harm than good.

Endive.—Quite small plants or any put out late are not injured by a moderately severe frost, but any either three parts or fully grown are far from being frost-proof. If only the tips of the leaves are damaged the rest of the plant soon becomes a mass of decay. Luckily Endive transplants readily, and will keep well in pits, frames, cool vineries, Peach houses, and even open-fronted sheds—this in preference to tying them up together in the old-fashioned method, and packing in dry sand under cover of a shed. Select a dry day for lifting the plants, and if tied up together they are less liable to be broken in moving. Lift with a moderate amount of soil about the roots, and carry on handbarrows to where they are to be replanted. Those to be blanched and used quickly, and which would be fully grown when moved, may be packed closely together and the ties removed from a portion of them, blanching taking place without much further trouble. That which is to keep as long as possible should be given sufficient room to admit of their opening out considerably, and these should have some good rich soil to root in. Keep them moist at the roots, give abundance of air and protect from severe frosts, also guarding against an excess of fire heat. Merely tying them well up together, the outer leaves quite enclosing the hearts or excluding light from them by means of brown paper and mats spread over a breadth at a time, will have the effect of blanching the hearts in three weeks or rather less; but if a few dozen plants are introduced to a Mushroom house once a week the hearts will blanch quicker. It is the green curled forms that should be principally used first, the Broad-leaved Batavian keeping best, and Lettuce can also be wholly dispensed with when the Batavian forms are in good condition.

Lettuce.—The growth of late raised plants has been well sustained. When fully grown a slight frost will spoil the hearts, whereas if the greater portion of the plants were lifted and stored as advised in the case of Endive, the supply of good Lettuce might be carried on till mid-winter. All the Year Round is the best keeper, and neat little close hearts are plentiful enough as yet.

Sowing Peas and Beans.—Very few persons take the trouble of sowing these in the autumn nowadays. A more regular plant, and quite as early gatherings, can be had by sowing under glass in February, transplanting to the open when the plants are fit and the weather favours the work. Those who still prefer the older practice, and it answers fairly well on the lighter soils where slugs are not over-plentiful, should sow the early round-seeded forms, of which William I. and Eclipse are hard to surpass. The ground ought to have been matured and got ready long enough for it to settle and break down finely, and the drills should be drawn from 3 feet to 4 feet asunder, rather wide,

and 2 inches deep for Peas, sowing the seed rather thickly. Mazagan and Veitch's Early Longpod Broad Beans may also be sown now, dropping the seed in freely in drills 30 inches apart. The seedlings of either kind must be well protected from birds and slugs.

THE BEE-KEEPER.

APIARIAN NOTES.

CHLORIC DROPSICAL FEVER.

DURING the past spring this disease, first experienced by me in 1863, was prevalent, few apiaries being free from it; but in the majority of cases the disease left before the whole of the bees died, though not before it had rendered them profitless. Near me numerous bees of different breeds were affected during the spring and summer, but are now in a healthy condition. A hive of Carniolans, in my own apiary was badly affected during the summer, though it gave me a fair surplus of honey and appears now to be healthy, but some of the progeny seem affected. In one case the disease manifested itself at the beginning of October, from fifty to a hundred bees dying daily, while the symptoms of the hive generally were unmistakeable. Great heat, a quivering motion of apparently healthy bees, fanning constantly through the daytime were symptoms, those further advanced being swollen and listless.

I have been trying different medicines, including sulphate of iron dissolved in honey, but owing to the advanced time of year the bees did not partake of it. About 4 o'clock P.M. on the 12th many bees were leaving the hives in a manner similar to wounded bees do, the greater number rolling from the entrance. In several hours after the entrances were completely stopped, and the floors were covered with a deep coating of dead bees, leaving very few bees and the queens still alive. Whether the remnant left will remain healthy time only will disclose, but never in all my experience have I witnessed so rapid an extinction from the worst disease bees are attacked with.

As yet no remedy is known for it, but from the fact that the disease becomes arrested in some hives, bee-keepers will have a better opportunity of grappling with it, especially so if the source of the disease can be traced. Had my bees taken the medicated food it would have been attributed by some persons to the suddenness and enormity of deaths. The disease appears to be hereditary, but does not affect the health of the queen, only her progeny, which may be perpetuated for generations. — A LANARKSHIRE BEE-KEEPER.

STARTING BEE-KEEPING.

WHEN is the best time to start bee-keeping? What is the best kind of bee? and What hive should I use? These and similar questions I am often asked. A few remarks on this subject may be of interest to intending bee-keepers. Now is a good time to commence, either by purchase or otherwise; but the buyer should be certain that the stock has ample stores to last until the spring. If there is any doubt in the matter it will be better to wait until April. By that time the fruit trees will be coming into bloom, and from then onwards the natural supply of food will be coming in freely. In many country districts there are still a number of bees kept in straw skeps, and these can usually be obtained at a reasonable price. If there are several stocks to select from choose those that are strong in bees and sealed stores. A good stock in a straw skep should at this time of the year weigh at least 28 lbs. Turn up the hive and select those that have good straight combs, as they will be much better for transferring into a frame hive than crooked or damaged ones. The colony should be headed by a young fertile queen.

The advantage of starting with a good stock at this time of the year is being able to get a good early swarm from it, and three weeks afterwards transfer the combs of old stock to a frame hive. It is better for a beginner to start with a single stock, and as experience is gained it can be increased to whatever number may be required either by swarming or divisions. Should it be a forward season the bees will probably swarm in May. These ought to be put in a frame hive, each frame having a full sheet of comb foundation, or a strip of guide comb fixed on top bar. This will enable the bees to build their combs straight, which is a great advantage in handling them; for if the combs are crooked they will not be interchangeable with others. Were there no guide comb fixed in the frames the bees would be just as likely to build their combs in an opposite direction, in which case they could not be examined, and would be practically useless in that form, and

eventually have to be cut out and be fixed in the frames in the same manner as transferring is done.

I experienced a difficulty of this kind last year. A farmer who had kept bees in straw skeps for several years was very timid of them, so the work of hiving swarms was delegated to one of the farm hands. He invested in a frame hive, and about the end of May a swarm came off from one of his straw skeps. It was hived, and at once shook into the frame hive without any guide comb or covering of any description on top of the frames. Fortunately the roof was put on the hive, and so they were left to take their chance. About the middle of September he asked me to come and look at his bees, as he could not lift the roof off the frame hive, and I soon found out the reason. The bees had fixed their combs to the roof, and had filled the hive from roof to floor board with combs of splendid honey. The combs were built across the frames, so all had to be cut out. This was done by forcing the roof up until a knife could be inserted, the combs were then cut off level with the top of frames. The roof of hive was then reversed and the combs of honey lifted out, and the bees brushed into a straw skep, afterwards putting them in a frame hive on some fully drawn out combs. They were at once fed for winter, and came out strong the following spring. There were upwards of 60 lbs. of honey from this hive, which came as a great surprise to the farmer, as he had never seen so much honey from one hive before.

For transferring I find nothing better than strips of raffia for keeping the combs in position, as by spreading out four or five strips on a table and laying the frame on them and putting the combs in them whilst in this position, bring the strips of raffia round the bottom of the frame and tie round the top bar. The bees will fasten the combs secure, and in twenty-four hours the covers can be lifted from the top of frames, the raffia cut and drawn out from the top without disturbing the frames.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

James Cocker & Sons, Aberdeen.—*Forest Trees, Shrubs, and Roses.*
 Dicksons, Ltd., The Nurseries, Chester.—*Forest and Ornamental Trees.*
 E. Domaille, La Colombelle, Guernsey.—*Pinks and Carnations.*
 Henry Eckford, Wem, Shropshire.—*New, Culinary, and Sweet Peas.*
 J. Jefferies & Son, Cirencester.—*Forest and Fruit Trees and Roses.*
 Little & Ballantyne, Carlisle.—*Ornamental Trees, Shrubs, and Roses.*
 J. B. Riding, Chingford, Essex.—*New and Choice Chrysanthemums.*



* * All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Carnation Diseases (*Scientist*).—We have an article of the nature you suggest from Mr. G. Abbey, which will appear in an early issue of the *Journal of Horticulture*.

Photographs (*J. S.*).—We are always pleased to see good photographs of picturesque garden scenes, or representing superior examples of culture; but by no means all that come to hand are suitable for engraving. We return such as are not used, if desired to do so at the time they are sent.

Cycas revoluta (*J. J. C.*).—"The proof of the pudding is in the eating," and so the proof of your Cycas ovules being perfect can only be proved by their healthy germination. These plants being dioecious, or bearing male and female organs on separate plants, and as you had no male plant it is extremely unlikely that the ovules are fertilised. They may have albumen, but probably have no embryo developed. It is by no means uncommon for ovaries to be developed that bear no seeds, or for seeds to be formed minus any embryo.

Exhibiting Reflexed Chrysanthemums (*U. K.*).—Most judges would disqualify a stand containing the varieties you mention, and there is nothing in the schedule to show they would not be right in doing so. You need not sound the "x" in either of the names you indicate.

Setting out Flower Beds (*Constant Reader*).—You would find all you require in Loudon's "Self Instruction for Young Gardeners" if you could procure a second-hand copy; the price is 2s. or 3s. Or procure Clifford's "Primer of Geometry," 1s., from Macmillan. A little practical experience with straight-edge and line with a few pegs on the ground, will enable you to lay out the figures.

Goodia latifolia (*A Young Gardener*).—There is much truth in your remark, which applies with equal force to many other similar plants that are now rarely cultivated, though they would help materially in



FIG. 73.—GOODIA LATIFOLIA.

increasing the diversity of effect in houses too frequently distinguished by monotony. Goodia latifolia (fig. 73) is an Australian evergreen shrub which has been in this country for a great number of years, but has gained a small share of popularity. These old plants are unknown to the present-day gardeners, and when a specimen is exhibited or some old collection is visited when the plants are flowering they attract as much attention as a novelty. This Goodia is not a sensational plant by any means, but it is well worth growing. The golden flowers, with a dash of red at the base of the "standard," are numerous borne, though comparatively small individually, and a well-developed specimen is a useful occupant of a conservatory or greenhouse. Both *G. latifolia* and its relative *G. pubescens* require a compost of loam and peat with good drainage, and they can be increased either by seeds or cuttings, the latter receiving similar treatment to Heaths or other hardwooded plants.

Crassane Pear Growths Thorny (*H. T.*).—It is not unusual for some Pear trees in their young state to have long thorny spurs, some of them, as in your case, very sharp. They are more disposed to produce the thorny growths on the free or Pear stock than on the Quince, for they bear earlier and produce fruitful growths on the Quince sooner than on the Pear stock, but they have the thorns on both stocks when young and extra vigorous. It is not likely the tree is on the White Thorn, as nurserymen very rarely use it as a stock, but it may be

on the wild Pear, which is very spiny, and on that account makes a good hedge plant, particularly near the sea. In that case even the thorny character of the stock would not be imparted to the scion or graft, which retains its characteristics on any stock, therefore the spines are due to the variety—a tendency to produce thorny growths when young and vigorous. It is easy to distinguish the stock on which the tree is worked, as there is a considerable difference between a Pear and a Quince in their barks. The tree will outgrow the thorny spurs as it gains fruitfulness.

Chrysanthemums (The Boy).—All the Chrysanthemums we are acquainted with in your list are vigorous growing sorts, and should produce large exhibition blooms under the orthodox treatment of striking cuttings in December, allowing the plants to grow with one stem until the first natural break occurs, then confining the number to three stems, allowing each to carry one bloom. Wyndmoor and George R. Gauze we do not recognise. With the exception of Beauty of Castlewood all are of the ordinary early November flowering varieties. That named is perhaps a few days later in opening its blooms. No trouble should be experienced in getting good blooms of Waban and Lord Brooke, but the buds should not be "taken" before August 15th. Grow the plants well, and by striking them early the wood should mature early in the season!

Inserting Mushroom Spawn in Pastures (H. T. H.).—Perhaps the best time for inserting the spawn is as soon in the early summer as the soil is fairly dry, and there is a prospect of fine weather for some time afterwards. This may be reckoned from the early part of May till the middle of June. Some persons consider the midsummer set spawn gives the best results, while others prefer late summer insertion. All are no doubt right from their respective standpoints. The chief point seems to be to get the spawn to spread, and for that purpose the ground must only be moderately moist, and then if a dry time follow the spawn becomes established in the soil, and is able to take care of itself in wet weather. It is desirable that large pieces be used, a "brick" being divided into four parts, small portions being more likely to perish should heavy rains ensue shortly after insertion. Common salt sown on pastures has been found to promote the growth of Mushrooms. See Wright's "Mushrooms for the Million," post free for 1s. 2d. from this office.

Forcing Stephanotis—Destroying Scale (A. H. E.).—The temperature you mention—65° at night and 76° by day from fire heat—will be quite sufficient to bring this plant into flower; but its being rested for some time previously is essential to prompt growth at starting time. Stephanotis, however, is not easily started into flower growth during the dead season of the year, but soft wood starts fast enough, and is worse than useless for producing flowers. We should not increase the temperature until the turn of the days, making, however, the most of sun heat. For special purposes, and after the plants have had a long rest, Stephanotis are sometimes started and brought into flower in a night temperature of 70° to 75°, with 10° to 15° rise by day with sun; but whether such a practice is worth trying on plants in borders we are not prepared to take the responsibility of advising. It is matter for your judgment. For the scale petroleum mixed with softsoap and water is prepared as follows:—Softsoap, 1 lb.; water, 1 gallon; petroleum, ½ pint. Place the softsoap and water in an iron pan over the fire; when boiling and the soap is thoroughly dissolved, remove from the fire, then (and while boiling hot) add the petroleum, and stir briskly with a switch of twigs till the whole be thoroughly incorporated; then dilute with hot water to six gallons, and apply with a spraying apparatus or fine syringe at a temperature of 130°. This will destroy all soft "scales," but not the eggs beneath the older shells, therefore it will be necessary to repeat the application as essential to effect a thorough clearance. Once the plant is cleared of the insects they would not appear again without the introduction of a fresh stock, for they are not bred from nothing.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (J. W. P.).—1, Rotten; 2, Ord's Apple; 3, Golden Russet; 4, Franklin's Golden Pippin; 5, Yellow Ingestrie; 6, not known. (J. A.).—1, Gloria Mundi; 2, Wormsley Pippin, both very good examples.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds

should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (H. A.).—*Justicia flavicoma*. (B. F.).—1, *Jasminum gracillimum*; 2, *Passiflora quadrangularis*; 3, *Plumbago capensis*. (C. D.).—1, *Adiantum cuneatum*; 2, *Pteris serrulata*. (Yorks).—*Begonia metallica*. (Amateur).—Chrysanthemums are florists' flowers, which we do not name. (X. Y. Z.).—*Bignonia speciosa*. (North Country Reader).—1, *Euonymus europæus* (Spindle Tree); 2, *Symphoricarpos racemosus*; 3, Possibly *Gaultheria Shallon*; 4, Probably *Viburnum Lantana*; 5, *A Cornus*. With the exception of 1 and 2 the specimens were totally insufficient for positive identification. If you send again kindly read the rules given above with reference to attaching the numbers in a proper manner.

COVENT GARDEN MARKET.—NOVEMBER 21ST.

PRICES show no improvement. Trade very slow.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, per half sieve ..	1	6	to	4	6	Lemons, case	10	0	to 15 0
„ Nova Scotia, per barrel ..	10	0				Peaches, per doz. ..	0	0	0 0
Grapes, per lb. ..	0	6				Plums, half sieve ..	0	0	0 0
Cobs, per 100 lbs. ..	22	6				St. Michael Pines, each ..	2	0	6 0
						Strawberries per lb. ..	0	0	0 0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Beans, Kidney, per lb. ..	0	6	to	0	0	Mustard and Oress, punnet	0	2	to	0	0
Beet, Red, dozen ..	1	0		0	0	Onions, bushel ..	3	6		4	0
Carrots, bunch ..	0	3		0	4	Parsley, dozen bunches ..	2	0		3	0
Cauliflowers, dozen ..	1	6		3	0	Parsnips, dozen ..	1	0		0	6
Celery, bundle ..	1	0		1	3	Potatoes, per cwt. ..	2	0		4	0
Coleworts, dozen bunches	2	0		4	0	Salsafy, bundle ..	1	0		1	5
Cucumbers, dozen ..	1	0		2	6	Scorzonera, bundle ..	1	6		0	0
Endive, dozen ..	1	3		1	6	Shallots, per lb. ..	0	3		0	0
Herbs, bunch ..	0	3		0	0	Spinach, bushel ..	1	6		3	0
Leeks, bunch ..	0	2		0	0	Tomatoes, per lb. ..	0	2		0	6
Lettuce, dozen ..	0	9		1	0	Turnips, bunch ..	0	3		0	4
Mushrooms, punnet ..	0	9		1	0						

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.		s.	d.		s.	d.		s.	d.
Arum Lilies, 12 blooms ..	3	0	to	4	0	Poinsettia, dozen blooms ..	3	0	to	6	0
Azalea, dozen sprays ..	0	6		1	3	Pyrethrum, dozen bunches	2	0		4	0
Asparagus Fern, per bunch	1	0		2	0	Roses (indoor), dozen ..	0	6		1	0
Bouvardias, bunch ..	0	6		1	0	„ Tea, white, dozen ..	0	6		2	0
Carnations, 12 blooms ..	1	6		3	0	„ Yellow, dozen ..	2	0		3	0
Chrysanthemums, doz. bchs.	3	0		9	0	„ Safrano (English), doz.	1	0		2	0
„ doz. blooms	1	0		3	0	„ Maréchal Niel, doz. ..	3	0		6	0
Eucharis, dozen ..	2	0		4	0	„ (French), yellow, doz.					
Gardenias, per dozen ..	2	0		4	0	blooms ..	1	6		2	0
Geranium, scarlet, doz.						„ (French), Red, dozen					
bunches ..	4	0		6	0	blooms ..	2	0		2	6
Lilac (French) per bunch	3	6		5	0	Smilax, per bunch ..	2	0		3	0
Lilium longiflorum, per						Stephanotis, dozen sprays	4	0		6	0
dozen ..	6	0		9	0	Tuberose, 12 blooms ..	0	4		0	6
Marguerites, 12 bunches ..	1	6		3	0	Violets (English), dozen					
Maidenhair Fern, dozen						bunches ..	1	6		2	0
bunches ..	4	0		6	0	Violets (French), Parme,					
Mignonette, 12 bunches ..	2	6		4	0	per bunch ..	2	0		3	0
Orchids, per dozen blooms	1	6		12	0	Violets (French), Ozar, per					
Pelargoniums, 12 bunches	6	0		9	0	bunch ..	1	0		2	0
Primula (double), dozen						Violets (French), Victoria,					
sprays ..	0	6		1	0	dozen bunches ..	1	6		2	0

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.	
Arbor Vitæ (golden) dozen	6	0	to	12	0	Ferns, in variety, dozen ..	4	0	to 18	0
Aspidistra, per dozen ..	18	0		36	0	(small) per hundred	4	0		6
Aspidistra, specimen plant	5	0		10	6	Ficus elastica, each	1	0		7
Chrysanthemums, per doz.	3	0		6	0	Foliage plants, var., each	2	0		10
„ large, per doz. ..	9	0		18	0	Lycopodiums, per dozen ..	3	0		4
Cyclamen, per dozen ..	9	0		12	0	Marguerite Daisy, dozen ..	6	0		12
Dracæna, various, dozen ..	18	0		42	0	Myrtles, dozen	6	0		9
Dracæna viridis, dozen ..	9	0		24	0	Palms, in var., each	1	0		15
Erica, various, per dozen ..	9	0		18	0	„ (specimens)	21	0		63
Euonymus, var., dozen ..	6	0		18	0	Poinsettia, per dozen ..	10	0		15
Evergreens, in var., per						Primulas, per dozen	4	0		6
dozen	6	0		24	0	Solanums, per dozen	10	0		12



WINTERING DAIRY COWS.—1.

WELL-FED, well-housed, well-groomed, clean, healthy animals, having enough sweet, wholesome, nourishing food to sustain condition and a full milk yield, with pure water and clean dry litter for bedding, the home farmers' cows should continue to afford a supply of pure milk and untainted butter throughout

winter. All cows should do this, for the simple but cogent reason that it is for the owner's interest to afford them all such advantages of shelter, food, and general care. The home farmer may be able to do this with his superior advantages—often in the guise of a model homestead, replete with conveniences which range far beyond what is absolutely necessary. For general utility we want nothing fanciful, but simplicity in its best combination with utility. Shelter, wholesome food, and cleanliness are the essential fundamentals, and they certainly should come within the scope of every farmer's means. Shelter may be termed the landlord's affair; it is so as regards a due provision of yards and buildings. It is the tenant's business, as assuredly it is his interest, to see that the farm he hires has ample means of shelter for his cows, and to turn it to full account.

Shelter for this important purpose in the winter, when confined to its most simple form, consists of snug yet commodious cow-house, with good roof ventilation by fixed louvres, walls kept well limewashed, stall floors having an even gentle slope to a wide slightly sunken gutter, with a large outlet or drain. The doorways should be of ample width—never less than 6 feet, with sliding doors, easily moving on runners along the wall. This is a great improvement upon the hinged swinging door, so often left unfastened, to be blown about by high wind or to the injury of cows. With the cowhouse on one side of the yard, there should be two deep open hovels on two other sides; preferably we would have the cowhouse on the west side, with the open sides of the hovels facing south and west. Such hovels should never be less than 18 feet in width, with ample length, divided if necessary with one or more divisions in the yard to afford prompt means of separating the cows—a very necessary thing in a large herd, where a process of grading into two or three sizes is conducive to the peace and comfort of the entire herd. With such hovel accommodation it would only be necessary to use the cowhouse at night for weakly animals or for the whole of the cows in stormy weather. For sick, weakly or calving cows we have found two or three large loose boxes a great convenience; so, too, are calf pens, all under the same roof and all being accessible from the cowhouse. For cases of abortion we prefer having a separate hovel and yard in a paddock at some distance from the cowyard, mention only being made of it here as coming under the category of necessary shelter. Number of calf pens, loose boxes, and size of cowhouse and hovels is a mere matter of detail ruled entirely by size of herd. In connection with it we may mention that experience taught us long ago not to attempt rigid precision as to numbers in the dairy herd, but rather to provide sufficient accommodation for a few extra animals so as to allow a fair margin for casualties.

Happy is the man having the advantage of covered yards. No need has he to worry about the weather or negligent stockmen, for with such an efficient means of shelter there can be no undue exposure of cows on stormy nights; the ventilation is so perfect that pure air is a certainty, and, what is more, it is so easy to keep up condition in the cows. This is a point in connection with shelter upon which it is impossible to place too much stress. In some herds the whole of the cows are in calf during winter; in others calving goes on at intervals throughout winter, and if, as is so frequently the case, the cows are exposed to cold and wet very much of their food goes to sustain vital heat; there is then a serious falling off in condition, both the cows and their progeny suffer, and the owner of the herd suffers too financially. We wish to make it quite clear that shelter is a fundamental in dairy farming of the first importance, which should always be regarded as a primary matter requiring attention before a single cow is placed on a farm. So regarded it would have the attention its importance merits, and each homestead would then have that ample provision of shelter which we hold to be altogether indispensable.

WORK ON THE HOME FARM.

A last sowing of winter Tares in October finished such autumn work. Since then root-carting has gone on so briskly that not only were the roots off the land before the heavy rain set in, but the land itself was ploughed. With such an abundance of "keeping" as we have this autumn, there was no necessity for turning in the flock to clear up the leaves of Mangolds and early Swedes; they were ploughed in to contribute a useful modicum of fertility to the soil.

Autumn tillage was managed fairly well, but the pressure was greater than usual owing to the late harvest. All clean stubbles not required for winter corn were ploughed and left long enough to destroy what weed growth there was upon them, then by using the double-breasted plough across the furrows, the land was left well ridged for winter. The tillage of foul land (*i.e.*, land infested with perennial weeds) has been a heavy matter this autumn, owing to the exceptionally strong growth induced by showery weather, and we much fear there is enough couch grass left behind to give trouble next season. Clover layers on which sheep were kept late, or where the second growth was saved for seed, white Turnips, Cabbages, and similar crops now being folded, are the only cases of necessity for late or winter ploughing. All other work of this kind should be finished, and the horses kept off the land while it is tender from heavy rainfall.

We have seen some seed Clover which had evidently been mown for some time, looking so black and sodden that a good sample of seed, or any seed, seemed impossible. Such failures are frequently owing to mowing the first crop for stover (the East Anglian term for Clover-hay), and then leaving the second crop for seed. This causes the seed to be so late in coming to maturity that the mowing cannot be done till October, and then if rain sets in away goes any chance of seed sowing, and the spoilt Clover is carted to the yards for the cattle to trample down into muck. The only safe plan even in the dry climate of the Eastern counties is to fold off the first growth with sheep, then the second growth is so robust and forward that a fine, bright, heavy sample of seed is obtained.

MESSRS. WEBB & SONS' ROOT COMPETITION.—A list of the winners of prizes for root crops in several counties, offered by the above named firm, have been sent to us. We can only say that there are four 15-guinea prizes, with many of smaller yet substantial amounts, and that the greatest weight of Swedes appears to be 45 tons per acre, and the heaviest crop of Mangolds upwards of 53 tons. Evidently the land is not played out all over the country.

OUR LETTER BOX.

Dietary for Stall Beasts (H. A.).—Let them have as much water as they like, and pay no heed to fanciful objections. Your mixture of cake and corn is good—we might say very good were we certain of the quality of the cake. For corn, we prefer two parts of crushed Oats to one part each of Wheat and Barley. The points of vital importance in such a dietary are digestibility and the albuminoid ratio. We hope to go into this shortly, but meanwhile may assure you of our high opinion of such a mixed dietary. As you do not mention the amount of lay used, we hope the steers have as much as they can clear up. We are glad you find our advice reliable. Come to us in any difficulty. In "Work on the Home Farm" last week the accidental omission of a word distorted the meaning. "The best meadow forming the bulk of food now;" it should have been the best meadow *hay*.

METEOROLOGICAL OBSERVATIONS.

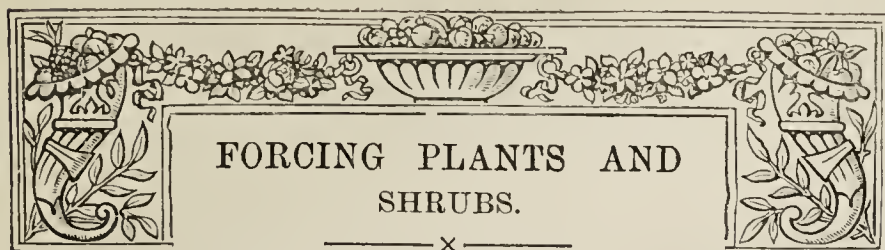
OAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet

DATE.		9 A.M.				IN THE DAY.				Rain.	
1894.		Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
November.			Dry.	Wet.			Max.	Min.	In Sun.		On Grass.
			Inchs.	deg.			deg.	deg.	deg.		deg.
Sunday	.. 11	29.439	42.8	41.2	N.W.	48.0	51.1	40.0	70.1	35.8	0.430
Monday	.. 12	29.177	47.3	46.8	S.W.	47.4	54.8	42.2	60.3	39.6	0.618
Tuesday	.. 13	29.690	43.2	41.2	W.	47.6	51.9	41.0	80.0	37.9	0.114
Wednesday	.. 14	29.196	51.3	49.4	S.W.	46.9	52.9	42.6	53.0	38.3	0.656
Thursday	.. 15	29.263	43.1	42.1	N.W.	47.1	48.7	42.2	65.1	39.0	0.144.
Friday	.. 16	29.888	44.8	43.8	S.	46.0	51.9	41.9	73.0	37.2	—
Saturday	.. 17	30.164	48.1	46.9	S.E.	45.6	53.4	43.1	74.8	38.4	—
		29.545	45.8	44.5		46.9	52.1	41.9	68.9	37.7	1.962

REMARKS.

- 11th.—Bright sunshine all day; heavy rain from 8 P.M. to midnight.
 12th.—Almost incessant rain till 2 P.M.; gleams of sun at 3 P.M., showery again from 4 P.M., and heavy rain and hail at 5.15 P.M., lightning and thunder 5.25 to 5.45 P.M., and dull, rainy evening.
 13th.—Bright sunshine almost all day; gale and slight showers at night.
 14th.—Gale all morning, and almost continuous rain from 0 A.M. to 5 P.M.; dull evening, moonlight night.
 15th.—Continuous rain from 5.45 A.M. to about 11.30 A.M.; faint sunshine from 0.30 P.M. and bright afternoon and night.
 16th.—Rain from 7.30 to 8.30 A.M., then misty with occasional sun, and bright sun from 10.30 A.M.
 17th.—Fair morning; bright sunshine from 11.45 A.M., and fine night.
 Colder and very damp, with excessive but by no means unprecedented rainfall.—
 G. J. SYMONS.



FORCING PLANTS AND SHRUBS.

IN those establishments where a constant supply of cut flowers and flowering plants have to be kept up the work of preparing suitable materials for the purpose will now require to be taken up in earnest. Owing to the absence of sunshine during the past summer those cultivators who through lack of space, or from other circumstances, have not given those shrubs and plants intended for forcing abundance of room during the season of growth, will, I fear, meet with some disappointment through the treacherousness of unripened wood. On the other hand, where the plants have had ample space, judging from present appearances, the season has been a favourable one.

This seems to have been particularly the case with Christmas Roses. These are moisture-loving plants when in bloom, and our clumps intended for lifting look extremely promising. They will only require to be brought on gently to have them in full beauty by the festive season. Where they are wanted for supplying cut flowers only they may be grown splendidly by packing the roots closely together on the floor or stage of a cool vinery, placing in a little soil among them as the work proceeds. When this part of the operation is completed, if one good watering through a rose is given but little will be afterwards required. If the clumps are taken into a house of the above description during the last week in November, and just enough fire heat given to keep out frost, a little judgment used in the regulation of ventilation will insure fully developed flowers a few days before Christmas. These popular plants are also exceedingly useful for growing in pots. Many gardeners do not set a very high value on them for use in this way, because the foliage is much disfigured by the time the flowers expand. This difficulty is, however, easily got over by sticking points of *Rhododendron ponticum* into the soil and arranging them in a natural way. These so nearly resemble the leaves of the *Hellebores* that with casual observers they pass as such, and keep perfectly fresh till the flowers have faded. Large pans packed with clumps of Christmas Roses, with a few *Rhododendron* tops added when in flower, form one of the most effective combinations of white and green to be met with at Christmas time.

Plants of *Deutzia gracilis* which have been kept in pots should now be taken into heat. If these are in good condition they may be thus brought into full flower soon enough to allow of their being placed in a cooler structure a few days before being used for Christmas decorations. Those readers who have to rely entirely on plants lifted from the open air, are likely to experience much disappointment this year if they subject them to very hard forcing. Indeed all who grow this extremely useful shrub in quantity should always make a point of keeping a considerable number in pots throughout the summer. If these are plunged in ashes in an exposed position, well attended to in the matter of watering and feeding, they are in every way superior to lifted plants for forcing. That treacherous way the flowers often have of turning brown and dropping never exhibits itself on plants kept in pots throughout the previous summer unless they have been much neglected. Additional plants required to give a succession of flowers should be potted at once and plunged over the rim of the pots in the open air, if this has not been done already.

Spiræa japonica, and its companion *astilboides*, seem to be quite

as popular for forcing as ever. This is not to be wondered at, because both plants and cut flowers lend themselves so readily to various kinds of decorative work. In potting the clumps I do not divide them, as I find they do not force so well if disturbed much at this season. The division required should be done when they are being planted in the open air, and by arranging them in various sizes then a decided advantage is secured. If a little bottom heat can be given to the earliest plants they may be pushed on very quickly. Few forced plants are so much benefited by high feeding as *Spiræas*, indeed they seem to revel in liquid and artificial manures quite as much as *Chrysanthemums* do. Liquid manure made of cow or sheep dung, in which soot enclosed in a bag has been kept, is especially good for *Spiræas* when growth is in full progress. This may be given in a diluted state at each watering, an application of chemical manure being also given occasionally. Under this system of high feeding, if saucers are kept under the plants they ought to be frequently emptied, otherwise many of the bottom roots will be killed should a few dull days set in, when the superfluous water would not be taken up by the plants.

Indian Azaleas when they are free from insects force splendidly, but in cases where the plants have been badly infested with thrips sharp forcing should not be attempted, or it will assuredly prove unsatisfactory. In all instances the plants should be kept near the glass, and syringed frequently with warm water till the flowers begin to open. With this treatment they will bear a temperature ranging between 60° and 75° without injury. *Deutsche Perle* (white), *Emperor of Brazil* (rose), *Imperatrice of India* (white and carmine), *Sigismund Rucker* (lilac), are all good varieties for the purpose.

The deciduous Azaleas rank among the most beautiful of flowering plants adapted for forcing, and they are easily grown. Plants arriving from a nursery now should be potted, a few placed in heat, and the remainder set in cold pits ready to draw upon in the future. The majority of gardeners find it an easy matter enough to force these into flower quickly, but they are not always so successful in maintaining them in vigorous health when the flowering period is over. This is frequently caused through placing them in too cold a position to complete their growth. Early forced plants ought always to receive the warmth of an intermediate house until growth is quite completed.

Lilacs, with the delicious perfume of their flowers, are among the choicest of forced shrubs. Specially prepared plants in pots may now be obtained so cheaply that a few should be purchased each year till a sufficient stock is obtained. Some of these may then be planted out and left for two years before being forced again, others being shifted and kept entirely in pots. Those planted out should be root-pruned to keep the young rootlets in a compact mass suitable for lifting. If pale-coloured flowers are required the plants should be placed in a Mushroom house as soon as the flower buds are visible, or be provided with constant shade. A few good bushes of Sweet Briars ought always be kept in the reserve garden. If some of these are lifted and potted at once they will be in the right condition for placing in vineries started in January.

Two of the best flowering plants that I know of which are especially suitable for bringing on steadily in cool houses are *Dielytra spectabilis* and *Spiræa Aruncus*. It is almost a matter of impossibility to get too large a stock of these, for they are so extremely effective when in flower as to command universal admiration, and they are also of very easy culture so long as hard forcing is not attempted. When they have done flowering and have been properly hardened off the plants should be divided, planted in good soil, and left for a couple of seasons before being lifted. If this system is followed with a few really good plants, such as those enumerated in these notes, flowers in plenty may be maintained during the winter and spring months wherever the amount of glass at command is commensurate with the requirements of the establishment.—H. DUNKIN.

THE FLORISTS' TULIP.

[By JAMES W. BENTLEY, Hon. Secretary to the Royal National Tulip Society.]

THE PROPERTIES FURTHER CONSIDERED.

(Continued from page 465.)

IN justice to the Dutch growers of 130 years ago it must be admitted that they had formulated a standard of the properties of the Tulip, which, although wanting in definition, shows that they were quite aware of the necessity for the improvement of the flower, and of the lines upon which that improvement must proceed. An old work, entitled "The Dutch Florist," by Nicholas Van Kampen & Son of Haarlem, of which a second edition was published in London in 1764, contains the following statement of the properties:—

1, That it (the Tulip) should have a tall stem rising to the height of 3 or 4 feet, because this is agreeable to the nature of the flower.

2, That the cup be large, well proportioned, and composed of six leaves, which should not be too long, because that would spoil their symmetry. This frequently occurs in old Tulips, and also in some modern ones. It is also a fault, though not so disagreeable when the cup is of the shape of an egg, because then the leaves fold over each other and close up the mouth of the flower; yet there are many fine Tulips that labour under this defect. The leaves ought to be of a round shape, broad and thick, for when they are thin they crumple, and the colours are apt to be blended.

3, The colours ought to be lively and bright. Those that are most valued and in the greatest request are the black, golden yellow, purple violet, rose and vermillion colours. Tulips whose flowers are finely striped and variegated with three colours, distinct and unmixed, with very strong and regular streaks without a tinge of the breeder colour, are the finest bizarres, and may be called perfect Tulips.

The great omission is purity, but independently of this quality, we can, I think, see that many of the beauties we prize—the short, round cup of stout petals, the clear and distinct marking, the decided brilliant colours—were just as much thought of by these old Dutch masters; and even in the matter of purity there is evidence that they prized it, although probably at that time it could not be insisted upon. The following extracts from "A Descriptive List of Hyacinths and Tulips," published in 1767, bear on this point.

Rose Quarto, rectified.—A perfect and most valuable flower, pure white, well broken, with scarlet and crimson. This rectified sort is a great deal finer and *more clean* than the ordinary one.

Triomphe de Lisle.—Perfect shape, and the highest of all those with a *white bottom*, well broken with black; very fine.

Brulante Eclatante.—*White as snow*, very cleanly broken with pink and rose colour, well shaped; exceedingly fine and scarce.

These extracts show that the old Dutch florists held much the same views as we now do, the chief difference being that our modern standard has been amplified and more exactly laid down. Their descendants, however, seem not only to have made no advances on the ideas of their forefathers, but to have actually forgotten them. The quotations from Van Kampen's "Dutch Florist" are taken from a paper on "Judging Florists' Flowers" contributed by Mr. John Slater, of Manchester, to the "Gardeners' Record" of 1854.

I may, in conclusion, mention three other styles of Tulips, formerly held in some estimation, but now scarcely ever seen. Two of these are called *tricolors* and *sels*, and the other was a flamed Tulip, destitute of any feathering. *Tricolors* were an unpleasant mixture between the white and yellow ground classes. They usually had a dirty white ground outside, and a washy thin yellow inside, and the marking would generally be a dubious kind of dirty purple outside, and would try to look like a bizarre inside the flower. They have fortunately disappeared, and are better dead.

Sels are of two colours only, and are either entirely white or entirely yellow. They look like breeders, but never break like them. They represent Tulips in which the marking colour has been entirely eliminated, and the ground colour only remains; although little grown now they are, when pure and of good form, attractive flowers. The flamed but not feathered Tulip used to enjoy a certain amount of favour in the south, but the "rugged north" frowned and would have none of it. The best variety of this class was Holmes' King, a bybloemen, very pure, with no colour on the edges, and a beam of light purple down the centre of each petal. Its dainty colour makes it an attractive border flower, but along with others of a similar style, it has wisely been discarded from the Tulip bed. Flowers of this class look empty and foolish among their beautifully marked brethren.

CHAPTER IV.—THE MANAGEMENT AND CULTURE OF THE TULIP.

AN old French work published about 1734 and entitled "Spectacle de la Nature" has a chapter devoted to Tulip culture.

The style is colloquial, and the Countess and the Prior instruct the Chevalier on the cultivation of flowers. The chapter opens thus:—

"COUNTESS.—'The Prior will instruct us in the cultivation of Tulips, but can you prevail on yourself, sir, to be contented with this entertainment?'

"CHEVALIER.—'Contented, Madam! I really think it the most charming philosophy in the world, and none can ever complain that it leads them into thorny paths.'

"PRIOR.—'The most painful philosophy would never displease me if its effects were always so valuable as a single Tulip.'

The remainder of the chapter, although historically interesting, gives little information on the subject of culture, and I introduce these old-time flower lovers in the hope that all my readers will prove as amiable as the Chevalier, and that a portion of them will display some of the enthusiasm of the Prior.

I must confess that I approach this portion of the subject with considerable diffidence. Every grower has his own methods of culture, and, finding by experience that they succeed, naturally thinks they are the best. The truth, however, is that there are many good ways of growing the flower, and there is no patent compost which is absolutely necessary. There are so many differing conditions of situation, soil, climate, and atmosphere that it would be foolish in the extreme to dogmatise on this matter; and believing as I do that experience is the true teacher, and the utmost that can be done by books is to put the novice on the right road, my office is rather that of a finger-post than that of the marvellously skilful "Mr. Know-all" whom we meet sometimes in old floricultural works instructing a miraculously ignorant "Mr. Would-know."

Before Tulips can be planted they must be obtained, and this is best done in July and August, although they may be got as late as November. Up to recently it has been very difficult for anyone wishing to form a collection of Tulips to do so, as the old trade growers, fairly numerous in the first half of the century, have been for many years extinct, and Tulips, up to three or four years ago, have been entirely in the hands of amateurs. They can now be procured from a well-known enterprising London firm of bulb growers, and also from one nursery in Scotland; consequently, anyone wishing to start their culture may, at a very moderate outlay, do so, and most of the ordinary standard sorts can be had in this way.

It is best to obtain the bulbs early, as they travel more safely before the root fibres begin to develop, and one can feel sure that they are there, and being properly attended to, for they require care and attention when out of the ground, second only to that which ought to be exercised after planting, for the bulbs are doing a very important work during their cool airy rest as it appears. What this work is the Rev. F. D. Horner describes so well in a useful little work entitled "Gardening for Amateurs," published at Hull a few years ago, that I cannot refrain from quoting the whole paragraph.

"There is no suspended animation in the Tulip bulb. It is full of ripe and ready, active juices, and these are stirred by such nerve and pulse as may be in vegetable life, and are used at once, though invisibly, in building up tissue and structure of next year's foliage, stem, blossom and seed pod, together with not least among the hidden wonders the germ of the bulb to follow. Cut through the bulb, when newly ripe in June, and you shall see nothing but so many fleshy juicy layers united on a base or radical plate. But watch the bulb from time to time as autumn draws on, and you will see that its very shape has been gradually altering. Instead of losing flesh it seems to have gained it, and its tissues are fuller of sap than ever. They are tense, and bright, and fervent, while at the base of the bulb, its most vulnerable part, the coronal of fibres, with the point of almost every future rootlet pricking through is very prominent. Probably the pale tip of the young shoot, the 'guard leaf' as it afterwards becomes, is already visible. But if not dissection would reveal every leaf of the future foliage. Every petal of the coming flower, with every chance notch and imperfection of shape prefigured in it, every stamen, and the seed pod with its triple stigma. Only at this early stage the proportions of the various parts are not in their final order, for the embryo stamens are larger than the petals of the unborn flower, and there is little or no stem. Close by, and upon the radical plate like the rest, will be seen a far tinier shoot or eye, and this is the crescent bulb for a year beyond the present, contemporary offsets are similar germs, attached also to the radical plate and lying between folds of the parent bulb. If they are large they may be seen attached in the same way to the outer layer of the bulb."

Truly, it is a wondrous work the Tulip does in its seeming state of rest, and it is only fitting that it should have the conditions it enjoys when carrying it out. It is found that a cool dry rest above the ground is better than a wet one below it; probably in its wild state it was drier during its period of rest, which would be the Eastern summer, than it ever could be in these watery latitudes.

A collection of florists' Tulips is always kept to name, so it is

necessary to have means to keep the varieties separate, and to identify them either on the beds, or when taken up. The simple plan is to have all one variety growing together, and to have as many stout paper bags as varieties with the names written on, and to plant them from the bags, and at taking up time to replace them in the bags to be dried and stored away. But this plan by no means suits the enthusiast, he must have his Tulip cabinet and his Tulip book; he arranges his bulbs in his cabinet so as to produce, when the bed is in bloom, the finest possible effect, and spares no pains to ensure it.

The Tulip cabinet is a chest of shallow drawers which are divided into numerous small compartments. A very suitable arrangement is for each drawer to be divided into seventy of these, in ten rows of seven compartments each, across the drawer; each row, as it is called, has then seven compartments, and there being ten rows, there are of course places for seventy varieties in each drawer. The rows are numbered in the first drawer 1 to 10, and so on all through the drawers. A cabinet generally contains 100 rows. The arrangement followed in the case of the cabinet is carried out on the bed. There are always seven places, or "holes," as they are technically called, across a Tulip bed to form a row, and therefore a drawer such as that described represents storage for the bulbs in ten rows of the bed. The bulbs are usually arranged in such a manner that the tallest-growing varieties are in the middle hole of each row; the next tallest are placed on each side of it in the third and fifth, lower-growing kinds in the second and sixth, and the most dwarf of all on the outsides of the bed in numbers 1 and 7. It adds also to the attractiveness of the display if the varieties are arranged so that no two flowers of the same class are grown together, in some such fashion as indicated below, "biz." and "byb." being abbreviations commonly used for bizarre and bybloemen respectively.

Row 1.	Row 2	Row 3.
1 Rose	Byb.	Biz.
2 Byb.	B'z.	Rose
3 Biz.	Rose	Byb.
4 Rose	Byb.	Biz.
5 Biz.	Rose	Byb.
6 Byb.	Biz.	Rose
7 Rose	Byb.	Biz.

Row 4 would be a repetition of row 1, and so on all through the drawers of the cabinet and on the bed.

(To be continued.)

HARDY FLOWER NOTES.

VERY striking this autumn have been the Kniphofias, for so should the Torch Lilies be now called instead of Tritomas, a name which it must be said sounds more euphonious than the correct one. Most brilliant are they with their fine spikes of fiery red or yellow flowers on long stout stems. The Kniphofia is a flower which never shows to advantage in a stand of blooms, and I never see it exhibited in the ordinary way without regret. Thus shown with shortened stem and without the fine leaves which so enhance its beauty, the Torch Lily looks clumsy and far from attractive. Instead of towering above many of its companion flowers it is crippled by being shortened, and seems as if ashamed of its position. The Kniphofia should be seen in the garden to realise its brilliant beauty. With a background of some dark-coloured foliage, a mass of Torch Lilies, their tall stems surmounted by their flame-like flowers rising from their arching leaves, cannot fail to impress those who see them. It is when grown thus that these flowers are most valuable, and as I have previously pointed out, this can be secured at a moderate cost by raising seedlings. But not everyone can be troubled with seedlings, and there is considerable variation among the plants raised from seed, so that many persons would prefer to purchase flowering plants.

There are now so many named seedling varieties and hybrids that it is not easy to make a choice. This is all the more difficult, as some partake of the delicacy of *K. Leichtlini*, a very beautiful species, but unfortunately not to be depended on in our climate. Some of the Baden-Baden hybrids are, however, most beautiful and hardy, and seem of rapid increase, as the price has fallen very quickly. A number of others have been raised in Italy, but these do not seem to have been much grown in this country, and I have not seen the flowers of any of the Italian forms. A very fine yellow-coloured variety from Herr Max Leichtlin's garden at Baden-Baden is *K. Lachesis*, with deep yellow flowers, which can now be had in this country at a moderate price. *K. Diana*, yellow, with scarlet anthers, is also very fine, and likewise inexpensive. *K. Obélisque*, a most beautiful variety of a fine pure, but deep yellow, is well worth growing, but is higher in price, as also is Star

of Baden-Baden, which has bronze-yellow flowers. I have a liking for the scarlets, and among these is a very fine variety named *Leda*, with flowers which may be termed orange scarlet. This is, unfortunately, not so cheap as some. *K. Uvaria nobilis* is, perhaps, the finest of the forms of that species, the most beautiful. *K. corallina*, said to be a hybrid, is unfortunately tender in most gardens. I prefer spring planting for the Kniphofias, and find they do not thrive well in too dry a soil. My front garden is very dry, and being inconvenient for the water supply, suffers somewhat in times of drought. Here I do not find the Kniphofias will live, while they thrive well in the garden behind the house, where they receive more rain and can be watered more frequently. The Torch Lilies should be planted with the crowns a little below the surface, and it will be found safer to protect with some litter during hard weather.

Though the Meadow Saffrons come with the shortening days, and seem to speak of a sadder season close at hand, their beauty makes their coming a welcome one. Better known are they by the name of "Autumn Crocuses" than of "Meadow Saffrons," either of which names is better appreciated by the general public than the proper name of *Colchicums*, which has at least the merit of leading to less confusion than any of the others. Of the two, that of Meadow Saffron is preferable now that we have so many autumn-flowering Crocuses. It is true that the name of Meadow Saffron may lead some of the unwary to think that one means *Crocus sativus*, the Saffron Crocus; but we have few alternative popular names. That of "*Mort au chien*," current in some parts of France, and derived from the poisonous properties of the plants, will hardly commend itself, and one would therefore put in a plea for the name of "Meadow Saffron," or the scientific one of *Colchicum*. My first article in the pages of the *Journal of Horticulture* was one on *Colchicums*, and I have sometimes thought of returning to the subject at greater length than can be done in these notes. There are, however, some questions of nomenclature requiring clearing up, and I should like to have this troublesome task completed before treating of the genus again. It is, however, a seasonable time to call attention to one of the finest of the Meadow Saffrons, with conspicuously chequered flowers.

As will be seen upon careful examination, most of the *Colchicums* are more or less chequered. Some are conspicuously so, and *C. Sibthorpi*, the one under notice, is not only beautifully marked, but is of large size, and with better formed flowers than many of the others. The flowers are of a light purple and white, and a clump of about half a dozen flowers at the base of one of my rockeries has been very beautiful. It is said to be synonymous with *C. latifolium*, but I have grave doubts as to this. Near *C. Sibthorpi* is the newer *C. Bornmulleri*, which is said to be the largest of the genus. My plant has not been long enough established for me to speak confidently, but, so far as I can judge from this season's flowers, it can hardly be said to be superior to *C. Sibthorpi* or *C. speciosum rubrum*.

If the *Colchicums* tell of the dying season the first of the true autumn Crocuses seem to uplift the banner of hope, which is apt to droop a little towards the close of the autumn months. To me, at least, their beauty is most welcome, for their enchanting shades and markings, delight-giving in themselves, always lead me to think of the time when masses of the spring flowering Crocuses shall glitter in the sunlight and fill the garden with brightness. But "it is a far cry to Loch Awe," and this is not the time to speak of these visions of the future, and even at the risk of repetition I should urge upon the lovers of hardy flowers to make room if possible for the charming *C. speciosus*, the equally beautiful *C. pulchellus*, and *C. zonatus* if no others of the autumn flowering section can be grown. In gardens where it will flower *Sternbergia (Amaryllis) lutea* might be associated with *C. speciosus*, and the blue flowers of the Crocus massed beside the yellow of the *Sternbergia* would form a delightful picture.

The Phloxes are among the most beautiful of our autumn border flowers, and the rare sight of any of the typical species from which our garden forms have been derived makes one almost marvel at the advance which has been made not only in size and form of the flowers, but also in colouring. Personally I do not care for a blue Phlox; but tastes differ, and in looking over a fine collection of plants of the most modern type I was struck with the colour of one named *P. Iris*. It is the nearest to a blue of any I have seen, and in some lights this colour was particularly noticeable. It is of French origin, and belongs to the dwarf section. The flowers are large and of good form, and this variety may be recommended to those who care for such a colour in Phloxes.

On page 264 mention was made of a new variety of *Chrysanthemum maximum*, and as *C. latifolium* flowers later it may be mentioned that a large flowered variety of this species is now obtainable under the name of *C. latifolium maximum*. This name

seems an unfortunate one, being likely to lead to confusion with C. maximum, from the specific name of the latter being the same as the varietal one of the plant under notice. So far as I can recollect the flowers of this new form are not so large as some seedlings I saw in the Rev. C. Wolley Dod's garden about three years ago. They are, however, considerably larger than those of the ordinary form.

Too soon, however, will there be but few flowers in bloom to tell of, and we must enjoy as long as we can those which brighten the garden. As I write the Sunflowers with their golden blossoms adorn the borders, contrasting well with the Michaelmas Daisies. Japan Anemones in white, rose, and red are very beautiful too. The Kniphofias, already spoken of, tower above most other plants in flower. Clumps of Meadow Saffrons and Crocuses, purple of various shades, white, blue, and lilac, open gaily to the sun, and entice the bees to their charming cups. The dainty little Cyclamen neapolitanum nestles at the foot of the rockery, its prettily marbled leaves and charming flowers rising through a carpet of one of the dwarfed Stonecrops. Chrysanthemums, such as Maud Pitcher and several of the Madame Desgranges type, are still fine, and late Poppies, St. John's Worts, Scabiouses, Sweet Peas, and many others are in bloom. It seems as if Nature was making a last effort to give us delight ere the frost spirit destroys the tender flowers with his icy breath. Possibly before this appears blackened flowers and leaves may tell of this destruction. Meanwhile we reap with joy the results of our work among the flowers, and know that no wintry days can drive from us the memory of their beauty and grace.—S. ARNOTT.

[Owing to the pressure of the Chrysanthemum season the foregoing article has been unavoidably held over for several weeks.]



MR. MAWLEY'S ROSE ANALYSIS.

MR. MAWLEY says on page 466 that if anyone can suggest a "more common-sense way" of dealing with the "valuable statistics" he has collected he would be glad to adopt it. This I give almost *verbatim et literatim* as an extract from the letter in which he evidently reviews his work with the very greatest complaisancy. I demur to his figures mainly from the facts which he has divulged, whereby he acknowledges that he "fixes them up" as seems to himself most suitable, and that having previously obtained the true results, he then proceeds to "doctor" them according to his own fancy. If the facts and figures which he collected over this long series of years had been given simply, without alteration, or assertion that they required readjustment for scientific reasons, then they would have deserved, and no doubt received, general acceptance. But, strange to say, Mr. Mawley himself says, in so many words, that the figures which he calls "crude" work out in the long run the same results as those obtained by his elaborate, and what he considers, scientific plan. If the results be the same, may I ask what is the use of all this extra labour? It rather seems to me to be converting unnecessarily a simple sum in common addition and division into an abstruse mathematical calculation.

Mr. Mawley in his letter does not attempt to reply in the slightest degree to the various matters to which "Y. B. A. Z." and I called special attention as misleading; he evidently thinks what he lays down to be absolutely unanswerable, convincing, and final, whereas it hardly touches on a single one of the many weak points in his table which were exposed. On them he is discreetly silent. I have therefore come to the conclusion that he hopes, under cover of a cloud of words, to conceal the fact that he has no good explanation to give, and has in truth given it up as a forlorn cause.

Last spring I submitted to the principal rosarians of the kingdom a request for their opinion on the best eighteen Teas and twenty-four Hybrid Perpetuals, and I will now give the result of their votes side by side with a similar number from Mr. Mawley's analysis. The lists were furnished by the following well known rosarians, all exhibitors:—

Mr. E. M. Bethune	Messrs. Harkness & Sons
Rev. H. A. Berners	Rev. G. E. Jeans
Dr. Budd	Mr. E. B. Lindsell
Messrs. G. and W. H. Burch	Mr. H. V. Machin
Rev. F. R. Burnside	Mr. Henry Merryweather
Mr. J. Burrell	Mr. George Mount
Mr. B. R. Cant	Mr. O. G. Orpen
Mr. Frank Cant	Mr. George Paul
Messrs. A. Dickson & Sons	Mr. A. Prince
Rev. A. Foster-Melliar	Messrs. D. Prior & Sons
Mr. W. J. Grant	Mr. A. Slaughter
Mr. A. Hill Gray	

Some voted on the H.P. list alone, and some on the Tea list; two of the lists (those of Mr. George Paul and Mr. W. J. Grant) were taken from the "Rosarian's Year Book" for 1894. The votes given for the best Roses by the experts, and the placing of those in Mr. Mawley's analysis

in several instances approximate, but those I obtained are really *the opinions* of the voters, whereas those of Mr. Mawley (which he professes to have that value) are merely the placing by him of the flowers shown on one day in each of the years 1886 to 1894 in winning boxes by various people, and the figures which he obtained he acknowledges subsequently to have manipulated scientifically or by "glorified common sense."

Everyone has his opinion about what Roses he likes best and values most highly for exhibition, but if he has better flowers of other varieties in perfection on the day of a show, he shows the best flowers from his garden in preference to taking those he likes best, and which, inferentially, one may assume he has found usually most valuable for exhibition; therefore I hold the real opinions of the great experts I name are of far more real value as a guide than an analysis framed on Mr. Mawley's system, even with the halo of glory about it.

HYBRID PERPETUALS.

NAME AND VOTES GIVEN BY EXPERT		MR. MAWLEY'S ANALYSIS.	
ROSARIANS.			
Place in List.	Votes.	Place in List.	
1st	15	Mrs. John Laing	1
		Madame Gabriel Luizet	2
		La France	3
		Ulrich Brunner	4
		A. K. Williams	5
7th	11	Marie Baumann	6
		Her Majesty	7
		Margaret Dickson	8
9th	13	Alfred Colomb	9
		Charles Lefebvre	10
11th	12	Merveille de Lyon	11
		Gustave Piganeau	12
14th	11	Etienne Levet	13
		Baroness Rothschild	14
15th	10	S. M. Rodocanachi	15
		François Michéon	16
18th	9	Dupuy Jamain	17
		Louis Van Houtte	18
19th	8	Earl of Dufferin	19
		Marquise de Castellane	20
20th	7	Prince Arthur	21
		Général Jacqueminot	22
24th	6	Ferdinand de Lesseps	23
		Horace Vernet	24
		Duke of Wellington	25
		Camille Bernardin	26
		Countess of Oxford	27
		Lady Mary Fitzwilliam	28

In the foregoing lists it may be especially noticed that La France lost three votes in consequence of Mr. George Paul, Mr. B. R. Cant, and Mr. Foster-Melliar classing it as a Hybrid Tea, for that reason alone leaving it out of the list of best twenty-four H.P.s; also that of the flowers named in Mr. Mawley's analysis, the following are not placed by the experts who sent me their selections, viz., Margaret Dickson, Baroness Rothschild, Marquise de Castellane, Ferdinand de Lesseps, Camille Bernardin, and Countess of Oxford. It will be noticed that Horace Vernet is placed by the experts amongst the best six, whereas in Mr. Mawley's list it comes out No. 24! also that Duke of Edinburgh is left out of first twenty-eight in Mr. Mawley's list. Your readers can amuse themselves by further examining the results actually obtained from the lists of some twenty rosarians and comparing them with the analysis which Mr. Mawley contends shows to be their "opinions"—one is fact and reality, but the other seems to me a delusive conclusion reached by arbitrary manipulation, although originally based on a certain amount of truth.

In the same way with Teas, which, being fewer in number, there is a more general agreement as to those best suited for exhibition.

EXPERTS' OPINIONS AND VOTES; ROSES GIVEN ALPHABETICALLY WHERE EQUAL.

Place in List.	Votes.	Place in List.	
1st	18	Catherine Mermet	1
		Comtesse de Nadaillac	2
		The Bride	3
		Innocente Pirola	4
		Souvenir d'un Ami	5
6th	17	Marie Van Houtte	6
		Souvenir d'Elise Vardon	7
		Souvenir de S. A. Prince	8
9th	16	Niphetos	9
		Maréchal Niel	10
10th	15	Madame de Watteville	11
		Madame Cusin	12
11th	14	Caroline Kuster	13
		Ernest Metz	14
14th	12	Ethel Brownlow	15
		Hon. Edith Gifford	16
16th	10	Madame Hosé	17
		Francisca Kruger	18
		Jean Ducher	19
		Madame Bravy	20

In the foregoing the experts place Anna Olivier near the top, and also give a place to Rubens and Cleopatra, which Roses Mr. Mawley's analysis leaves out, conversely in his analysis S. A. Prince is placed high by him, but low down by the experts; the latter rosarians also ignore Caroline Kuster, Jean Ducher, and Madame Bravy as not worthy of being in the best twenty Roses named by them. The publication of these lists may lead others to notice points of some value, and lead to further criticism; as your readers have the names of the voters given herewith they can place an absolute value on the results set forth by them. Comparison with Mr. Mawley's analysis, and the letters published on this question, will possibly interest those who care to follow the discussion

I may add that I have the separate lists and votes of each rosarian named by me, and should be happy to let anyone see them.—
CHARLES J. GRAHAME.

It seems to me that the fault of "E. M.'s" analysis is the heading, "average number of times shown," to the second column. As far as I can see, it should be "corrected average according to Mr. M.'s judgment." Simple folk understand an average to be the sum of the totals divided by their number, and any tampering with the figures is looked at with considerable disfavour. For instance, at our village National School the Government pays us so much per head on "the average attendance." The other day, the weather being very bad, the number of children present was but half the usual average. What if I, as manager, were to correct or omit this abnormal and disturbing figure, and explain to the Education Department (as "E. M.," page 423) that "averages calculated after this purely arithmetical fashion, although in the main correct, were in exceptional cases more or less misleading," and that attendance "under such exceptional conditions has in fairness to be omitted?" Would indignation or amusement most prevail among "my Lords?"

Would "E. M." counsel Dr. W. G. Grace, on those rare occasions when he has retired to the pavilion with 0 to his name, to consider it an exceptional or misleading figure that might in fairness be omitted from his batting average?

The intention is good to represent a proper present estimate of the comparative value of well-known Roses; but as it rests upon corrected figures, and not the actual data, it becomes more or less dependent upon the judgment of one man; and my original criticism a year or two ago—that the analysis is not so valuable a guide as the old Rose elections, which were formed on the judgment of many—is, I think, well founded.—W. R. RAILLEM.

LATE FLOWERING ROSES.

MY experience of autumnal Roses during the season of 1894, which it appears is not yet past, is identical with that of Mr. Charles J. Grahame (page 423). Before me, as I write, is a large bouquet of Roses cut on November 9th, from the following Hybrid Perpetuals, Teas, and Hybrid Teas: A. K. Williams, Marie Baumann, Margaret Dickson, Gloire Lyonnaise, Cranston's Crimson Bedder, Belle Lyonnaise, La France, Grace Darling, Safrano, and Souvenir de S. A. Prince. I also found in my garden this afternoon (the 10th inst.) several very handsome flowers on Corinna, one of the most beautiful and fragrant of Teas; Perle des Jardins, worthy of that name; Etoile de Lyon, Ernest Metz (which blooms very late, and produces even in this cold and sunless season very large flowers of a tender pink hue); Marguerite, a new white Tea Rose, which, as previously recorded, originated here; Lady Mary Fitzwilliam, Laurette Messimy, Mrs. John Laing, Augustine Guinoisseau, and Marie Van Houtte.

It may interest some of your readers to learn that Madame Adelina Patti, who is herself an eminent amateur horticulturist, wore a bouquet of Roses grown in my garden, at her recent concert in Edinburgh when singing "Home, Sweet Home," a somewhat remarkable floral commentary on "The Last Rose of Summer," which she had sung with her customary impressiveness immediately before. I greatly fear that this special Rose of the garden, whatever it was, is now very seldom "left blooming alone." On January 9th, the coldest day of the present year, I found on a Gloire de Dijon on the south wall of my house a perfectly formed, full blown Rose!

There are several new Roses of exceptional merit, which, I anticipate, will prove next summer very valuable additions to my extensive collection; among these I may mention the Clio, Clara Watson, Marchioness of Londonderry, and Marchioness of Downshire, the early flowering Mrs. Harkness, and the dark hued Charles Gaiter. These British productions, I venture to predict, will be found to eclipse their most prominent Continental contemporaries. I might also have mentioned as important recent English introductions, Duke of York, Queen Mab, Lord and Lady Penzance, Amy Robsart, and Alister Stella Gray.—
DAVID R. WILLIAMSON.



DENDROBIUM ALBUM.

THIS is a very charming plant. The flowers are produced generally in pairs on the nodes opposite the leaf on the current year's growth. The sepals and petals are nearly equal in size, of a greenish white, changing to pure white as the flowers expand, the lip being white slightly stained with yellow. The season of flowering is September and October, and the flowers last about a month in perfection.

So far as my experience goes the plants grow equally well in pots or baskets, and require the temperature of a warm house in the summer with abundance of moisture at the roots, also from

the syringe. A slight permanent shading is likewise beneficial. I find the same treatment that D. Falconeri likes in its growing season also suits D. album. As the beauty of the plant is much enhanced by its producing the flowers in company with the leaves, it is always desirable to retain the foliage as perfect as possible. Therefore the leaves should not be exposed to the sun during the autumn until the flowers are over. The plant may then be rested in a dry intermediate house, and moved into the stove again directly the plant commences its new growth.—J. GODFREY, *Spetchley*.

VANDA AMESIANA.

As depicted in the accompanying illustration (fig. 74) Vanda Amesiana is a charming Orchid. The flowers are not large, but



FIG. 74.—VANDA AMESIANA.

being produced on slender racemes, are very effective. The sepals and petals are white or blush tinted, while the lip is rich crimson, fading to a lighter margin. This dwarf-growing species was introduced from India a few years ago, but it does not appear to have been very extensively cultivated. In some collections it thrives under much the same treatment as is accorded Vanda coerulea.

ORCHIDS AT THE BRISTOL SHOW.

AS usual the groups of miscellaneous plants at the above show held recently contained a plentiful sprinkling of Orchids. Dendrobium Phalaenopsis, Cattleyas, and Calanthes were freely represented with others usually exhibited at this season. The competition in the class for single specimens was also good, the exhibits including fine plants of Cattleya labiata, Coelogyne Massangiana, and Cypripedium insigne. In the amateurs' division Mr. W. M. Appleton of Tyn-y-Coed, Weston-super-Mare, staged a very interesting little collection of Orchids, both cut and on the plants. This exhibit would, however, have been improved by the addition of a few more Ferns or foliage plants. Several good Cypripediums were included in this collection. C. Laucheanum, a dark form of C. Ashburtoniae; C. Arthurianum and C. Chamberlainianum were represented; also C. concolor, C. Spicerianum, and C. Roezli. Good spikes of Oncidium Jonesianum, O. tigrinum, Epidendrum Godseffianum and Dendrobium Phalaenopsis were

arranged at the back of the group, which also included good examples of *Vanda coerulea*, *Lælia marginata*, *Dendrobium bigibbum*, and a fine *Brassavola*. The flowers of this latter were pure white with the exception of the lip, which was light yellow margined with white. This was labelled *B. grandiflora*.—H. R. R.

ROYAL HORTICULTURAL SOCIETY.

NOVEMBER 27TH.

As is usual at this time of the year there was a falling off in the number of exhibits in the Drill Hall, James Street, Westminster, on this occasion. Orchids were not very numerous, the same applying to greenhouse and stove plants generally. Chrysanthemums were fairly well represented, and a few collections of fruit and vegetables were exhibited.

FRUIT COMMITTEE.—Present: Philip Crowley, Esq. (in the chair); Rev. W. Wilks, Dr. Hogg, Messrs. T. F. Rivers, H. J. Veitch, H. J. Pearson, G. W. Cummins, G. F. Miles, A. Dean, J. Willard, J. Hudson, F. Q. Lane, J. Smith, D. Balderson, G. H. Sage, and T. J. Saltmarsh.

Messrs. Harraway & Scott, Warminster, sent a dish of a new seedling kidney Potato called Scott's Main Crop, and also a dish of Sirius, a heavy cropping round. Pears President Dronarda and Fondante de Sondre were shown by Messrs. J. Laing & Sons, Forcst Hill, while Messrs. H. Lane & Son, Berkhamstead, sent handsome bunches of Grapes, for which a cultural commendation was accorded, and a dish of Red Blenheim Orange Apples. Mr. Farr, gardener to A. Pears, Esq., Isleworth, sent freely fruiting plants of Tomato All the Year Round, but doubt was expressed as to its distinctness from King Humbert and Chiswick Red, and it will be grown side by side of these varieties at Chiswick next year.

An interesting and instructive collection of Potatoes was staged by Messrs. H. Cannell & Sons, Swanley, and a silver Banksian medal was recommended. Amongst the best of the varieties shown were Mr. Breese, Lady Fife, Stourbridge Glory, Snowflake, Jeanie Deans, Early Puritan, Boston Q.Q., Colossal, and Chieftain. A silver Banksian medal was recommended to Messrs. C. Lee & Son, Hammersmith, for an extensive and diversified collection of Apples, comprising numerous varieties.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); Messrs. J. Laing, C. T. Drury, H. Herbst, R. Dean, H. B. May, G. Stevens, C. J. Salter, J. Jennings, C. F. Bause, R. Owen, G. Gordon, W. Bain, C. Jeffries, H. Selfe Leonard, J. T. Bennett-Poë, C. E. Shea, J. Walker, C. Noble, E. Beckett, H. J. Jones, and E. Mawley.

The most beautiful exhibit, and the one that attracted the most attention, was shown by Mr. H. J. Jones, Ryccroft Nursery, Hither Green, Lewisham, S.E. Chrysanthemums of course formed the predominating feature, the large handsome blooms being tastefully arranged with Ferns, Asparagus, Smilax, and autumn foliage. Amongst the Chrysanthemums shown were Madame Carnot, Silver Cloud, Good Gracious, Niveus, Duchess of York, and some incurved. The vases used in this stand were admirably and tastefully filled with flowers (silver-gilt Flora medal). A number of fine spikes of Canna Queen Charlotte were sent by Messrs. H. Cannell & Sons, Swanley, and made a bright display. Cyclamens in various colours were exhibited by Messrs. Hugh Low & Co., Enfield, in which the white kinds were by far the best silver Banksian medal).

Mr. W. Salmon, Ivy Cottages, Elder Road, Upper Norwood, showed some combinations of Chrysanthemums and foliage in the form of bouquets, epergnes, and sprays, in which much taste was manifest (silver Banksian medal). Chrysanthemums in great variety and excellent form were staged by Mr. W. Wells, Earlswood Nurseries, Red Hill; W. H. Lincoln, Robert Owen, Middle. Thérèse Rey, Florence Davis, Lord Brooke, Viscountess Hambledon, Mr. H. Broomhead, Crown of Thorns, and Madame Carnot (see below) were a few of the kinds seen. Sprays of single varieties were also staged by the same exhibitor, and looked very charming (silver Banksian medal). Mr. R. Gilbert, Burghley Gardens, Stamford, showed splendid blooms of a sport from W. H. Lincoln, and named William Cecil. Blooms of Chrysanthemums were shown by Mr. Pascoe, gardener to Captain Torrens, Baston Manor, Hayes Common; and small blooms of Chrysanthemums came from Mr. J. Tucker, Rose Bank, Caterham Hill.

Begonias in great variety were staged by Messrs. J. Sander & Co., St. Albans. Most of them were the result of crossing *B. socotrana* with *B. Rex*, and possessed some of the good qualities of each parent. Winter Queen (award of merit), Winter Cheer, Winter Jewel, Winter Charm, and Winter Beauty were among the most noticeable. Mr. Bain, gardener to Sir Trevor Lawrence, Burford Lodge, Dorking, received an award of merit for *Reinwardtia tetragyne* and also for *Ruellia macrantha*, for descriptions of which see below. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, showed pans of *Narcissus monophyllus* and also a pan of *Gaultheria procumbens*.

A handsome collection of Pernettyas was exhibited by Mr. A. Waterer, Woking, all of them being seedlings (bronze Banksian medal). From Mr. R. Owen came blooms of Chrysanthemums, in which Black Prince (see below), Owen's Crimson (see below), Mrs. Seebohm, Mons. Meg (see below), and Waverley were noticeable. Mr. J. Smith, St. Leonard's Road, Windsor, staged blooms of Chrysanthemum Royal Windsor; and Mr. Duncan, gardener to C. J. Lucas, Esq., Warnham Court, Horsham, showed plants of *Primula capitata*, Loxwood variety.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); Messrs. J. O'Brien, H. M. Pollet, R. Brooman White, Chas. Pilcher,

E. Hill, H. J. Chapman, H. Ballantine, T. Statter, J. Douglas, and S. Courtauld.

Messrs. Hugh Low & Co., Clapton, sent a collection of Cattleyas, *Lælias*, and plants of the beautiful *Vanda coerulea*. Some plants of *Cypripedium Charlesworthi* were shown by the same firm. A. H. Smee, Esq., The Grange, Wallington (gardener, Mr. G. W. Cummins), exhibited a plant of *Cypripedium Smeeana* (*C. Argus* × *C. villosum*), a very fine hybrid, and another of *C. Dautheri superba*. S. G. Lutwyche, Esq., Eden Park, Beckenham (gardener, Mr. Paterson), had plants of *Cypripedium insigne* *Lutwycheanum* and *C. tonsum* *Lutwycheanum*. T. Statter, Esq., Stand Hall, Manchester (gardener, Mr. R. Johnson), sent *Cypripedium Lucianum superbum* (award of merit), and a bloom of *C. Leeanum giganteum*. Mr. P. Weathers, Silverhall Nursery, Isleworth, had *Cattleya labiata* var. *Weathersiana*, a distinct form.

Messrs. B. S. Williams & Sons, Upper Holloway, contributed a small group of *Cypripediums* and *Odontoglossums*. *Phaio-Calanthe Sedeni rosea* was shown by the same firm, who staged the quaint green-coloured *Cypripedium reticulatum*. Mr. P. McArthur, The London Nursery, Maida Vale, W., had a group of Orchids arranged with Ferns and other foliage plants. Messrs. F. Sander & Co., St. Albans, sent a collection of choice Orchids, including the popular *Dendrobium Phalaenopsis* in variety, with some distinct *Calanthes* and *Cypripediums*. Among the latter were *C. J. Bartels* (*C. Boxalli* × *C. callosum*), and *C. Doncasterianum* (*C. hirsutissimum* × *C. callosum*), both fine hybrids.

Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, sent *Lælio-Cattleya Decia* (first-class certificate), *Habenaria carnea alba*, *Cypripedium Milo*, and *Helianthophora nutans*. A first-class certificate was granted for *Phaio-Calanthe Sedeniana*, shown by Baron Schröder, The Dell, Egham (gardener, Mr. Ballantine). The same exhibitor had *Cypripedium insigne* *Sanderiana*, for which an award of merit was adjudged. C. J. Lucas, Esq., Warnham Court, Horsham (gardener, Mr. Duncan), secured an award of merit for *Odontoglossum Insleayi splendens aurea*. W. Thompson, Esq., Walton Grange, Stone (gardener, Mr. W. Stevens), had various Orchids, as did Mons. Jules Hye, Ghent, the latter securing an award of merit for *Cypripedium triumphans*, a rich coloured kind. Mons. A. A. Peeters, St. Gilles, Brussels, secured an award of merit for *Cattleya labiata* var.; and N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gardener, Mr. W. Murray), won a similar honour for *Calanthe Harold*, a distinct form. Major Joicey, Sunningdale Park, Sunningdale (gardener, Mr. F. J. Thorne), exhibited the rare *Serrastylis modesta*, for which a botanical certificate was awarded. Mr. J. F. Williamson, The Gardens, Highlands, Minchin Hampton, had some *Cypripediums* in rare form.

CERTIFICATES AND AWARDS OF MERIT.

Begonia Sander's Winter Queen (F. Sander & Co.).—This is a new break in Begonias, and was raised by fertilising *B. socotrana* with the pollen of the varieties of *B. Rex*. The leaves are very handsome, grey and green, the shades being clearly defined and spotted white. The flowers were not expanded, but they appear to be of a pink colour. The plants exhibited were raised from seeds sown the first week in February of this year.

Calanthe Harold (N. C. Cookson).—This is a charming form, with bright rosy pink flowers of an attractive appearance (award of merit).

Cattleya labiata, *Peeters' var.* (A. A. Peeters).—This is a distinct variety, the flowers being large, of a rosy mauve shade, suffused and margined with a lighter shade (award of merit).

Chrysanthemum Duchess of York (H. J. Jones).—This handsome yellow variety was figured and described in the *Journal of Horticulture* for October 25th of this year (award of merit).

Chrysanthemum Madame Carnot (W. Wells and H. J. Jones).—A delicate creamy white flower with very long twisted florets (award of merit).

Chrysanthemum Owen's Crimson (R. Owen).—An incurved variety of a good substance, deep crimson colour (award of merit).

Chrysanthemum Mons. Meg (R. Owen).—This flower has brick red florets with a yellow reverse (award of merit).

Chrysanthemum Black Prince (R. Owen).—A rich deep crimson slightly incurved Japanese variety of good form and substance (award of merit).

Cypripedium Lucianum superbum (T. Statter).—The upper sepal of this variety is large, pale green, spotted chocolate colour, with a broad whitish margin. The sepals and lip are shiny brown suffused with green (award of merit).

Cypripedium insigne Sanderiana (Baron Schröder).—This is a light coloured form of an old favourite, the petals and lip being a bright yellowish green. Half of the upper sepal is pale green, the other portion white (award of merit).

Cypripedium triumphans (Jules Hye).—The flower of this kind is large and very showy. The upper sepal is bright green, thickly spotted with chocolate, the margin being pink and white. The petals and lip are bright shiny brown (award of merit).

Lælio-Cattleya Decia (J. Veitch & Sons).—This is the result of a cross between *Cattleya Dowiana aurea* and *Lælia Perrini*. The sepals and petals are pale rose, as is the centre of the lip, the margin of the latter being a rich purplish crimson (first-class certificate).

Odontoglossum Insleayi splendens aurea (C. J. Lucas).—This is a distinct Orchid, the flowers being large and of a dull yellow shade, except the lip, which is bright golden dotted reddish brown (award of merit).

Phaio-Calanthe Sedeniana (Baron Schröder).—A very distinct bigeneric hybrid, being the result of a cross between *Phaius grandifolius* and *Calanthe Sedeni*.

flora and *Calanthe Veitchi*. The flower is creamy white tinted rose, the margin of the lip being crimped (first-class certificate).

Primula capitata Lowwood var. (C. J. Lucas).—This is a very fine variety of *P. capitata*. The flower is a rich dark blue (first-class certificate).

Reinwardtia tetragyne (Sir T. Lawrence).—The bright yellow flowers of this favourite plant are very showy at this period of the year (award of merit).

Ruellia macrantha (Sir Trevor Lawrence).—This is an old stove plant, but is seldom seen in gardens. The flowers are bright rosy pink, and are freely borne (award of merit).

THE PRINCIPLES OF JUDGING AT FLOWER SHOWS.

The essay on the above subject read by Mr. J. Douglas at the afternoon meeting at the Drill Hall proved very interesting, and created some little discussion, though not so much as the importance of the subject might have led people to suppose.

In opening, the essayist remarked what a very difficult subject he had found it to deal with in a clear and lucid manner. To put his methods into practice was one thing, while to write it down was quite another. In his opinion the wording of schedules had a very important effect on the work of judges, and he thought that officials could not be too explicit in the framing of their rules to exhibitors, and as an instance of what he wished to emphasise he mentioned a case of disqualification at a Chrysanthemum show that is just now occupying the minds of many people in the horticultural world. In this case the rule used the word "requested," whereas no question could have arisen had "must" been substituted. He then proceeded to mention the confusion with which the words species, kinds, varieties, and sorts were used, and which often caused a great amount of trouble to the judges and misunderstanding among the exhibitors. The more clearly and decidedly a schedule was worded the better for all concerned, and the more likely were the judges to finish their work at the short time that was usually at their disposal.

The essayist then made brief reference to those products that were sometimes shown as fruits and sometimes as vegetables, while the Tomato could be and was staged as both. The folly of judging fruits by their appearance entirely was here dwelt upon, though competent judges with a thorough knowledge of varieties were able from this to form an opinion as to their merits; but where the competition was close it was always advisable to taste the produce before passing a final verdict. He thought that too much weight was given to size and appearance, and not enough to flavour, for he said no one would want a fruit that possessed size and a beautiful skin when its flesh was poor or even bad in flavour. As a particular example of this Melons were mentioned. Vegetables then took the attention of the essayist, and here he denounced coarseness in favour of neatness and good appearance.

Referring to flowers, Mr. Douglas said that the absurdity of judging fruits by their appearance was only equal to that of judging flowers by their smell, though he thought that the latter attribute should be accorded more weight than was the case at present. He considered fragrance in a Rose or a Carnation a great point, but it must be accompanied by other good points, such as substance of petal and form of flower. With reference to Chrysanthemums, some knowledge of varieties should be brought to bear in the judging, attention being given to those that were hard and those that were easy to grow. Then as to the attributes that should be possessed by these flowers, he should say depth, form, colour, size, and freshness were the most important; and of these very great consideration should be given to the latter. Then the arrangement of colours had in close competition to be borne in mind, as also had the cleanliness or otherwise of the trays or boards that were being used.

After many years' experience both as an exhibitor and as a judge, he had come to the conclusion that the point method of judging was the one likely to give the most general satisfaction. In conclusion Mr. Douglas trusted that his paper would cause some discussion, as by this means the best points were the most likely to be brought out.

The discussion was, however, brief but of great interest, Messrs. A. Dean, G. Gordon, and Sir J. Arbuthnot, Bart., taking part. A vote of thanks to Mr. Douglas and Mr. C. E. Shea for presiding, closed the meeting.

GRAPE GROWING IN KENT—AN INQUIRY.

It is an undisputed fact that uniform success does not always follow a successful grower of Grapes, when from various reasons he is transferred from one garden to another in an adjoining, or, perhaps, distant county. The structure, its position and aspect, and the soil, which is perhaps the more important item, vary so considerably, that often a man is robbed of his reputation through circumstances over which he has no possible control. That this is so I have on more than one occasion had demonstrative evidence to prove, and no doubt numerous readers of the *Journal of Horticulture* have had similar experience.

Among a small party of gardeners attending the late Crystal Palace Fruit Show, the subject of Grape growing was discussed, and it brought forth the somewhat remarkable assertion from one of the leading Kentish gardeners, that his county was one from which first-class Grapes was somewhat of a rarity. It would be interesting if some information could be furnished bearing on the subject under notice.

It appeared as being the more remarkable because of the superior

claims Kent has in fruit culture generally, and a remark made by one of the company that ought to be qualified to know, was to the effect that one particular Kentish garden possessed some of the finest soil in England, and yet had no fame for Grapes. I had the pleasure of inspecting the vineries under the charge of one of the best all-round gardeners in that county, but as it was so late in the year there was no evidence beyond the state of the Vines to prove to what perfection Grapes were produced in their best season. Late Grapes were not in evidence, but the Vines everywhere had the appearance of being equal to the production of the best quality fruit. That Clackmannanshire and Middlesex are counties favourable to Grape growing, visitors to the great Fruit Show had ample demonstration, and Wiltshire, Gloucestershire and Worcestershire are other counties from which excellent Grapes have been shown, but the information more particularly needed is whether Kent, as a county, is unfavourable for the cultivation of the best exhibition Grapes; if not, what are the reasons? There is no doubt that the nature of the soil has the greatest influence for good or otherwise; no chemical or other manures can be made a substitute for a natural soil. The constitution of soils vary even within the extent of a garden or field, and the same may be said of counties and districts. I might point out that the inquiry is not intended to reflect in any sense on the qualifications of the Kentish growers, but simply to substantiate or otherwise the statement made without solicitation.—W. S.

FLORAL NOTES FROM THE WEST COAST OF ROSS-SHIRE.

It would not, I think, be possible to find two consecutive seasons more utterly unlike each other than the seasons of 1893 and 1894; each had their respective merits, and, on the whole, I should say that 1894 has beaten 1893 as a flower year, but I fancy the latter has to thank the former a great deal for having by its abnormally hot spring and summer so ripened and prepared certain plants as to enable them to make a supreme effort this year, and, consequently, to do what some of them never did here before—namely, to bring forth their flowers and fruit to perfection.

As an example of this, I will first take the Phormiums. Five or six years ago Messrs. Ant. Roozen & Son sent me plants, asking me to experiment with them, and try whether or not they would prove hardy here, under the influence of the Gulf Stream. Amongst others were the Phormiums, or New Zealand Flaxes, which are so ornamental for the conservatory and for the garden or shrubbery, where the climate will allow of their standing outside. I had six varieties, some gold and some silver striped, and others with purple or green foliage. They and *Eulalias*, *Libertias*, *Yuccas*, *Bamboos*, and *Lilium giganteum* thrived amazingly; but the Phormiums, though they grew in bulk year by year, showed no signs of blooming till this last May, when two of them suddenly began to throw up flower spikes. On referring to the books, they told me the flowers would only be cream-coloured, whereas I had pictured them to myself as scarlet. The matter was, however, so far compromised by their turning out of a dull crimson, and most striking they looked with their handsome Aloe-like leaves below and their 9-foot high flower stems, smothered with blossoms, waving about in the breeze. I showed them later on, when full of ripe seed, to a friend who had spent most of his life in New Zealand, and he said my Phormiums looked just about as big and as happy as if they had never been removed from the land of the Maori. Perhaps I may be wrong in flattering myself that no other Phormiums have ever bloomed quite as far north as mine, as I am well aware that they are as nothing in comparison to the giants which are to be found somewhat further south, at Loch Houra, Head, where I hear my friend Mr. Birkbeck had one clump with fourteen spikes on it this year. All this blooming of Phormiums I put down to the intense heat of 1893. And so it was with the common *Hydrangeas*; they hardly flowered with me in 1893, but their wood having been so well ripened, they bloomed far and away better this year than I ever saw *Hydrangeas* bloom in Scotland, with the exception of a few I once came across on the west side of Mull—some of the heads were as large and very nearly as blue as if they had grown on the shores of Como or Maggiore.

Another effect of the heat of 1893 was the wonderful way it ripened seeds of every kind; and if we had only taken the trouble to collect them we might have been quite independent of the foreign seed farms of Germany. I daresay my readers will hardly credit me when I say that we had blue *Lobelias* and *Heliotropes* coming up broadcast in our borders this season; and as to *Dahlia*, *Tigridia*, *Alonsoas*, and *Schizanthus* seedlings, they came up like weeds! To show what a perfect success the seedling *Dahlias* were, I may mention that though one row of them faced a border containing a treble row of the very best named varieties, it would be hard to say which were the best, those grown from the home-saved seed, or those grown from bought tubers. I strongly advise everyone to go in for raising *Dahlias* from seed.

Once more, I must tell of the effect of the heat of 1893. For the last three or four years I have been trying to grow the American Bramble "*Wilson Junior*" in my garden, but it was such a failure that early last spring I ordered my gardener to consign them to the rubbish heap, but he very prudently took time to consider, and soon thereafter we noticed that they were going to blossom profusely, and the blooms seemed extraordinary large and healthy looking. The next thing they did was to set, and in good time to ripen, and they made us open our eyes quite as wide as did the Phormiums. Their fruit was

perfectly beautiful; they were fully an inch long, and not only jet black, but covered with such a gloss that they sparkled and glittered in the sun; and how good they were to eat, being as nearly as possible like the best of south of England Mulberries when they fall of their own accord from sheer ripeness on the green sward below their branches. This was a great find to get a Bramble as big as three or four of our native ones, with no sour taste and no hard middle; little wonder that they are popular in the New York and Boston markets. The "Wilson Junior" ripened about the end of July, and in October we had an excellent crop of Blackberries on the Cut-leaved or Hungarian Brambles, which were nearly twice the size of the native Scottish, and hung in such beautiful black clusters, like the Brambles one sees in the hedgerows of Normandy and Brittany; but the Hungarians could not for a moment be compared to the Americans, which, had I been able to show them at a fruit exhibition, would have drawn a crowd round them from morning till night. I hope next year to be able to report on the Japanese Wineberry, having imported some young plants of it this summer.

Before ceasing to give instances of the good effects of the hot summer of 1893 I will tell of a *Lilium giganteum* which had been in the garden for several years, and which did wonders in the way of blooming this last June. What a truly tropical plant it looked as it stood there, just as its forefathers had done in their native valleys of Nepal. It was quite 8 feet high, with fifteen big flowers on its top, and with every one of its great glossy leaves as perfect as if grown under glass. And, lastly, I must not forget to mention the blooming of the *Watsonias*, which, though quite hardy here to stand our coldest winters, are shy about blooming, unless emboldened to do so by an extra long spell of sunshine the previous year. One of the *Watsonia* flowering stems was nearly 5 feet high, and the individual blooms, which hung loosely at intervals of about 4 inches all up the stalk, were reddish orange in colour, somewhat tubular, and unlike any of the *Gladiolus* tribe, which its leaves so resemble. Mixed up with the *Watsonias* is another kind of bulb, whose name I know not, neither can anyone tell it me. It is more like a coarse-growing *Ixia*, with flower stalks as stiff as wires, covered with a double row of closely set satiny mauve flowers, each bloom being about the size of a sixpence. This is a most attractive plant, and much more free-flowering than its neighbours the *Watsonias*.

For some years I have rather despised annuals, but I trust I am gaining wisdom as I grow older, and now despise nothing that helps to make my garden bright and beautiful. I find that many plants that we used to grow as perennials, and that had to be wintered under glass, can now be grown as annuals at half the cost and trouble, as, for instance, the *Dahlias* already mentioned; also *Salvias*, *Lobelias*, *Alonsoas*, and *Carnations*. Others, again, take the place of bedding plants, and far exceed them for beauty. We used to grow *Gazania splendens* with some trouble as to wintering, and with only very moderate success in the way of blooms, but a friend recommended to me an annual, *Venedium calendulaceum*, from South Africa, and I now get, at the cost of 3d., nearly as good a blaze of orange as delighted my eyes when looking at the edging of *Gazania* round the English chapel at Ajaccio in Corsica. When in Switzerland some years ago I was so struck with the beauty of the beds of single *Dianthus sinensis* that this year I had the seed of more than one variety of this plant. The seedlings grew admirably, and have been the greatest pleasure; their dwarf habit and hardness were so suitable to this country, and the immense size and the wonderful colours and shapes of their blooms quite fascinated us. Besides these, there are all the *Scabiouses* and *Gaillardias*, and the hardy *Verbena venosa*, and the two handsome creepers, the *Ecremocarpus* and the *Loasa*, all of which we have bloomed from seed sown in the spring. I have forgotten to mention the *Salpiglossis*, and those who do not already know them should certainly try them. The tints and mixtures of colour in these annuals are quite unique, and hardly to be matched in the flower world; but they seem a little delicate, and want good soil and situation.

Should any of my readers aspire to a little sub-tropical gardening, they can easily manage something in this line without either hothouse or greenhouse. My gardener, being encouraged by the success of his border of choice plants last year, arranged a large oval-shaped bed this spring. It was composed of partly hardy plants such as *Yuccas*, *Eulalias*, *Fan Palms*, *Crinums*, *Eucalyptus*, *Callas*, *Bamboos*, and *Cannas*, which will all stand our winter pretty well without, or with at most very slight, protection. To these he added in the spring or early summer *Castor Oil Plants*, *Variegated Maize*, *Melanthus major*, and *Cosma bipinnata*, which were all raised from seed in a frame in the spring. Early sowing in a little heat is all they seem to want.

I was astonished lately by our *Brugmansias*, and I do not fancy that many in the North use them as bedding plants. The fault of them is that their long orange-scarlet blooms are so heavy as to weigh the plants down to the ground, but I hope to obviate this by planting them another year against my terrace. This year the *Diplacus* or *Tree Mimulus* had a beautiful effect trained against the wall among flowering *Myrtles* and *Ceanothus*, and they caught the eye of every visitor to the garden, and were immensely admired. I would especially commend the dark mahogany-coloured one, both for indoors and out of doors, and its shade of colour is so peculiar as to be almost unknown among flowers. I may mention that they are very nearly hardy. The *Abutilons* suit also very well for wall covering, and do quite well out of doors here for six months of the year. I have been much interested in *Stokesia cyanea*. It is an American Starwort, very dwarf, with blue flowers like a large China Aster. It has an individuality about it which is sure to commend

itself to all lovers of flowers. Hearing it was not hardy we wintered the young plants we obtained last year in a cold frame, and when planted out they bloomed profusely.

As a finish to my long gossip, I may say a word or two about leaves and berries. How I now wish that when I bought this place I had invested more largely in the American Scarlet Oaks. Their leaves in autumn are equal to any flowers for brilliancy, and in October nothing can beat a big vase filled with sprays of Scarlet Oak and white *Chrysanthemums*. The variegated Turkey Oak is equally telling all through the summer, especially with blue flowers, such as *Agapanthus umbellatus*, which, by the way, is perfectly hardy here without any protection, and blooms regularly. A clump of American Dogwood has been very brilliant here this autumn, and its bright crimson twigs are most beautiful all through the winter, after its rosy leaves are gone. And how is it that most people are satisfied to have all their berries red? Red seems certainly the favourite colour among the berries themselves, but I think a variety is desirable, and for yellow or rather orange, nothing that I have ever seen in berries can match a really good mass of Sea Buckthorns, with its silvery foliage almost hidden by its fruit. I have a round bush of it now, which stands out boldly at the top of my lawn, like a globe of amber against its background of dark evergreens.—O. H. MACKENZIE, *Inverewe, Poolewe* (in the "Scotsman").

OLEARIA HAASTI.

THERE is one objection I have to this shrub. Certainly when in bloom it may be a huge ball-like mass of snowy whiteness, but after the bloom is over, then for a long time the decayed bloom remains, and presents a dirty brown appearance. That defect mitigates very much one's admiration for so pretty a shrub when in bloom. What a pity it is that we cannot get some variety of the *Laurustinus* that will bloom fully early in the autumn, because then we should see this good old hardy shrub at its best, whereas through blooming so late in the year too often hardly have the blooms opened than bad weather or severe frosts destroy them. One of the most beautiful pure white hardy flowering shrubs we have is the giant Mock Orange, *Philadelphus grandiflorus*. It is a real gem.—D.

My experience with this plant does not coincide with Mr. Bardney's (see page 470). Four years ago we planted some here in the front of a belt of shrubs with an eastern aspect. They grew very fast for three seasons, and were handsome little bushes, and when thickly covered with their Daisy-like flowers were very much admired. Last winter, however, I am sorry to say they succumbed, I believe, to the sudden frost after a warm, moist autumn. *Eurybia Gunni* shared the same fate, being planted in the same position, but *Escallonia Philipiana* stood the sudden severity unharmed. What is the experience of others with these shrubs?—J. EASTER, *Nestell Priory Gardens*.

EUONYMUS ELEGANTISSIMA.

THIS is a decided improvement on the old *Euonymus latifolia* variegata, its foliage, although smaller, being whiter and more striking in appearance. Both varieties, however, are invaluable for many decorative purposes. It is surprising they are not more largely grown for conservatory decoration than is the case. These plants are in structures of this nature equally as effective as well-grown *Crotons* in the stove. They are infinitely superior to the *Crotons* grown in many gardens, because they never lose their colour whether exposed to the light or grown in the shade. In large houses where flowering plants fail to be satisfactory these *Euonymus* are most useful.

Low standards are effective, or the plants may be grown as bushes or pyramidal in shape. I find they look best amongst other plants when almost naturally grown, removing only such shoots that take the lead, and thus preventing the plant becoming unshapely. Beautiful little specimens can be had in from 3 to 6-inch pots, large enough for the majority of purposes, for *Euonymus* do not require much room at their roots, and can be kept for a long time in the same sized pot, provided they are top-dressed annually with rich material, or given a little chemical manure about twice a year. Another advantage, these plants are seldom attacked by insects. Sometimes aphides will attack the young shoots, but these are easily destroyed by fumigating or dipping the plants in a weak solution of tobacco water. Unlike *Eurya latifolia* variegata, a very handsome plant also for this purpose, it is rarely attacked by thrips. *Euonymus* will do well on a dry base where *Eurya* would fail. I have not found the latter half so useful for the conservatory as the former.

The culture of *Euonymus* is very simple. Cuttings of half-ripened wood—that is wood after the new foliage has expanded and attained a fair amount of firmness—will root freely. The cuttings should be inserted about August in pans or pots in sandy soil, thickly together, and then placed in a shady cold frame. In this position they can remain until they are rooted in spring, when the young plants should be placed singly in 2-inch pots. They are perfectly hardy, but to gain time when severe frosts approach the pans should be removed to a shelf in the greenhouse. The plants by this means are ready for potting singly fully a month earlier. Although they can be grown under cool airy treatment, they make greater progress when a little warmth can be maintained; in fact, treat them as greenhouse plants.—SAXON.



EVENTS OF THE WEEK.—The events of special interest to horticulturists to take place during the ensuing week will include an exhibition of Chrysanthemums, Cyclamens, Primulas, and other plants, held at the Royal Aquarium, Westminster, under the auspices of the National Chrysanthemum Society, on December 4th, 5th, and 6th. The annual general meeting and dinner of the National Rose Society will be held at the Hotel Windsor, Victoria Street, S.W., on December 6th.

— **THE WEATHER IN LONDON.**—A welcome change in the weather has taken place since publishing our last issue. Towards the end of the week it became colder yet dry, and similar weather has prevailed since. On Monday there were indications of snow, and it is reported that a few flakes fell in the metropolis, though not to any perceivable extent.

— **THE WEATHER IN THE NORTH.**—With one or two exceptions the weather has been dull and cold, with east wind and drizzling rain during the past fortnight. On the morning of Saturday last, and again on Tuesday, there were 5° of frost, and the hoar frost was dense, with every appearance of continuing cold weather.—B. D., *S. Perthshire*.

— **A CODE OF RULES FOR JUDGING.**—We are informed that it is the intention of the Royal Horticultural Society to form a strong committee to consider the whole question of judging flowers (in various sections), fruit, and vegetables at horticultural shows, with the view to formulating a distinct code for the guidance of exhibitors; the code to be circulated with the authority of the Royal Horticultural Society. This is a timely announcement, as something of the kind is undoubtedly needed. We trust that concise and definite lines will be laid down that will be helpful alike to cultivators, framers of schedules, and adjudicators. It is no light undertaking, and if we may make a suggestion on the subject, it will be in the form of a reminder of the adage of "too many cooks spoiling the broth."

— **THE NATIONAL AURICULA AND PRIMULA SOCIETY** (Southern Section).—The annual general meeting of the above Society was held in the rooms of the Horticultural Club, Hotel Windsor, Victoria Street, Westminster, on Saturday, November 24th, by kind permission of the members. Edward Charrington, Esq., presided. The President, Vice-Presidents, and office bearers were re-elected. The members of the Committee were also re-elected with the exception of Mr. Lakin, who has withdrawn from the Society, Mr. Martin Rowan being elected in his place. Mr. G. W. Wheelwright was appointed one of the auditors. The financial statement by the Treasurer showed a balance of £20 9s. 4d. in hand.

— **THE NATIONAL CARNATION AND PICOTEE SOCIETY** (Southern Section) also held an annual meeting in the same place on the 24th inst. Edmund Charrington, Esq., presided in the unavoidable absence of the President. The President, Vice-Presidents, and office bearers were re-elected with the exception of D. Bogue, Esq., Vice-President, J. S. Hedley, Esq., being elected in his stead. Mr. J. Lakin and Mr. H. Headland having withdrawn from the Committee, Mr. Aubrey Spurling and Mr. Ben Simonite were elected in their places. The financial statement by the Treasurer was eminently satisfactory, the amount of £107 being paid in prizes, and the balance in favour of the Society is £159 3s. 7d.

— **ROYAL BOTANICAL SOCIETY.**—The following exhibitions, lectures, and meetings held under the auspices of the Royal Botanical Society will take place in 1895:—Floral exhibitions.—Spring, March 20th, April 24th; summer, May 15th; gates open at two o'clock. Special floral fête, Wednesday, June 12th, gates open at two o'clock. Evening fête, Wednesday, July 10th, 8 to 12 P.M. Chrysanthemums will be in flower during November. Musical Promenades on Wednesdays from May 22nd to August 7th, exhibition and fête days excepted. Lectures, Fridays in May and June at four o'clock. General meetings for election of new Fellows and of scientific discussions, Saturdays at 3.45 P.M., January 12th, 26th; February 9th, 23rd; March 9th, 23rd; April 6th, 27th; May 11th, 25th; June 15th, 29th; July 13th, 27th; November 9th, 23rd; December 14th.

— **GARDENING APPOINTMENT.**—We are informed that Mr. J. Deacon, gardener to Herbert Harris, Esq., Bowden Hill House, Chippenham, has been appointed to take charge of Highbury Gardens, Birmingham, and enters on his duties December 18th.

— **MR. C. ORCHARD**, Bembridge, I.W., has been invited by the Isle of Wight Horticultural Improvement Association to deliver a lecture on the Chrysanthemum at the Literary and Scientific Institution, Ventnor, on Saturday evening next, December 1st, at seven o'clock.

— **DEATH OF MR. W. CHITTY.**—We regret to hear that on the 15th inst. Mr. William Chitty, nurseryman, of Stamford Hill, N., died suddenly. Mr. Chitty, who was eighty years of age, was a botanist of considerable attainments. Many years ago he was a successful exhibitor of Ferns and flowers, showing, amongst other places, at the Crystal Palace.

— **APPLE DEVONSHIRE QUARRENDEN.**—Considering that this is perhaps one of the best money-making Apples we have, it seems strange that it is not planted more extensively. No difficulty is ever experienced in obtaining 8s. per bushel for early samples. When established it is undoubtedly a free bearer. Upon a branch 3 feet long I last year counted 115 Apples, all moderate in size. This Apple thrives better where the soil is somewhat sandy. In heavy land it is liable to canker. As a standard it appears to succeed well.—M.

— **HESSLE GARDENERS' MUTUAL IMPROVEMENT SOCIETY.**—At a meeting of the above Society held on November 20th, a paper was read on "Hardy Fruits" by Mr. Allsop, gardener to Lord Hotham, Dalton Holme, Beverley. Dealing principally with Apples and Pears, Mr. Allsop advised the planting of well prepared trees in good soil, on mounds rather than deep holes. He also gave some useful hints on pruning, and advocated the thinning of the fruit, which should be done early, leaving only what they can well finish. Mr. Allsop's success as a fruit grower is well known, and the paper described his mode of culture.—F. L. T.

— **DEATH OF MR. JAMES COCKER, JUN.**—With regret we learn of the death of Mr. James Cocker, jun., of Messrs. James Cocker and Sons, Rose growers and nurserymen, which took place on the 21st inst. at his residence, 91, Leslie Terrace, Aberdeen. The cause of death was erysipelas. The deceased gentleman was thirty-nine years of age. After serving his apprenticeship to a seedsman, he entered the employment of Messrs. Hurst & Co., London, for the purpose of gaining further experience in his business. Returning to his native city in 1878, he joined the firm, and undertook the management of the seeds department. A well-known figure at local horticultural shows, at which, as well as in the ordinary course of business, he came in contact with many members of the trade and of the general public, by all of whom he was highly respected and esteemed alike on account of his personal qualities and business abilities. Mr. Cocker leaves a widow and a family of five young children.

— **ROYAL METEOROLOGICAL SOCIETY.**—The opening meeting of the session was held on Wednesday evening, the 21st instant, at the Institution of Civil Engineers, Westminster, Mr. R. Inwards, F.R.A.S., President, in the chair. Dr. H. B. Guppy read a paper on "Suggestions as to the Methods of Determining the Influence of Springs on the Temperature of a River as Illustrated by the Thames and its Tributaries." The methods suggested were: 1, Comparison of the curves of the monthly means of the temperatures of the air and of the water for the river under observation with those of a river beyond the controlling influence of springs. 2, Comparison of the monthly means of the temperature of the river under investigation with that of a river beyond the control of the springs. 3, Comparison of the range of the monthly means of the river temperature with that of the air in the shade. 4, Comparison of the daily range of water temperature at different stations along a river's course. 5, Comparison of sunrise observations made at different stations along a river's course. 6, Comparison of observations made at different stations along a river's course at the hour of maximum temperature. 7, Comparison of the results obtained from a single series of observations made in one day along the whole course of a small tributary like the Wandle, or along the upper course of a larger tributary as the Kennet. 8, Determination of the distance from its sources at which the river begins to freeze. Mr. Eric S. Bruce, F.R.Met.Soc., exhibited and described some lantern slides, showing the disastrous effects of the great gale of November 17th and 18th, 1893, upon trees in Perthshire, Scotland. Mr. Alfred B. Wollaston gave an account of the formation of some waterspouts which he had observed in the Bay of Bengal.

— IN report of Dublin show (page 474) it should read, "held in the premises of the Royal Dublin Society," as these premises do not belong to the Royal Horticultural Society of Ireland—the two societies are distinct.—E. K.

— COWSLIPS IN NOVEMBER.—A Worcestershire paper says the effect of the present mild weather is evidenced by the fact that Cowslips were picked a few days ago at Ullingswick. At Bromyard, too, both Primroses and Cowslips are in bloom.

— AMERICAN APPLES.—Thousands of barrels of Apples, it is said, are arriving now at Liverpool by the ships from the United States and Canada. A single Allan liner last week brought some 7000 barrels of Canadian Apples in splendid condition.

— THE HORNBEAM.—According to a transatlantic contemporary, one of the handsomest trees in the Botanic Gardens of Washington is a European Hornbeam, which was planted by Mr. Smith, the Superintendent, about twenty-five years ago. It is very symmetrical in shape, and its branches spread out over a circle 50 feet in diameter. It has a stout trunk, which breaks into numerous large limbs some 4 feet above the ground, although a distinct central stem continues much higher. The trunk measures 6 feet in circumference at its smallest point.

— WEATHER IN NAPLES.—Never was a season so beautiful as this present autumn one here (Naples)—air neither too hot nor too cold, gentle breezes, sea silvery calm, multicoloured sunsets, flowers all unfolding once more as if spring had come, at night the moon riding high in a blue sky. Everything, says a daily contemporary, contributes to make Naples a delightful sojourn, and it is a pity that travellers delay their coming till the period of storms, if ever we are to have any. The golden autumn tints of the deciduous trees, which are slow to drop their leaves, add to the colouring in the gardens and of the hills around the city.

— CATALPAS.—In reply to Mr. Bardney's inquiry (page 471) respecting the Catalpa alluded to in my notes on these choice flowering trees, I would say that *C. syriaca* is the only one known to me, and this was of course the one of which I wrote. I should be quite prepared to admit that the golden form would be, as Mr. Bardney says, a very handsome tree, and would form a good companion to the commoner kind, of which far too few are planted in our pleasure grounds and parks. They are very ornamental and striking in character of growth, and being flowering add much more to their value and interest.—W. STRUGNELL.

— THE WINTER MOTH.—Does not the recently recorded experience of the comparative inefficacy of the bands to prevent the ascent of the moths show the importance, if possible, of preventing the moths appearing at all? Wherever the experience of the past summer shows that there is a brood awaiting emergence, they should be dealt with by either killing the pupæ or the moths directly they appear. It is certain most of the pupæ lie near the trunks or stems of the trees or shrubs upon which they have fed, and many would be removed by scraping off the surface soil about fruit trees. It might also be dressed with the petroleum compound often recommended in your Journal, either made by combining it with water by means of soft soap and soda, or with the admixture of Gishurst compound. Moths emerging into soil wetted with this would die, as they also would if it were wetted with alkaline solutions or diluted gas liquor, or sprinkled with soot.—J. R. S. CLIFFORD.

— THE MILDNESS OF THE WEATHER IN SCOTLAND.—The Rev. David R. Williamson writes to us on November 24th from Kirkmaiden Manse, Wigtonshire:—"The weather here has been for some time past exceptionally mild and favourable to vegetation. In my own garden, which has in many places a vernal aspect, hardy Primulas, white and lilac, are in bloom; so also are the China Roses, including *Hermosa* and *Laurette Messimy*, while flowers are still discoverable on certain of the Teas and Hybrid Perpetuals, including *Safrano*, *Marie Van Houtte*, *Beauty of Waltham*, *Général Jacqueminot*, and *Souvenir de S. A. Prince*. Large buds are still visible on very late specimens of the Lily of Bermuda (*L. longiflorum Harrisii*). These I usually cut, and in the heat of my study force them into bloom. On the north wall of the garden *Jasminum nudiflorum*, one of the most interesting of winter flowering plants, is already disclosing its tender saffron hue. The Christmas Rose is almost equally anticipative of early bloom. Snowdrops, inspired into somewhat premature activity by the spring-like influence of this genial season, are beginning to make their first welcome appearance above the ground. The St. Brigid Anemones are equally advanced, and several of the Irises are also exhibiting remarkable growth."

— JUDGING APPLES.—Would someone who is accustomed to judge Apples kindly say what is the leading and standard authority by which it is decided which Apples are eligible or ineligible for the dessert and culinary classes? The line seems to be drawn in a very undecided manner, and when I find, in a catalogue recently sent me, Bramley's Seedling and Ribston Pippin classed alike as D. K.—that is, I suppose, as eligible for either class—it seems time to make inquiry.—W. R. RAILLEM.

— A FLORAL TRIBUTE TO THE QUEEN.—It is reported that the Sydney (Australia) National Horticultural Society recently forwarded to Her Majesty some fine specimens of native flora frozen in a huge block of ice. The flowers, comprising Rock Lilies, Clematis, and Waratah (*Telopea speciosissima*), were arranged in a vase and fixed with plaster of Paris and then frozen into a block of ice which weighed 7 cwt. The flowers arrived on the 17th inst. by the steamer "Arcadia," and were forwarded to the Queen at Windsor.

— A GARDENER'S MISDEEDS.—We are requested to publish the following:—"At the Middlesex County Sessions, on the 24th inst., William Kemp, gardener, of South Norwood, was indicted on four separate counts for obtaining by false pretences divers sums of money from his employer, Mr. Alexander, of Teddington, also plants from Messrs. Protheroe & Morris, Cheapside, and Messrs. John Laing & Sons, Forest Hill. The jury found the prisoner guilty, and Mr. Loveland-Loveland sentenced him to twelve months' hard labour."

— THE HOP-PICKING MACHINE.—In the "American Agriculturist" a correspondent writes:—"I have every reason from past experience to assure Hop growers that the time is near at hand when Hops will be picked by machine, doing the work cleaner than American hand-picking at not over one-fourth the cost. It is expected that each section of the machine which receives the Hops from one person who feeds in the vines will pick as many in an hour as a hand-picker would do in a day—that is, if the feeder can feed the Hop-bearing vines fast enough."

— LILIUM AURATUM.—A Bath correspondent writes:—"That the weather is extremely mild is a matter of general comment, but I venture to think that to see *Lilium auratum* in bloom in an open border on the 11th of November is unique. The bulb was one of several I planted out here in the spring in an open border sloping towards the south-east. Most of them flowered in September, but one developed late, and in an ordinary way the growth would have been destroyed by frost. On the 11th inst., however, I cut from it two handsome blooms, the choice perfume from which pervades the house."

— A NEW CYPRESS.—"Nature" last week published an illustration of a new Cypress named *Widdringtonia Whytei*. This is reported to have been discovered in Milanji, the easterly corner of the British Protectorate of Nyasaland. It is said that Mr. Alexander Whyte, the naturalist attached to the staff of Mr. H. H. Johnston, C.B., H.B.M. Commissioner and Consul-General, who usually resides at Zomba, made a botanical excursion to Milanji in 1892, and obtained a good series of the mountain plants. Among many plants new to science discovered by Mr. Whyte, this one is of special interest, owing to its importance from an economic point of view. In his exploration of the mountain, Mr. Whyte was much impressed with "a large Cypress," which formed the most striking feature of the upper plateau. One prostrate trunk, and that by no means the largest seen, measured 140 feet in length, with a diameter of 5½ feet at 6 feet from the base, and had a clean straight stem of 90 feet. In other cases long straggling branches are given off nearer the base. The timber is of a pale reddish colour, of excellent quality, and easily worked. The bark on the old trees is of great thickness, consisting of layers which are annually shed and renewed. The foliage recalls that of the Juniper, while the fruits or cones, which are crowded from four to six together on short lateral shoots, are about three-quarters of an inch long, and from that to 1 inch wide when open. They consist of four thick woody scales, united below, spreading above, and bearing at their bases on the internal surface a number of small winged seeds. Examination of the specimens sent home has shown that we are here dealing with a new species of *Widdringtonia*, a small genus of Conifers allied to the Cypress and Juniper. Mr. Whyte's discovery has considerable scientific interest, from the fact that it extends the geographical range of the genus, hitherto known only from South Africa, Madagascar and Mauritius, into Tropical Africa. *Widdringtonia Whytei* promises to be of great economic value from the excellent quality of its timber for building purposes and furniture. It is easily worked, and is moreover a tree of rapid growth,

for Mr. Whyte tells us that in a plantation which he has formed near the residency at Zomba, three-year-old seedlings have already reached a height of 10 feet. Seeds of the new Conifer, forwarded by Mr. Whyte, reached this country in 1893, and healthy seedlings have been raised in the Royal Gardens, Kew; in the Botanical Gardens, Edinburgh; in Messrs. Veitch's Nurseries, and in the Zoological Society's Gardens.

— **COCOA NUTS.**—It is reported that Dr. Morris has been telling an audience that "though the Cocoa Nut has to all appearance only one cell in the flower, the ovary contains three cells, two of which are suppressed in the process of growth. But anyone can see that the outer shell is in three divisions, and that there are always three eyes, two of which are 'blind.' In the walls of the two divisions of the shell in which the blind eyes are placed are to be found the suppressed embryos. A three-celled nut has recently been presented to the Kew Museum; apparently no one knows of another in existence. It does not often fall to the fortune of the lover of Cocoa Nuts to find a beautiful pearl inside one instead of milk; but such cases have occurred. These pearls are white, and resemble oyster pearls in being composed almost wholly of carbonate of lime."

— **ABERDEEN AND NORTHERN HORTICULTURAL SOCIETY.**—At a meeting of this Society held last week under the presidency of Mr. Munro, Polmuir, "The Novelties of the Season" were discoursed by Mr. Grigor, Fairfield; Mr. Creighton, Mr. Farquhar, late of Fyvie Castle Gardens; and the Chairman, who gave short addresses on the subject. A paper written by Mr. Alfred Outram, London, on "The Progress of Horticulture in the United States" was then read. The writer stated that in 1876 there were not more than 1000 florists in the United States. That number had now increased fourfold, and at the present time, it was stated, the number of cut flower and decorative plant growers was enormous. At the beginning of the present year there were 4659 floricultural establishments, which covered no less than 40,000,000 square feet of glass. The value of these establishments was £8,000,000 sterling. Exhibits of Chrysanthemums were shown by Mr. W. Rider, Blair Castle Gardens, Culross, and were awarded the Society's certificate.

AN AUTUMN DAY AT BELVOIR.

AN opportunity of spending a day, or rather a portion of one, in the beautiful domains of Belvoir came recently within the reach of one who had heard much about but seen little of these charming grounds. This was too good a chance to be missed, and in response to the invitation thither the said person, with a small band of pilgrims, wended one fine day in the middle of September. Having read so frequently of the delights of these gardens in the spring, and how many thousands of "trippers" congregate there at that period, one of the party now under notice, being of a retiring though by no means a poetical disposition, was more than pleased to be thus enabled to avoid rubbing shoulders with aspiring spring poets and see what many have not seen, Belvoir in its autumn garb. There is, however, ample space in this splendid demesne, and one of the visitors, whose practical gardening operations are confined to a small plot some 20 feet square, and not a hundred miles from the Thames, thought his garden did not compare very favourably with that of the Duke of Rutland's. This indisputable fact, though, did not disconcert him. Indeed the reverse was the case, for after spending a pleasant hour or so with Mr. W. H. Divers, the talented and courteous gardener, the prose scribe, for such he was, came away with more knowledge than he went with and some hieroglyphical characters in his note book.

But few readers will need to be told that Belvoir Castle is one of the most famous establishments in the country, and is some seven or eight miles from the Lincolnshire town of Grantham, but the grounds, or some portion of them, really come within the county of Leicestershire. For many years past it has been noted for spring bedding, as carried out by the late Mr. W. Ingram, who, as all the gardening world knows, was succeeded some time since by Mr. W. H. Divers, whose fruit-producing abilities, so prominent whilst at Ketton Hall, have been frequently recorded. The general characteristics of this ducal domain have already found their way, by the aid of pen and pencil, into these pages, so for the present one may be excused in skipping them, merely giving a simple narrative of what was seen on the recent autumn day. This will be a change and a departure from the well-worn track, because to many persons it would appear that Belvoir and spring bedding are inseparable. That this phase of flower gardening constitutes a leading feature there can be no doubt, and the writer would appreciate a visit at that time of the year; but there is much else of interest to be seen at all periods. In many respects the gardens differ considerably to those attached to the majority of gentlemen's residences. There is nothing formal about them, and it seems as if they emerge gradually into the surrounding woods, a "cockney" having some difficulty in noticing a distinction betwixt the two at certain points. The surface, too, is charmingly undulated, the castle standing on a high hill, surrounded by a series of smaller ones, all thickly wooded.

On arriving at the gardens we met Mr. Divers near his embowered residence and were at once courteously conducted through the kitchen

garden, which is a very fine enclosure comprising some 7 acres within substantially built walls. The latter are covered with excellently trained fruit trees which bore grand crops of fruit. Pears were remarkably fine this year, most of the trees being laden with fruit above the average size. Among other varieties Maréchal Valiant, Beurré Superfin, Josephine de Malines, Winter Nelis, Beurré Dubuisson, were remarked as being unusually fine. The last named kind, as mentioned on page 277 of the *Journal of Horticulture*, was in bygone days a favourite Pear at Belvoir, and it is likely to remain so still. Morello Cherries on the walls are worthy of note, the trees carrying enormous crops of fruit as late as September. Such would not be the case perhaps were small boys as numerous there as they are in the metropolis, or if the Cherries not closely covered with nets to protect them from birds. As elsewhere Apples this season were by no means plentiful, but Plums, it was understood, were good. Strawberries were affected by the frost, although the plants in the beds are in a healthy condition, the same applying to those in pots for forcing. Of vegetables it could be seen that these were admirably grown, salads for winter use forming a noticeable feature. "We will take a peep into the reserve garden," remarked our guide, unlocking some heavy iron gates. Here were to be seen thousands of spring flowering plants, and the visitor from the metropolis was convinced, without taking the trouble to count them, that there were far more Wallflowers, Forget-me-nots, and Primroses than would be required to fill all the little front plots in the quiet suburban road where his home is to be found. We take a hasty run through half a dozen or so of plant houses, rather primitive structures, which Mr. Divers hopes to see improved, as they should be some day, and from thence to the fine range of vineries. Here Muscat of Alexandria and other varieties were observed to be in good condition, the bunches being of a useful size, berries richly coloured, and generally of excellent quality.

Within the walls of the garden is a series of beds filled with hardy plants. At all times of the year these doubtless form a noteworthy feature, and during the autumn there are many plants in bloom. Amongst others the beautiful *Crocus speciosus* was most conspicuous, large masses of this making a charming display. A bush of the Japanese Wineberry (*Rubus phœnicolasius*), laden with brightly coloured fruit, attracts visitors and birds as well. The feathered songsters, which naturally abound in such a densely wooded neighbourhood, are very partial to the briskly flavoured fruit. Early-flowering Chrysanthemums also find a place here, such varieties as Salter's Early, M. Gustave Grunerwald, Vicomtesse de Avene, and Mrs. J. R. Pitchard being particularly effective. Herbaceous and alpine Phloxes in variety are likewise seen to advantage, as are Carnations, Campanulas, Pæonies, Erigerons, Irises, and numerous others, which, of course, were past flowering at the period mentioned. On the whole, it is a grand garden of hardy plants, and to do it justice requires more than a passing glance. As interesting, though, as is this portion of the grounds, it pales before the delightful terrace gardens which rise one above the other, until the visitor is probably 500 feet above the level of the sea, and has before him one of the finest views in the country. These gardens are filled with choice hardy plants, which, being protected from the north-east winds and open to the influence of the sun, thrive amazingly. Tea Roses in beds were covered with bloom, and the walls of the Castle flourished Magnolias, Noisette Roses, Pomegranates, and Chimonanthus fragrans, the two last-named bearing fruit. The single Banksian Rose is also grown here, as are other rare and somewhat tender plants.

A short walk from the Castle, past a stretch of well kept grass, brings us to the first of the flower gardens. Here we find a number of beds devoted to summer flowering and ornamental foliaged plants, which were in striking contrast to the other surroundings, but nevertheless exceedingly attractive. The plants were admirably arranged as regards colour, and produced an excellent display, tuberous Begonias flowering unusually well. On a lower plateau is another garden, from which we pass along winding walks on steep hills to yet a third, called the Duchess's garden. This is a well sheltered spot, and numerous plants of a doubtful nature, so far as their being able to withstand frost is concerned, grow luxuriantly. Some beds near a walk were filled with ordinary bedding plants, which have probably given way for others that bloom in spring; but below, greater freedom in arrangement is the primary characteristic. Huge masses of Bamboos rise above dwarfier growing plants, including clumps of *Hydrangea paniculata* and *H. hortensis*, the latter being really beautiful. All these and many others are planted on a grassy slope. Here, too, the remains of a tall spike of *Eremurus robustus* arrests the eye for a moment, affording evidence that this plant has bloomed well at Belvoir this season. A splendid bush of *Azara microphylla*, which is usually grown against walls is seen, and Camellias, such as *Alba plena*, *imbricata* and others, are as healthy as Laurels, and studded with buds. These blossom profusely during the spring, as does *Rhododendron Falconeri*, this plant having for years passed severe frosts practically unscathed. Far above the sheltered slope on which the foregoing shrubs thrive are rockeries devoted to the culture of choice Alpines. These are extensive, and apparently many of the floral gems have been in years past overgrown by less welcome plants; but the latter are being gradually eradicated, though the work is tedious, and necessarily progresses slowly. A year or two hence will probably see improvements in this direction. Physically tired, and yet mentally refreshed, the members of our little party retrace their steps, and after partaking of Mr. and Mrs. Divers' generous hospitality, we leave Belvoir as the shades of evening are falling with favourable impressions that will remain fresh for a long time, even amidst the crowded thoroughfares and bustle of city life.—JOURNALITE.



CHRYSANTHEMUM DIRECTEUR TISSERAND.

M. ERNEST CALVAT has done much during the past three years to raise the standard of Japanese Chrysanthemums in this country, and the varieties which seem to have found most favour with our exhibitors are his seedlings Louise, Mdlle. Thérèse Rey, Mrs. C. Harman Payne, President Borel, Préfet Robert, M. Pankoucke, Madame C. Molin, and Madame Carnot. Up to the time of writing these lines six varieties of M. Calvat's have received an award of merit at the meetings of the Royal Horticultural Society this season, and ten have been awarded first-class certificates by the National Chrysanthemum Society, six of the latter awards being made to M. Calvat personally as the exhibitor.

At the floral meeting on the 21st inst. one of the new flowers staged by him was called Directeur Tisserand. This, as shown in the illustration (fig. 75) which has been reduced from a photograph, is a very large Japanese bloom of great depth, with florets of medium width forming a very solid looking flower of great substance. The colour is what we may describe as a rich golden ochre yellow with the centre curiously suffused with deep rosy crimson. Directeur Tisserand is not yet in commerce, but will probably be distributed next spring.

ESTIMATE OF NEW CHRYSANTHEMUMS.

WITH a view of assisting those persons interested in Chrysanthemum culture who have not the opportunity of forming their own estimate of the value of new varieties, I purpose giving mine of each as gained from actual observation. My practice in former years has been to describe the flowers from my point of view, not adhering to catalogue descriptions exactly, although I find them very convenient. If definition of colour in some instances is at variance with that in certain catalogues, it is because I cannot find that which I omit in the actual flower. Compilers of catalogues are, in my opinion, defeating their own aim by appending such lavish descriptions to some varieties when much more simple terms would suffice, and with the public be much more appreciated. As usual, the Japanese section is more numerous represented than any other, owing to the raising of seedlings now so largely practised in nearly all parts of the globe. Undoubtedly the pride of place at the present time must be given to the Duchess of York, which was described and illustrated in the *Journal of Horticulture* for October 25th of this year.

Souvenir de Petite Amie.—As an exhibition variety this is likely to become popular; the blooms are of full size, perfect in contour, the pure white florets are narrower than those of Mdlle. Thérèse Rey, curling at the tips when unfolding, afterwards they are quite straight. This French-raised Chrysanthemum is of the right kind of growth—dwarf and well clothed with foliage.

Autumn Tints.—This is an English-raised variety, and decidedly possessed of much merit as well as being somewhat peculiar in its colour. While unfolding its fairly broad florets the colour then is pure gold at the base heavily striped and suffused with purple bronze. With age this becomes much paler, the centre of the flower changing to a rich golden yellow; large solid blooms of excellent form; growth, robust but not tall.

Madame Charles Capitant.—This reminds one forcibly of Maiden's Blush in the style of its flowers, although much larger. The florets are flat, each having three notches at the point. The colour is blush at the base, suffused and striped with purple. Although not an extra large flowered kind it is one that exhibitors should note. The only objectionable feature is its tall growth.

Thomas Hewitt.—This belongs to the incurved Japanese section; florets broad, of good substance. The ground colour is creamy white, heavily striped with rose lilac.

Mrs. E. S. Trafford.—Although this is the name given to this English-raised sport from the well-known American variety W. Tricker, it will no doubt be better known as "Bronze Tricker." The new-comer differs in no sense from its parent except in colour, which is a pleasing shade of bronze.

Miss Dorothy Frankland.—This has received a first-class certificate from the National Chrysanthemum Society. The blooms are rich yellow, the incurving florets are quilled at the base, the tips notched and forked. The narrowness of its florets detracts from its merits considerably.

W. G. Newitt.—Although white-flowered Chrysanthemums are numerous there is still room for this. The florets are of medium width, flat, and pointed, some being notched at the tip. The colour is white with cream centre, which declines with age. Grown by the orthodox method crown buds are too late. By "taking" the first bud at 4 feet high, blooms 7 inches by 5 inches are obtained.

Miss Ethel Addison.—An incurved Japanese having broad florets; the surface violet-amaranth, reverse silvery flushed with purple, robust foliage.

Fred. Waterton.—An incurved Japanese while unfolding its florets,

afterwards it partakes of the build of Boule d'Or. The colour, soft pink, is pleasing.

Zealandia.—This was sent over from New Zealand by Mr. J. Earland, and distributed in England by Mr. H. J. Jones. It is distinctly an incurved Japanese variety. The colour, silvery pink, reminds one forcibly of Sam Henshaw.

Undine.—Too small for exhibition, but an acquisition for decoration; creamy white, with yellow suffusion in the centre.

Wilfred Marshall.—A Japanese incurved, florets pointed, large and full blooms are produced on plants but 4 feet high. The blooms are a golden yellow colour.

Comtesse de Galbert.—Although this Chrysanthemum was certificated by the N.C.S. in 1891 it has hardly ever been seen since, though I expect it will take part in many competitions. The pale rose, yellow tinted broad florets promise to be pleasing.

Violetta.—This has Etoile de Lyon style of floret, purplish pink flushed with white; effective, but thin.

Petit la Deux.—This variety has broad incurving florets, which roll up ball fashion in the middle of the flower, white, tinged with lilac mauve. All the varieties noted in this article belong to the Japanese section.—E. MOLYNEUX.

WINCHESTER AND CROYDON SHOWS, 1895.

THE next Winchester Chrysanthemum show is fixed for Thursday and Friday, November 13th and 14th, 1895. The Croydon Chrysanthemum exhibition will take place on November 12th and 13th next year.

CHRYSANTHEMUMS CERTIFICATED AT YORK SHOW.

CERTIFICATES of merit were awarded to two new varieties of Chrysanthemums at the York show. They were Welton Beauty (Japanese), and Mrs. R. C. Kingstone (incurved), both from seed raised by Mr. H. B. Surman of Germanstown, Philadelphia, and exhibited by Mr. C. Lawson, The Gardens, Welton House, Brough.—JNO. LAZENBY.

CHRYSANTHEMUM PHILADELPHIA.

AN illustration of the new Chrysanthemum Philadelphia, referred to on page 449 of our issue for November 15th as having been awarded a silver-gilt medal of the National Chrysanthemum Society, is published in the Chrysanthemum number of the "American Florist." As there depicted the bloom appears to be a member of "the missing link" type, being globular in form, with regular incurving florets. It was shown at the Chicago Exhibition by Mr. Hugh Graham, to whom a certificate was awarded.

DUKE OF YORK v. BEAUTY OF TEIGNMOUTH.

AS I am partly responsible for the disqualification of Mr. Foster's exhibit at Exeter, allow me to say that after considerable deliberation no other conclusion could be arrived at, as to all appearances the two blooms were one and the same variety. The flower of the supposed Beauty of Teignmouth was compared with several other blooms of Duke of York in the exhibition, and the only verdict that could be arrived at was that Beauty of Teignmouth was simply Duke of York rechristened. The flower labelled Beauty of Teignmouth was a younger one than that of Duke of York when exhibited, and this would account for the slight difference in colour noted in the Editor's paragraph on page 463.—C. HERRIN, *Droptree, Maidenhead*.

GOLDEN WEDDING.

HAVING read with interest the reports from various correspondents respecting the behaviour of Chrysanthemum Golden Wedding, I thought you would be pleased to hear we have been fairly successful with that variety. We lost three shoots only from five plants. We do not exhibit, but grow about 300 plants for large blooms merely for home display. We find Golden Wedding very subject to mildew. I enclose a bloom for your inspection. Lord Brooke I merely put in to fill the box.—WM. MAYBURY, *Brooke House, Ash*.

[Like many other gardeners who do not exhibit you evidently grow Chrysanthemums well. Both the specimens are better than many of the same varieties we have seen in prize stands this year.]

CHRYSANTHEMUMS OUTDOORS.

THESE have been very bright and beautiful in Surrey. Those who stick to some of the old sorts or are content with good Pompons and singles, no doubt get the prettiest results. Plants treated as ordinary perennials having this season found ample moisture have done wonderfully well, blooming most profusely. I have seen clumps lately of fully a yard through, with splendid clusters of flowers. How beautiful for this purpose is the old Julie Lagravère, once the best of all the crimsons, but now so much displaced by larger flowers. Still there are few of the colour that bloom so effectively as Julie does out in the open ground. Were it possible to ensure honesty in the competition it would be worth while to have a class at shows for bunches in trebles of, say twelve distinct sorts grown outdoors without shelter of any sort. Such a class would do something to popularise Chrysanthemums as hardy garden flowers.—A. D.

CHRYSANTHEMUMS AT DULWICH PARK.

GROWERS who have good well-heated houses in which to exhibit Chrysanthemums have of late been very much surprised when visiting the show here to see what can be done with only a temporary span-roof structure made up of ordinary pit lights and bast mats, with no warmth whatever. One thousand plants have been on view for the last four weeks, and seem likely to last another fortnight yet. The plants are

beautifully arranged, not indeed in the usual straight bank style so often seen, but in an easy, undulating, two-sided group, so as to allow visitors to pass round on both sides. Of course large blooms are not expected under such conditions, but here will be seen splendidly formed, medium sized, bright, clear blooms of good substance. The show has been much appreciated and admired by large numbers of visitors and residents who frequent this charming park. The able superintendent, Mr. W. Bailey, is naturally anxious to have a suitable house built, so

H. J. Jones, J. Agate, W. G. Newitt, Niveus, The Queen, Mrs. C. E. Shea, International, Ernest Fierens, and Mrs. H. J. Drewett are the best, both certificated and uncertificated."

Among the yellow-coloured forms selection is difficult, for they are so unusually numerous and exceptionally fine. The most striking and effective to my taste are Duchess of York, Exmouth Yellow, Amiral Avellan, Sarah Hill, Miss Goschen, Pallanza, M. C. Molin, M. Pankoucke, Wilfrid Marshall, Duchess of Wellington, Miss Maggie Blenkiron,



FIG. 75.—CHRYSANTHEMUM DIRECTEUR TISSERAND.

that he will be enabled to have large first-rate shows such as he has hitherto been accustomed to.—BOTANICUS.

THE COLOURS OF NEW CHRYSANTHEMUMS.

Two or three years ago it was remarkable that many of the best of the season's novelties were crimson-coloured flowers. This year, however, very few of the new varieties appear to be of that colour, and looking at the lists of those that have been submitted to the Floral Committee of the National Chrysanthemum Society, it will be observed that white and yellow seem to predominate. Of the former colour *Souvenir de Petite Amie*, *Madame C. Molin*, *Mrs. W. H. Lees*, *Mrs.*

C. Curtis, *H. L. Sunderbruck*, *Globe d'Or*, and *Miss Dulcie Schroeter*. Descriptions of all these have appeared in these pages.—P.

GROUPING CHRYSANTHEMUMS.

YOUR correspondent "A. D." (page 469) has struck the key note of what I trust will be the knell of Chrysanthemum groups of the old style—viz., a gigantic version of a cottager's nosegay. But until our judges are educated up to a more artistic and harmonious blending of form and colour, there is little inducement to competitors to venture out of the beaten path. Of course a few of the highest class judges might appreciate an attempt at a new departure, but the ordinary run

of those we find at country shows will, I fear, take some time to arrive at this stage. Nevertheless I am delighted to see one step forward in the direction of progress, and that is the mixing of Palms, Ferns, and foliage plants with Chrysanthemums, and trust every society aiming at being "up to date" will adopt it in their next schedule, and so let the judges and public (who are now becoming educated in taste by means of the art schools throughout the country) see that there are new ideas, which may be developed into shapes of beauty and schemes of colour, which no Cabbage bouquet, however large and glaring, can produce.—F. O. DEVEREUX.

[We do not think it by any means impracticable to formulate conditions for exhibiting and judging that would be helpful in this reference, and which would have a tendency to change the character of many groups that are a burlesque on tasteful arrangement.]

SOME NEW INCURVED VARIETIES.

FOR a long time past the raisers do not seem to have been able to impart to the seedling incurved Chrysanthemums anything like the richness of colour to be found in the Japanese. The whites and yellows are, of course, very clear and good, but the higher tones seem to be a long way off.

During the present season some capital varieties of the incurved type have been seen, some quite new, others perhaps a year old, or even more. Of these Madame J. Maureau is a good deep flower with broad florets, colour silvery lilac, a novelty from France, where very few of this race have come from. William Tunnington, very perfect in form and finely grown by Mr. Owen, is a rich brown crimson with a golden buff reverse, shaded crimson and tipped yellow. Crimson Perfection is another from the same source, a full, deep, regularly incurved flower with stiff florets arranged in perfect form; the crimson colour in this is rich and bright. Globe d'Or, shown by Messrs. Cannell & Sons at a recent meeting of the Floral Committee of the N.C.S., is of a rich brown buff and orange, the outer florets rosy bronze, and will probably be relegated to the Japanese incurved section later on. C. Curtis is a very large flower of a rich golden yellow shade with narrow pointed florets, and may make a fine variety, although as shown when certificated it was rather flat in build. J. Agate, sent out last year as a Japanese incurved, looked more like one of the old show type when staged for a certificate on November 7th. The blooms are semi-globular, very regularly incurving florets with a well rounded tip, colour white. M. P. Martignac is another incurved from France, a yellow variety of good build, but not over-large.

It is curious to notice that in some of the so-called incurved Chrysanthemums there is a mixture of blood which is strongly suggestive of Japanese parents. Those incurved with narrow, sharp pointed florets will hardly compare with some of the good old favourites. In this class it seems essential that the properties should be maintained, and a high standard of form adhered to.—C. H. P.

DISQUALIFIED EXHIBITS.

I THINK, with Mr. R. Filkins (page 450), the judges were right in disqualifying Mr. Wells' exhibits at the Kent County and Battersea Chrysanthemum Shows if the regulations are as plain as he quotes. On the other hand, in my opinion, it would have been a great injustice to the other exhibitors had the judges passed it over. Exhibitors cannot be too particular in keeping to the rules of the different societies, and I know from experience that committees spend a deal of time in drawing up the rules and regulations for their guidance. Everyone knows that some Japanese blooms cannot be seen to advantage on a 6-inch board, and the only way out of the difficulty, as far as I can see, is to insert a clause in the schedules giving exhibitors the option of showing Japanese blooms on a larger board, up to a certain limit, provided they give the Secretary notice at the same time as they send in their entry. What do others say to that?

For incurved and reflexed blooms there is space on the 6-inch board. I noticed a very good arrangement at the Bristol Show for twenty-four blooms to be shown in bottles, three in a bunch, with Ferns in pots or otherwise, but I think it would have been better had the Committee left the question of height at the back to the discretion of exhibitors, as the National Chrysanthemum Society has done in class 51. In the present instance, in my opinion, the exhibits looked rather flat, 15 inches formed the height allowed.—H. OSMAN, *Brentry*.

I HAVE read the letters of Mr. Wells (page 427) and of Mr. R. Filkins (page 450). The latter fails "to see where the riddle comes in." So do I; but in a sense opposed to the view of Mr. Filkins. Your correspondent goes on to say that Regulation 8 of the Kent County Chrysanthemum Society "definitely states that the boards shall be 24 inches long and 18 inches wide." This is exactly what it does not do. The regulation in question merely "requests" that exhibitors will conform to the metropolitan plan. It has repeatedly been held that a mere "request" has not the weight of a condition, and must, at most, be construed as an expression of the desire of the party making the request; and, in the present case, were "ambiguity" pleaded in support of the Committee's action, it would be held that the point must be decided adversely to the party—i.e., the Committee—which had it in its power, in the drawing up of the regulations, to avoid the ambiguity. But, as I have stated, there is no ambiguity whatever in the matter. The rule of law is well recognised, and I am of opinion that Mr. Wells was wrongfully disqualified on this occasion.

I have not the rules of the Battersea show before me, so offer no opinion upon that matter, but I note that the regulations of the National Chrysanthemum Society permit a discretion in the size of the board when Japanese Chrysanthemums are exhibited, and if affiliated societies are bound to abide by the rules of the N.C.S. in this respect, then it would appear that Mr. Wells was wrongly disqualified at Battersea. However, in the absence of definite knowledge upon this point I will offer no certain opinion.

Probably Mr. Wells will be satisfied with his protest, and will not think it necessary to reopen the matter in any more practical sense. The public recognition of his admirable exhibits will doubtless be a sufficient *solatium*.—LEX.

CHRYSANTHEMUM J. AGATE.

Is it quite correct of Mr. Bradner (page 468) to infer that the National Chrysanthemum Society had placed the variety J. Agate amongst the Japanese Chrysanthemums? It was certainly exhibited in a stand of Japanese at the exhibition on the 6th because it was introduced and described as a Japanese incurved by Mr. H. J. Jones in his catalogue this spring. Although passed then by the judges, being a new introduction, many of us thought it was in the wrong place, and the next day it was brought before the Floral Committee by Mr. Myers of Hitchinbrooke, and received a first-class certificate as an incurved variety (*vide Journal of Horticulture*, page 428). That fact alone will prohibit it being exhibited as a Japanese again.

I have the variety under notice. It is totally distinct in growth from Empress of India, and although superficially it resembles in its fine build a well grown Empress, the character of the individual florets are quite distinct. I have another fine variety of similar type, Mr. J. W. Moorman, sent out this year by the same firm. It is a creamy white, a well built flower, florets rather longer than James Agate, too long, I think, to make a true incurve, but no longer than the variety Robert Cannell comes at times. It takes more than one season's cultivation to bring out the true characteristics of some varieties, hence it is not to be wondered at them sometimes being exhibited at first in the wrong section or incorrectly described.—C. ORCHARD, *Bembridge*.

REFERRING to Mr. Bradner's notes in the *Journal of Horticulture* (page 468), possibly the National Chrysanthemum Society may have been a little hasty to class the variety J. Agate as a Japanese; but considering the numbers of new varieties introduced each year it is hardly to be wondered at that a mistake should occur. Your correspondent will notice at the Floral meeting held on November 7th it was awarded a first-class certificate, and re-classed as an incurved by the above Society. No doubt whatever exists in my mind but that it is a true incurved, and will undoubtedly become a general favourite in this section. I sent two flowers to the above meeting, one each taken on a crown and terminal, but every floret on each flower being well incurved, without any trace whatever of Japanese blood in it. Certainly any exhibitor showing this variety as a Japanese after this season will run the risk of being disqualified, and in my opinion it will be perfectly safe to include both this variety and Empress of India in any stand. As I have seen it is easily distinguished from the latter, being larger, more solid, and the florets very rounded at the tips.—E. BECKETT, *Elstree*.

REFINED v. COARSE FLOWERS.

EXHIBITORS should not miss the "Missing Link" article on page 350, in which "A. D." I think, expresses the thoughts of many persons who, whilst forging ahead, are unable to see clearly whither it tends. Granted that a clearly defined line can be drawn (if it can) between the sections, the crave for size is steadily swamping many of our brightest and best varieties out of the field of exhibition. Many an exhibitor who loves his blooms for their intrinsic beauty, when cutting for his stands, passes over with some regret really beautiful varieties that do not reach the ideal of size. More especially is this the case in those classes for Japanese, in which the incurved and reflexed types are shown together, and with some societies not any distinction is made. A refined, high-coloured bloom from a terminal bed stands but little chance against the larger (and may be washy) examples from early crowns.

To illustrate my meaning I forward with this two blooms of Lord Brooke from terminal beds, which, if exhibiting in a stand, say of twenty-four Japanese, irrespective of type, I could not use with blooms of huge dimensions, as Etoile de Lyon, though for beauty the latter could not to my thinking compare with the former. It has always appeared to me a pity that Etoile de Lyon was ever raised. With not any limit as to size, it seems incumbent on those who would, and must be, up to date to annually discard varieties which they fain would keep.

Point judging may be, doubtless is, the nearest point to perfection in this arduous duty, yet it does not appear to cover all requirements. As well as those lines of sectional demarcation, the necessity for which is so ably advanced by "A. D.," there appears a want of a formulation of those lines of beauty which exist in the mind of most exhibitors have by force of circumstances to be kept in abeyance. The evil is a growing one, but should be ripe enough for a remedy. Without relegating the huge varieties to obscurity some protection might be afforded to such blooms for which I plead. Classes could be created which would do so, but a limit to size would be the essential element, and if that limit was made, that a, say 6-inch pot should cover each bloom in the special class without crushing, we should keep many desirable varieties and bring

back some such as Elaine, that to my idea is too good for extinction from our shows.—E. K.

[The flowers of the variety Lord Brooke were remarkably good to have been produced from terminal buds, the florets being of stout substance, and beautifully coloured. We have no doubt other readers will concur with our correspondent in his objection to the invasion of large coarse varieties against those with refined and more beautiful blooms.]

CHRYSANTHEMUMS IN SOUTH WESTMORELAND.

IN this district the Japanese blooms are better than ever known previously, some varieties being of exceptional merit, but in most cases Edwin Molyneux is not up to usual size. Mr. Mauchline, Bellsfield, Windermere, has this season close on 1000 plants, many of which have one bloom to a plant. Particularly good amongst them I noticed recently were Miss Dorothea Shea, Rose Wynne, Mdle. Thérèse Rey, Vivian Morel, Charles Davis, Sunflower, Mrs. E. W. Clarke, White Louis Boehmer, W. H. Atkinson, G. W. Childs, and Waban. Of incurved varieties Mons. H. Bahuant, Queen family, and Baron Hirsch were good. Mr. McLeod, Mr. Mauchline's employer, won first honours at Liverpool for eighteen Japanese, which gives an idea of the quality of his blooms.

At Sedgwick House, Kendal, Mr. Ireland has about 500 plants for large blooms, including sixty of the newer varieties, some of which are decided acquisitions, while many will not be grown again. Very fine are Lily Love, Mrs. Dr. Ward, Mrs. R. J. Hamill, Viscountess Hambleton, Madme. Ad. Chatin, Mdle. Thérèse Rey, Niveus, President Borel, Rose Wynne, Eda Prass, Mrs. Whittle, Mr. E. G. Whittle, Mrs. Bruce Findlay, and Miss Maggie Blenkiron. Older varieties have fine flowers, notably Chas. Davis, W. Tricker, W. Seward, Mrs. C. Harman Payne (third and fourth buds), Lilian Bird, Avalanche, and E. Lonsdale. Among new varieties, which are rather poor, although the buds were secured at a favourable time, are Zealandia, Sautel 1893, Madame Octavie Mirbeau (thin), and Ruth Cleveland.

Brettargh Holt is just across the river Kent from Sedgwick, and Mr. McGregor has a fine display. Among new varieties Ada McVicker is prominent, and all the older varieties of tested merit are grown, twelve plants of a sort. These are mostly displayed in a spacious span-roof house. Vivian Morel, Stanstead White, Sunflower, W. H. Lincoln, Mrs. C. H. Payne, G. C. Schwabe, Sarah Owen, Gloire du Rocher, and several of the Queen family are all in first class order.

At Dallam Tower, near Milnthorpe, Mr. Sarple has 360 plants with large flowers in one house; they are well arranged and mostly carrying blooms of high quality. Noticeable are Duke of York, Silver Cloud, Niveus, Gloire du Rocher, J. S. Dibben, Princess Victoria (secured on first break), Miss Anna Hartshorn, Queen and Princess of Wales family. Camille Flammarion has also made good flowers from late buds. A large house of well grown bush plants also forms an important feature at this place.—SLONK.

CHRYSANTHEMUM SHOWS.

GRIMSBY AND DISTRICT.

THE fifth annual show of the Grimsby and District Chrysanthemum Society was held in the Town Hall. The exhibition on the whole was quite up to former years. The number of exhibits in the open classes coming from a distance being very encouraging to the Committee.

For twenty-four incurved blooms, Mr. J. Walker, gardener to G. A. Carr, Esq., Waltham, was placed first, staging good solid blooms, which also gained the National Chrysanthemum Society's certificate of merit. Mr. W. Welton, gardener to S. Ellis, Esq., Grimsby, was second. For twenty-four Japanese, distinct, Mr. Welton was first; second, Rev. W. D. Thatcher, Clents Hall, Stourbridge; third, Mr. Burrows, gardener to Sir Henry Bennett, Grimsby. There were numerous other classes well filled. Among amateurs, A. Mountain, Esq., the popular Secretary, gained two first prizes. There was an excellent show of Grapes, Apples and Pears.

The groups of plants were very well arranged, reflecting the highest credit on the respective exhibitors. Mr. F. Isle, gardener to Mrs. Grange, Laceby, who was first, and Mr. Burrows, gardener to Sir Henry Bennett, who secured the second prize.

PARKSTONE.

THE second annual show of the Parkstone Chrysanthemum and Horticultural Society was held in St. Peter's Schoolrooms, wretched weather prevailing during the whole of the opening day. Some of the exhibitors who intended taking their plants for groups on the morning of the show were unable to open their greenhouses owing to the gale which accompanied the downpour of rain. The show, nevertheless, was an excellent one as regarded the number and quality of the exhibits staged, the entries being about 70 per cent. more than those of last year. Some excellent groups of Chrysanthemums were arranged. Numerous collections and single dishes of excellent vegetables were shown, these being tastefully arranged with Parsley, Potatoes, Carrots, Turnips, Leeks, Onions, Parsnips, Cauliflowers, and Brussels Sprouts were well represented. Floral ornaments, in the way of dressed epergnes, baskets, shoulder sprays, buttonholes, and table decorations were a fine show in themselves. No less than twelve sets of table

decorations, covering a table space of 4 feet by 3 feet each, were arranged, some in very good style.

The principal classes for cut blooms were for twelve Japanese, distinct varieties, and for a like number of blooms of incurved varieties, distinct. Several good flowers were staged in each class, in both of which Mr. C. W. Barrett, gardener to G. J. Fenwick, Esq., Craig Head, Bournemouth, secured premier positions, staging splendid blooms of W. H. Lincoln Improved, R. C. Kingston, Mdle. Marie Hoste, Florence Davis, Lord Brooke, Charles Davis, Vivian Morel, Sarah Owen, Louis Boehmer, Charles Blick, Etoile de Lyon, and G. C. Schwabe. The incurved varieties staged were John Lambert, Golden Queen, Lucy Kendall, Mrs. Colman, Mrs. Heale, Queen of England, Empress of India, Miss M. A. Haggas, Baron Hirsch, Mons. R. Bahuant, Lord Wolesley, and Mrs. Robinson King.

Mr. Ingram contributed groups of well-grown and grandly flowered Chrysanthemum plants, together with numerous floral devices of merit, and Mr. G. Grigg, gardener to R. G. Hargreaves, Esq., Cuffnell Park, Lyndhurst, staged two grand bunches of Gros Colman Grape, fine in bunch, berry, and finish.—H. W. W.

RIPON.

THE first show of Chrysanthemums in connection with the Ripon Horticultural and Floral Society was held on the 20th inst., in the Victoria Hall. £10 were offered in three prizes for groups of Chrysanthemums, quality and general effect to be the leading features considered by the judges. The first prize was awarded Mr. F. Kneller, gardener to the Marquis of Ripon, K.G., for an excellent group of the highest cultivated plants, with remarkable large and fresh flowers, the group in detail being well arranged, very effective. The second prize went to Mr. Cripps, gardener to R. C. de Grey Viner, Esq., who exhibited a fine group of plants, somewhat better finished than the first prize group, but the flowers did not show the same high quality. The third prize was awarded to Mr. Horn, gardener to R. Williamson, Esq. The prizewinners for the Chrysanthemum plant classes included the above-named gentlemen and Mr. Dickinson.

In the fruit classes good collection of Apples, twelve dishes distinct, were exhibited by Mr. W. Wells, Mr. Kneller, and Mr. Whitehead, the prizes in the order named. Pears, twelve dishes distinct varieties—first Mr. Kneller; second Mr. Wilkinson, gardener to Miss Ling. Mr. Kneller took first prize in two collections of vegetables, twelve varieties and six varieties, showing wonderful examples of Onions, Potatoes, Seakale, Celery, and Cauliflower; Mr. F. Ralp and Mr. Whitehead following in this order with capital exhibits; this class being of such sterling merit as to justify special prizes to the collection not in the first three.

The cut blooms were a fine show, the competition being very keen. In the class for forty-eight distinct varieties Mr. Kneller was placed first, but later in the day an objection was lodged, on the ground that two blooms of Lord Wolesley were exhibited. Owing to the defective light the judges had overlooked this fact, proving the objection to be a valid one. The prizes then fell to Messrs. Sangster & Sons, Malton; Mr. A. Milnthorpe, Tower Hill, Cattell; and Mr. Ketchill in the order named. For twelve incurved Mr. A. Milnthorpe was first, Messrs. Sangster & Sons second; and for twelve Japanese Mr. Kneller was first, and Messrs. Sangster & Sons second.

TAMWORTH.

THE fifth exhibition of Chrysanthemums and fruit of the Tamworth and District Chrysanthemum Society was held at the Assembly Rooms on the 14th and 15th inst. The show was opened by G. R. Dyott, Esq., Freeford, the President of the Society. The weather on the opening day was very unfavourable, and seriously interfered with the attendance.

There were five groups in the open class, and Mr. Rippingille, Sutton Coldfield (gardener, Mr. Pears), was awarded premier honours for a group of plants and bearing medium sized blooms. The second prize was won by Sir Robert Peel, Drayton Manor (gardener, Mr. J. Mack), whose group was made up of large and well developed blooms, arranged thinly, with the foliage showing freely round each one. Mr. T. Clayton, Castle Bromwich (gardener, Mr. T. Fewkes), won the third prize with a very creditable display, and the fourth award went to Mr. J. Padbury, Erdington, whose group would have shown to better advantage had the blooms been developed.

Mr. Allum, Bonehill Nurseries (grower, Mr. E. Tanser), won the premier award for a remarkably fine display of miscellaneous plants, arranged in semicircular form 12 inches by 6 inches, which was, however, run close by a valuable and fine group from Mrs. Chadwick, Hints Hall (gardener, Mr. J. Johnstone), who was awarded second honours.

The competition in cut blooms was much keener than usual, but both with Japanese and incurved classes Sir Robert Peel came first with stands containing splendid specimens of the following:—Japanese: Vivian Morel, W. H. Lincoln, Mrs. E. W. Clark, Florence Davis, E. Molyneux, Etoile de Lyon, Mrs. F. Jameson, Mons. Bernard, Miss Dorothea Shea, Mrs. C. H. Payne, Mdle. Thérèse Rey, Chas. Davis, Sunflower, and Mdle. Marie Hoste. Incurved: J. Lambert, Violet Tomlin, Empress of India, J. Doughty, Lord Wolesley, Queen of England, Baron Hirsch, Lord Alcester, Mrs. Robinson King, Pink Venus, Jardin des Plantes, Mons. R. Bahuant, Lady Dorothy, and Princess Beatrice.

The exhibits in the amateurs' division showed a marked improvement on those of previous years. Mr. H. Harris and Mr. R. Pemberton were awarded first and second respectively for small groups, which came in for much attention from visitors. The cut blooms in this division were good, the chief winners being Mr. H. Harris and Dr. Harrison.

WATERFORD.

THE season in the south of Ireland was by no means favourable either for flower or fruit culture, and as this must be conceded it required some courage from the Committee of this Society to issue a schedule and handsome list of prizes this year. The competitors were more numerous other seasons, but the blooms in the cut section were excellent in quality, and in some classes Japanese blooms, as Florence Davis, William Seward, Etoile de Lyon, and Mrs. Harman Payne were here never shown finer.

As in other places the incurved were several degrees behind other seasons, though many of them in both Captain De La Poer's and Lord Besborough's stands were finely grown and finished. The first and second prizes went in this order. The next chief exhibitors in cut blooms were Mr. Richardson, Prospect House, who may be calculated to do better another year, and Mr. C. E. Denny, May Park.

The specimens of fruit were as usual above the average in quality, but there were somewhat fewer entries. A special feature of the show was the collection of 150 distinct varieties of Apples, staged by Messrs. Saunders, Friar's Walk Nurseries, Cork, which exemplified in a marked manner the grand climate we have for fruit culture in Ireland. The colouring was brilliant in the extreme in several of the Pippins, Stirling Castle, Red Astrachan, and Cox's Pomona, while several of the newer varieties were in size prodigious.

Another feature, occupying a side wing of the large Town Hall, was the effective group of decorative plants, arranged for effect, from the local nurseries of Messrs. W. Power & Son, containing some fine and rare Palms, Maidenhair Ferns, Acacias, and Crotons. These special exhibits were much admired during the evening promenade.

The fruit, vegetable, and field sections were very creditable, but knowing the demands on your space I curtail details. The whole reflected much credit on the Honorary Secretary, C. Percival, J.P., High Sheriff, who deserves more local assistance another season.—W. J. MURPHY, *Clonmel*.

PLYMOUTH.

THE annual exhibition of the West of England Chrysanthemum Society, held in the Guildhall, Plymouth, on the 13th and 14th, was a success. The entries exceeded those of last year by about forty, and it was found necessary this year to erect a large marquee in the Square for the accommodation of the additional exhibits. The arrangements were admirably conceived by Mr. C. Wilson, assisted by an efficient Committee, and all the classes are shown to the best advantage. Generally speaking the quality of the flowers showed a decided improvement on last year. This was especially noticeable in the groups of Chrysanthemums.

In the cut bloom section the champion prize for Japanese flowers was awarded to Miss Fripp, The Grove, Teignmouth (Mr. J. Styles, gardener), for a splendid collection of blooms, which included many new sorts. Mr. W. Wells, Earlswood, Redhill, was second. In the largest class for incurved blooms the premier award fell to Mr. W. H. Spencer of Glendarah, Teignmouth (Mr. G. Foster, gardener). The Judges had very little difficulty in making the selection, and it was admitted that they were some of the most uniform and compact collection of incurved blooms ever seen at an exhibition in the west. Mr. Styles was second, and Mr. J. B. Fortescue third.

A novel idea has been introduced at this show of offering substantial prizes for the best floral designs, and as a result exhibits were on view from a half a dozen nurserymen. Various shapes are on view, including the harp, anchor, cross, crown, basket, wreath, hand and buttonhole bouquets, and the taste displayed in all is excellent. Messrs. Hender and Sons and Mr. Jordan's designs were the chief ones, and the latter succeeded in winning second prize against so strong an opponent.

Groups of Chrysanthemums made a good display, and the prizes in one class were won by Admiral Parker, Mr. J. Phillips, and Mr. J. Webber. Mr. A. Groombridge, Tothill, secured the premier award for another group, Mr. T. F. Upsher and Mr. J. Phillips following. Specimen plants were also exhibited, and the cut blooms in the various classes made a fine display. Messrs. Jarman & Co., Chard, had collection of vegetables and fruit. Mr. W. J. Godfrey of Exmouth exhibited three bunches of Grapes of a total weight of 28 lbs.; and also displayed some cut blooms of Chrysanthemums and Carnations. Mr. Godfrey won three awards of merit for new Chrysanthemums, including the fine variety Mrs. W. J. Godfrey. Various other nurserymen had exhibits, and fruit and vegetables were well displayed.

WELLS.

THE ninth annual exhibition of this popular Society was held under the most adverse circumstances in the Town Hall on the 14th and 15th inst., a strong gale and torrents of rain continuing almost the whole of the first day, keeping several would-be competitors away through prevailing floods. This naturally detracted from the display, although on the whole, and taking into account the unfavourable autumn, there was a good show.

Groups as usual brought out a keen competition from district growers, that of C. C. Tudway, Esq. (gardener, Mr. Fewtrell), being well first with Chrysanthemums, interspersed with Crotons, Ferns, and other plants. Mr. Williams, gardener to T. J. Hall, Esq., followed closely for second place; Mr. McKenzie, gardener to A. F. Somerville, Esq., being third. There was only one really good exhibit in the classes for six Japanese and six incurved trained specimens, which did great credit to Mr. S. Austin's gardener, Mr. G. Chislett.

The principal class for cut blooms was for twenty-four Japanese and

incurved in equal numbers, distinct. Mr. Fewtrell was placed first with Mrs. C. H. Payne, Florence Davis, Waban, Stanstead White, Charles Davis, Etoile de Lyon, W. W. Coles, Vivian Morel, Puritan, William Seward, Silver King, and Mlle. Thérèse Rey. Incurved: Golden Empress, Queen of England, Empress of India, Violet Tomlin, Princess of Wales, Mrs. Coleman (fine), Miss Haggas, J. Doughty, J. Salter, Mrs. Heale, Robert Cannell, and Jeanne d'Arc. Mr. Williams came second with a good stand, from which the certificate bloom was chosen—a fine Lord Alcester. Mr. McKenzie was third. Exactly the same order was repeated in the class for twelve incurved, the competition being close, and the flowers fresh and even in size. For twelve Japanese, Charles Bailey, Esq., Frome (gardener, Mr. A. Carry), was a good first, his flowers being fresh and bright. Mr. Fewtrell was second; and Mr. S. Dupe third.

A feature of the show is the artistic treatment of the windows of the hall by lady competitors, Miss Tyte, Miss Isgar, and Miss Harris, and Miss E. L. Harris securing the prizes in the order of their names. Baskets of flowers and bouquets were also well shown, as were table plants, Primulas, Grapes, Apples, and Pears.

STOCKPORT.

THE seventh Chrysanthemum show of the Stockport Society was held on the 23rd and 24th inst. in the volunteer armoury. The Chrysanthemums were very good generally, though had it been a week or so earlier the blooms would have been better.

The leading prizetaker, T. H. Sykes, Esq., brought quite a display. He obtained the first prize for a group of Chrysanthemum plants arranged for effect, which was well brought out by Mr. Roderick, the gardener. The second prize went to J. C. Cholton, Esq., and third to Jas. Brown, Esq. For a group of miscellaneous plants arranged for effect T. H. Sykes, Esq., was again first. For six table plants there was a splendid competition, Mr. Elkin securing first, Mr. Longworth second, and Mr. Wilson third prize.

For eighteen cut blooms, nine incurved and nine Japanese, T. H. Sykes, Esq., was first; and J. E. Platt, Esq., was second, who had also the best single bloom in the show of Vivian Morel. For twelve Japanese R. B. L. Monk, Esq., was first with a very fine stand, in which were Vivian Morel, W. W. Coles, G. C. Schwabe, L. B. Bird (fine), Duke of York, and Mlle. Thérèse Rey. T. H. Sykes, Esq., was second. For twenty-four blooms, twelve Japanese and twelve incurved, first, J. Evans, Esq., Derby, with a very good stand; second, G. J. Dewhurst, Esq. For six single trusses of cut blooms, Chrysanthemums excluded, first, Mr. Elkin; second, H. J. Shaw, Esq.

J. E. Platt, Esq., was first for a very good collection of vegetables. Wm. Hudson, Esq., was second. Some very good Onions were exhibited, the same applying to fruit. For four dishes of Pears, first, Mrs. Grundy; second, J. E. Platt, Esq. Four dishes Apples (culinary), first, Mrs. Grundy; second, T. H. Sykes, Esq. For two bunches white Grapes, first, J. C. Cholton, Esq.; second, Mrs. Jardine, both with good Muscat of Alexandria. For two bunches black Grapes, first, Mrs. Jardine; second, Mrs. Grundy, with very good samples of Alicante.

A specimen plant of *Cypripedium insigne* was exhibited by W. H. Bradley, Esq., with about fifty flowers.

Miscellaneous exhibits by the neighbouring nurserymen, and a collection of fruit, cut flowers, and plants from Abney Hall, Cheshire, made up some of the noteworthy features of the show. It may be added that the ex-Mayor, in declaring it open, said that corporate bodies might well help working men to follow horticultural pursuits by finding them allotments at a cheap rate. The Mayor was also present, as well as a representative gathering of the ladies and gentlemen of the district.—R. M.

NEWCASTLE-UPON-TYNE.

THIS exhibition was held in the Olympia, Northumberland Road, Newcastle, on November 21st and 22nd. Chrysanthemum shows have been held over twenty years ago in Newcastle in the Art Gallery and renewed again thirteen years ago, but only for a year or so. The present exhibition was held under the support of the Committee of the Newcastle flower show, and one expression only can be used in respect to it, namely, that it was a great success.

The Society offered £5 and the silver-gilt medal of the National Chrysanthemum Society for a group of Chrysanthemums and other plants. There were five groups staged, and Mr. James Wood, gardener to Ed. Hopper, Esq., Riverside, was first. Mr. Chas. Burton, Seaton Carew, was second. Primulas and table plants were well grown, the first prizetakers being Mr. J. Walker, gardener to John White, Esq., Low Fell, and Mrs. Gurney Pease, Woodside, Darlington. Numerous plants of the incurved and Japanese varieties were also shown, but do not need any special mention.

Cut blooms were the distinguishing feature, and shows the wisdom of the promoters holding this show so very late. For twenty-four incurved blooms there were eight competitors, who made a goodly array of stands, and the blooms for the north were very good. Mr. A. F. Pike, gardener to C. H. Wilson, Esq., Pocklington, was first. The best blooms were Lord Alcester, J. Sadler, Mrs. Clibran, Empress of India, Princess of Wales, Violet Tomlin, John Doughty, Queen of England, Prince Alfred, and Lord Wolseley. Mrs. Gurney Pease and Mr. Jas. Coultas, gardener to Alderman Hardinge, Partington, were second and third respectively.

For twenty-four Japanese, not less than eighteen varieties, Mr. D. Williams, Helmsley, Yorkshire, was first. The flowers were extremely fresh and well deserved the premier recognition amongst the eleven competitors. Vivian Morel, W. H. Lincoln, Mrs. E. Clarke, Florence

Davis, Mons. Bernard, Puritan, Etoile de Lyon, and Mdle. Thérèse Rey were noticeable. Mr. Geo. E. Smith, florist, Hull, was second. Mr. Pike was first for twelve incurved. For twelve Japanese Mr. Geo. Maynard, gardener to Mrs. Proud, Darlington, was first. Mr. Geo. Craig, gardener to Miss Barclay, Richmond, and Mr. Ed. Smith were second and third respectively. For six blooms of incurved and six blooms of Japanese Mr. Gurney Pease and Mr. Ed. Smith were first respectively.

For twelve Anemones Mr. E. Smith was first, producing marvellous blooms. For six bunches of Pompons Mr. T. Wheeler, gardener to Dr. Chas. Mitchell, Jesmond Towers, was first.

Epergnes, bouquets, and baskets were a most attractive feature, and included forty-one exhibits, all of superior merit. Messrs. Perkins and Sons, Coventry; Fletcher, Edmonson, Newcastle; Chas. E. Burton and Wm. Thompson, Chester-le-Street, scored the greater number of the prizes in these classes.

Fruit was a special and distinguished feature of the show. Mr. J. Hunter, gardener to the Earl of Durham, Lambton Castle, was first for black Grapes with Gros Colman, and first for the heaviest bunch. Mr. J. Pike was first for white with splendid bunches of Muscat of Alexandria. Apples and Pears were well represented. Mr. J. Hunter was first for culinary Apples. With four dishes of dessert Apples, Mr. F. Ralph, Middlesboro', was first.

Not for competition. Messrs. William Fell & Co. of Hexham had a superb stand of greenhouse and general decorative plants; Mr. W. R. Armstrong, Newcastle, a similar exhibit; Messrs. Joseph Robson and Sons, Hexham, hardy Coniferæ; and Messrs. H. Cannell, Swanley, Kent, a splendid stand of Zonal Pelargoniums and Canna Queen Victoria.

The Secretary (Mr. J. J. Gillespie) and the promoters are to be congratulated on the success of their efforts, and it is to be hoped a Chrysanthemum show will now be an annual feature at the Olympia, Newcastle.—BERNARD COWAN, F.R.H.S.

MANCHESTER.

A GRAND show was held on the 23rd and 24th in the noble Town Hall. As regards the plants it would be difficult to see them surpassed, and the cut blooms were numerous and of high quality.

The Orchids alone were worth a journey to see. In this section the premier position must be accorded to Messrs. Heath & Son, Cheltenham, for a splendid bank which completely filled the whole length of space under the orchestra. First-class certificates were awarded to *Lælia Tresederiana pallida*, *Cypripedium Swinburni*, *magnificum*, and *C. insigne Sanjeriæ*; the latter plant with a few leaves and one flower spike was sold, it is reported, on the first morning of the show for 200 guineas. Mr. J. Cypher, of Cheltenham, also had a table of choice Orchids in flower, particularly noticeable being the splendid strains of *Dendrobium Phalaenopsis Schröderiana*. T. Statter, Esq., Stand Hall, Manchester (Mr. R. Johnson, gardener), placed a grand collection of *Cypripediums* in all the finest varieties, and was deservedly awarded a silver medal, the gold medal going to Messrs. Heath & Son. Another silver medal was given to Mr. R. Hinde, gardener to M. Wells, Esq., Broomfield, Sale, for plates of dried Orchid flowers retaining their natural colours.

Messrs. W. Clibran & Sons, Altrincham, put forth their full strength, exhibiting a group of cut Chrysanthemums arranged in light elegant bunches intermixed with autumnal and other foliage. They also had splendid *Amaryllis* in flower, *Lily of the Valley*, and seedling *Anthuriums*. A. A. Wrigley, Esq., staged fine types of *Cypripedium insigne*; Messrs. Cannell & Sons, Zonal Pelargoniums and Chrysanthemums in excellent form. Messrs. Dickson, Brown & Tait, and Dickson & Robinson had *Cyclamens*. Some fifty varieties of cut hardy flowers were exhibited by Joseph Broom, Esq., and Messrs. Gale & Son, both of Llandudno. To all the above first-class certificates were awarded, also for a new Chrysanthemum named *Lady Ridgway*, a handsome variety raised in the Isle of Man from seed sent from Japan. The flowers are of the largest size, of great depth, very broad florets, the colour being a rich bronzy yellow. We believe this stock has been purchased by Messrs. W. Clibran & Sons. Similar honours were gained by E. Ashworth, Esq., for Orchids, and to Mr. Shorland Bell for *Cypripedium insigne Sanderiæ*.

For nine large flowering plants, also for six, M. T. Harker, Esq., won in both classes with grand specimens, the second honours going to G. H. Gaddum, Esq., and R. S. Boddington, Esq. For six Pompons in pots Jas. Brown, Esq., and J. C. Chorlton, Esq., staged admirably.

The cut bloom classes were very keen, three competing for six incurved, the first honours falling to Mr. J. West, gardener to E. Behrens, Esq., Whitchurch, who had wonderful blooms. Mr. R. Pinnington, gardener to Mrs. Banner, Blacklow House, Roby, Liverpool, was a good second, having a neat stand. The third prize went to Mr. J. Goodacre, gardener to Earl of Harrington, Elvaston Castle, Derby, for a stand of smaller blooms. For thirty-six miscellaneous blooms Mr. Vaughan, gardener to T. Brocklebank, Esq., Woolton, Liverpool, was first with brightly coloured flowers. Mr. W. Wells, Earlswood Nurseries, Redhill, Surrey, was second; Mr. R. Pinnington a good third; and Mr. H. Shone, gardener to J. W. Makant, Esq., fourth. Seven competed.

Eight competed in the class for twenty-four Japanese, distinct, Mr. Goodacre winning with a bright stand. Amongst his best were *Etoile de Lyon* (grand), *Van der Heede*, *Niveus*, *G. C. Schwabe*, *La Verseau*, and Mrs. C. H. Payne. Mr. West was second, and Mr. Wells was a good third. Mr. Vaughan won for twelve incurved with fine blooms; Mr. J. Kirkman, gardener to J. Stanning, Esq., Leyland, being second, and Mr. West third.—R. P. R.

WINDSOR.

THE third annual exhibition of the Windsor and District Society, held in the Albert Institute, brought forth a good display, especially in the cut flower classes. The premier group was staged by Mr. J. Wood, gardener to Lord Boston, Maidenhead, and was composed of well grown plants carrying fine blooms. Mr. G. W. Cole followed him very closely with a fine arrangement.

The cut bloom classes were well contested, chief interest being in the challenge cup offered for the first time for twelve Japanese and twelve incurved, distinct. Mr. A. Sturt, gardener to N. L. Cohen, Esq., Englefield Green, led with a fine stand, containing *Etoile de Lyon*, *Charles Davis*, *Silver King*, *Vivian Morel*, *Amos Perry*, Mrs. C. H. Payne, *Duke of York*, *Florence Davis*, Mons. Bernard, Mdle. T. Rey, *Sunflower*, Mrs. F. Jameson, Miss M. A. Haggas, *Empress of India*, Mrs. Coleman, Lord Alcester, *Princess of Wales*, *Prince Alfred*, *Golden Empress*, *Jeanne d'Arc*, Lord Wolesley, Mrs. R. King, *Violet Tomlin*, and *Golden Queen*. The second prize went to Mr. J. Herriman, gardener to Lady Isabel Keane, Ascot, whose best flowers were *Beauty of Castlewood*, Miss Maggie Blenkiron, *Primrose League*, Mrs. Coleman, Mrs. Heale, *Princess of Wales*, and Lord Alcester. Mr. E. Johnson, gardener to A. Gilliant, Esq., Stoke Pogis, was third.

The open class for thirty-six blooms, distinct, brought forward some strong stands, the first prize being secured by Mr. A. Sturt. The second went to Mr. J. Williams, gardener to F. Ricardo, Esq., The Friary, Old Windsor, and the third to Mr. E. Johnson. The prizes for twelve incurved were in close competition, but the premier one was taken by Mr. F. J. Paul, gardener to Mrs. Bowring, Ascot; second, Mr. J. Woodhouse, gardener to Mr. Belcher, Sunninghill. In the twelve Japanese Mr. J. Williams led the way with a fine stand, the second prize going to Mr. F. J. Paul, and third to Mr. B. Campbell, gardener to the Dowager Duchess of Sutherland. For six incurved blooms of one variety Mr. A. Hunt was first, Mr. F. J. Paul and Mr. C. Joy following. For six Japanese, Messrs. Hunt, Williams, and Campbell won; and for reflexed the prizes went to Messrs. Woodhouse, Hunt, and Williams.

A special class for twelve blooms shown in a basket or vase brought forward eight competitors, all having good displays. The first prize went to Mr. G. Lane for a charming basket, containing heavy blooms intermixed with foliage, grasses, and berries; second Mr. Hunt, third Mr. Campbell, with a very lightly arranged vase.

Trained specimens were of good quality, especially those shown by Mr. W. Street, gardener to Sir H. D. Gooch, who was followed by Mr. F. J. Paul. Fruit, vegetables, table and other plants were shown in great numbers, chief winners being Messrs. G. Lane, D. Paxton, C. Cooper, Williams, Campbell, and E. D. Mansfield.

Amongst the trade exhibits were a splendid group of Chrysanthemums from Mr. C. Turner, Slough; a group of miscellaneous plants from Mr. J. Smith; and wreaths and bouquets from Mr. Titt.

BECCLES.

THE fifth annual show of Chrysanthemums and other autumn flowers was held at the Town Hall, under the auspices of the Beccles and District Chrysanthemum and Floricultural Society. The flowers made a very attractive display, and the show was well patronised by the general public, and proved highly successful, financially and otherwise. In point of number of entries there was a slight falling off as compared with the previous year, the dates of the exhibition clashing with shows at Ipswich, Halesworth, and Bury St. Edmunds, which drew away two or three of the chief exhibitors; but in respect of quality the Beccles show fully maintained its reputation, many very choice and beautiful blooms and imposing rows of plants being on view.

Prizes were offered for competition in thirty-three classes in eight divisions. In the open division Mr. E. Masters, Mrs. H. Read, Mr. Newman, Dr. Wilson, Mr. Sutton were the principal prizetakers; Mr. Masters (G. Fiske, gardener) gaining all the first prizes awarded for Chrysanthemums in pots. Major Worswick (Mr. T. Keene, gardener) showed three excellent though somewhat smaller plants, and Mrs. H. Read (Mr. J. Aldous, gardener) was awarded third prize, Mr. C. F. Parker (Mr. J. F. Clarke, gardener) gaining an extra award. Of the incurved varieties the most noticeable was Mrs. Dixon, shown by Mr. Masters, Mrs. H. Read being a close second. The Pompons sent by Mr. Masters carried off the premium prize. According to the "East Suffolk Gazette" the standards showed a decided advance on previous shows, the three exhibited by Mr. Masters being distinctly the best. The prize for the best single plant in the show was given to Mr. Masters for a specimen *Vivian Morel*, that measured 5 feet across. Major Worswick showed the second best plant, a good specimen of *Val d'Andorre*.

In the division for cut blooms much interest was centred, many of the flowers being very grand specimens of skilful culture. Mr. H. Newman showed a very fine stand of Japanese, his collection including Mrs. C. H. Payne, *Florence Davis*, *Louis Boehmer*, *Etoile de Lyon*, *White Louis Boehmer*, *Charles Davis*, Miss Dorothy Shea, *Madame Baco*, *Vivian Morel*, *Lilian Bird*, and E. W. Clarke. Mr. James Sutton, the second prizewinner, showed a larger bloom of *Etoile de Lyon*, measuring 9 inches across, a *Primrose League* variety of creamy white, the *Beauty of Castle Hill*, and a good bloom of Mdle. Marie Hoste. In the class for incurved flowers Dr. Wilson won the highest honours with handsome blooms. Mr. J. Sutton was second. Mr. Sutton's reflexed blooms were the best shown. Dr. Wilson was second in this class, his best bloom being a Mdle. Madeline Segier. Among the Japanese varieties exhibited by Mr. Masters was an *Etoile de Lyon*.

bloom measuring 8 inches across. Mr. Newman took second prize for a larger set of blooms.

The classes for amateurs were closely competed by Mr. W. Aldous and Mr. J. C. Sharpin, who showed wonderfully good specimens both of plants and blooms, Mr. G. Aldous and Mr. A. Salter also exhibiting praiseworthy varieties. Mr. A. Salter exhibited a good specimen of Mons. R. Bahuant. An especially attractive part of the exhibition was the division for bouquets, the prize exhibit of Mr. Newman and Mrs. Read's epergne being fine arrangements, and the other exhibits were also of exceptional merit. An improvement was also manifest in the quantity and quality of Primulas, Mignonette, and Neapolitan Violets. The groups of miscellaneous plants were another noteworthy feature of the show. Mrs. Read took first prize for a group of very fine Chrysanthemum blooms, a smaller though better variety of plants shown by Mr. Masters being awarded second prize.

Mr. J. Batters, Chairman of the Committee, and gardener to Mr. J. G. Kenyon of Gillingham Hall, exhibited twenty dishes of vegetables, including splendid specimens of Cardoon, an old-fashioned vegetable rarely grown nowadays, but making a very fine dish, several varieties of Artichoke, including the Chinese variety, some very fine Leeks, and large Onions, together with various other dishes, which made up a very fine collection.

CARNARVON.

THE first Chrysanthemum show for the ancient town of Carnarvon and District took place on November 15th in the Victoria Drill Hall, and proved such a decided success as to warrant its continuance in future years. Mr. David Jones was Chairman of the Committee, and Mr. T. O. Morgan the Secretary, to whom great praise is due for the businesslike manner the whole arrangements were carried out. Mr. John Davies, jun. of Tijny-glyn, carried off the champion cup for the best twenty-four cut blooms, composed of twelve incurved and twelve Japanese, as well as the medal offered by Messrs. Tilling and Blackburn for the best group and six first prizes. The medal offered by the Society for the best cut bloom in the show was won by S. Taylor Chadwick, Esq., Beaumaris (Mr. J. Howard, gardener), with a large deep coloured bloom of Vivian Morel. Over 600 persons attended the show during the day.

Mr. John Davies, Tijny-glyn, in the class for twenty-four blooms, had Charles Davis, W. H. Lincoln, Florence Davis, Etoile de Lyon, Mons. J. N. Pigny, Val d'Andorre, Avalanche, W. Seward, Baronne de Prailly, Vivian Morel, Colonel W. B. Smith, Beauty of Exmouth, Lord Alcester, Mons. R. Bahuant, Guernsey Nugget, Alfred Salter, Princess of Wales and Violet Tomlin, Golden Empress, Refulgens, Mrs. M. A. Haggas, Empress of India, Mr. Bunn and H. Shoesmith. S. Taylor, Chadwick, Esq., Haulfre (Mr. J. Howard, gardener), was second with very fine blooms. Mrs. F. W. Foster, Glanbeuno (Mr. J. Williams, gardener), was third.

Mr. John Davies also won in the class for eighteen incurved with blooms of Lord Alcester, Barbara, Guernsey Nugget, Alfred Salter, Miss M. A. Haggas, Queen of England, Princess of Wales, Mons. R. Bahuant, Duchess of Manchester, Empress of India, H. Shoesmith, Mr. Bunn and Golden Empress. H. Finchett Maddocks, Esq., Cae Gwyn (Mr. J. George, gardener), was second with blooms of Queen of England, Mr. Bunn, General Slade, Mr. Bunn, Empress of India and Jardin des Plantes amongst others. C. A. Jones, Esq., Bronhendre (Mr. G. Tyler, gardener), was third. For nine incurved Mr. John Davies again won with blooms of Lord Alcester, Mons. R. Bahuant, H. Shoesmith, Alfred Salter, Princess of Wales, Golden Empress, Empress of India, Violet Tomlin and Refulgens. Albert Wood, Esq., Bodlondeb, Conway (Mr. R. W. Nicholson, gardener), was second. The last named exhibitor won with four incurved, staging Empress of India, Miss M. A. Haggas, Queen of England and Mr. Bunn. H. J. Ellis Nanney, Esq., Gwynfryn (Mr. G. Evans, gardener), was second.

For eighteen Japanese Mrs. F. W. Foster, Glanbeuno, won with blooms of Avalanche, Mons. Bernard, W. H. Lincoln, Colonel W. B. Smith, Mdle. Marie Hoste, Beauty of Exmouth, Wm. Tricker, Sarah Owen (2), Jeanne Delaux and Vivian Morel as the best. The Hon. F. G. Wynn, Glynllifon (Mr. Hossock, gardener), was second with blooms of Avalanche, W. W. Coles, E. G. Hill, Vivian Morel, Sunflower, Sarah Owen, Edwin Molyneux and Stanstead White amongst others.

Albert Wood, Esq., Bodlondeb (Mr. R. W. Nicholson, gardener), secured the first prize for nine incurved blooms, showing Etoile de Lyon, Avalanche, Mrs. J. Laing, Sunflower, Puritan, Mons. Bernard, Val d'Andorre, Sarah Owen and Stanstead Surprise. Mrs. F. W. Foster, Glanbeuno, was second. Mr. John Davies, jun., Tijny-glyn, won with four Japanese, staging blooms of Charles Davies, Avalanche, Vivian Morel and Colonel W. B. Smith. The second prize went to Mrs. F. W. Foster, Glanbeuno.

For six reflexed blooms the Hon. F. G. Wynn, Glynllifon, won with Amy Furze, Dr. Macay, Cullingfordi, and Alice Bird and Elsie as the best. H. Finchett Maddocks, Esq., (Mr. J. George, gardener), was second; but first for six Anemones with blooms of Fleur de Marie, Judge Benedict, Empress, Sœur Dorothée Souille, and Lady Margaret.

YEOVIL.

THIS show was held in the Town Hall and Corn Exchange on the 13th inst. The result was very satisfactory and encouraging to the Committee and the excellent Hon. Secretary (Mr. E. H. Oakley), and with a view to promoting even better competition in these classes next

year the Mayor of Yeovil (Sidney Watts, Esq.) at the luncheon announced his intention to give 5 guineas as prizes in the cottagers' classes, promising at the same time to give £5 in prizes in the cut-bloom classes for amateurs.

Three good groups of Chrysanthemums were arranged in the open class, Mr. A. Crossman, gardener to J. Brutton, Esq., Yeovil, being an excellent first, winning the silver cup and National Chrysanthemum certificate with admirably grown and effectively arranged plants. Mr. C. Anthony, gardener to Thomas Moore, Esq., Yeovil, was a meritorious second; and Mr. Gear, gardener to H. Stiby, Esq., Yeovil, was a fair third. Only two groups of miscellaneous plants were arranged in competition for the three offered by the Society. These were put up by Mr. F. Biss, gardener to Jabez Bradford, Esq., Yeovil, and Mr. Appleby, gardener to W. T. Dampier-Bide, Esq., who took the prizes in that order. Specimen Chrysanthemum plants call for no remark further than to say that there is room for improvement in their culture. Table plants, however, were well shown.

Four prizes were offered for thirty-six blooms, Japanese, not less than twenty-four varieties, but only three stands were staged. Mr. Copp, gardener to W. E. S. Erle-Drax, Holdness, Sherborne, was first, staging good blooms of Waban, Florence Davis, Silver King (2), Préfet Robert, President Borel (2), Mdle. Thérèse Rey (2), Stanstead White (2), Miss Sibber Allen (2), Excelsior, Mr. E. W. Clarke, G. C. Schwabe (2), Miss Anna Hartshorn, Mrs. C. H. Payne, Beauty of Exmouth, Val d'Andorre (2), Vivian Morel, Etoile de Lyon, W. H. Lincoln (2), Mrs. F. Lawson, Marvel, Mrs. C. W. Wheeler, Madame Ricord, Madame Coppin, G. W. Child, and others. Mr. N. Mose, gardener to J. F. Sampson, Esq., Bridport, was a good second; and Mr. A. Crossman close third.

Mr. Copp was to the front for a stand of twelve incurved blooms, distinct varieties, staging good examples of Golden Empress, J. Salter, Mrs. Norman Davis, Queen of England, Miss Haggas, Mrs. S. Coleman, Lord Alcester, Lady Dorothy, Princess of Wales, Hero of Stoke Newington, Violet Tomlin, and Mrs. Heale. Mr. F. Dark, gardener to T. E. D. Philpot, Esq., Holm Cleve, Lyme Regis, was second. Mr. Copp was again to the front in the corresponding class for a like number of Japanese. Mr. E. C. Tolley, gardener to J. F. Ray, Esq., Throngrove, Gillingham, was a good second; and Mr. Dark was a fair third. Mr. A. Roberson, gardener to J. S. Donne Esq., Castle Cary, secured first prize and National Chrysanthemum Society's certificate of merit for the best single cut bloom, any variety, with a fine bloom of Mdle. Thérèse Rey. Mr. Copp being second with a good flower of Waban; and Mr. A. Crossman was third with W. H. Lincoln of good depth. Mr. Mose was first for six blooms, Japanese, white, one variety, with good blooms of Florence Davis; Mr. Tolley being second with Avalanche. Mr. Crossman had the best six blooms, Japanese, yellow, one variety, with good blooms of W. H. Lincoln; Mr. Tolley being second. In the corresponding class six blooms of any other colour, Mr. Robertson was well first with deep fresh blooms of W. H. Tricker; and Mr. Dark second with creditable blooms of Etoile de Lyon.

Mr. Kitley was awarded a certificate of merit for an immense and grandly flowered plant of Bougainvillea, Coker Court variety. It is a very distinct and free-flowering variety. Messrs. Robert Veitch & Son, Exeter, and Messrs. Jarman & Co., contributed splendid assortments of Apples—the Exeter collection being especially attractive. Fruit and vegetables were well shown in the competitive classes.

GLASGOW.

THE executive of the Glasgow Chrysanthemum Society have reason to be proud of their first exhibition, which was held in the City Hall on the 21st and 22nd inst. It was a grand show, but it is a pity that a more commodious building is not available. The competition was excessively keen in the majority of classes, no less than 400 entries being recorded. The exhibits, if we except the specimen Chrysanthemum plants, were well up to the average in quality.

Cut blooms formed the most important part of the show, the principal class being that for thirty-six Japanese blooms, distinct, and for which the sum of £10 was offered as first prize. Seven growers competed, making a very fine display. The contest for premier honours lay with Mr. W. Rushton, gardener to W. A. Donaldson, Esq., Cochno, Dumfries, and Mr. J. Machar, gardener to R. Mudie, Esq., Coronna, Broughty Ferry. The former gained the coveted award by a very small margin of points with a stand of blooms possessing much weight, of size and colour, and were well staged. The most noteworthy examples were Charles Davis, Stanstead White, Mdle. Marie Hoste, G. C. Schwabe, Lady E. Saunders, W. H. Lincoln, Niveus, Mons. Bernard, W. W. Coles, President Borel, Avalanche, and Vivian Morel. A marvellous example of Stanstead White and an almost equally good one of Viscountess Hambleton were included in the second prize stand. To the former bloom was awarded premier prize as the best Japanese in the show. Mr. D. Nicoll, Rossie Gardens, Forgandenny, Perth, was third.

For twenty-four Japanese Mr. Rushton was again placed first with excellent examples of leading varieties. Mr. Thos. Lunt, Keir Gardens, Dunblane, a good second. Mr. D. Halliday, Curtican Gardens, Ayr, third. For twelve Japanese, distinct, Messrs. Nicoll, Machar, and Rushton were placed in the order that their names are here given, all staging really fine examples. Prizes were offered for six blooms of stated varieties, the whole making a fine display. For Stanstead White, Mr. Rushton won with substantial blooms beautifully fresh and full. Mr. L. Geddes, Knock Castle Gardens, Largs, was second. Mr. T. Dale, gardener to J. Gordon, Esq., Aikenhead, Cathcart, won with grand

examples of W. H. Lincoln, Mr. Rushton being a close second. For six blooms of Edwin Molyneux the last named won with medium-sized examples. He was also first in the class for six, any other variety, amongst fourteen competitors, staging a capital half dozen Mdle. Marie Hoste. Mr. T. Hall, gardener to C. W. Scott, Esq., Everlie, Skelmorlie, was second with Avalanche as near perfection as it is possible to get it. Mr. Thos. Finnie, gardener to Dr. Loudon, Allanshaw, was third with G. C. Schwabe.

Mr. W. Wells, Earlswood Nurseries, Redhill, Surrey, won first prize for thirty-six Japanese in the nurserymen's class, Mr. M. Campbell, Auchaurath, Blantyre, being second. Incurved blooms were really well shown. For eighteen Mr. P. Matheson was first with well developed examples, neatly staged; Mr. J. Clarke, Bannerfield, Selkirk, was second, and Mr. Dale third. For twelve incurved Mr. S. Geddes, gardener to G. Elder, Esq., Knock Castle, Largs, won, Mr. Matheson, being second, and Mr. H. Ross, Brandon Grove, Helensburgh, third. For twelve Japanese and twelve incurved there were eight competitors, Mr. Geddes was easily first, Mr. Hugh Ross second, and Mr. Matheson third.

Prizes were offered for twelve sprays of Chrysanthemums, decorative sized blooms being preferred to large exhibition blooms, the idea being to illustrate the value of this flower for decoration. Mr. James Bornella, gardener to Miss Crum, Danefield, Largs, was first with neatly arranged blooms of distinct and pleasing colours. Mr. J. Muir, Barrhead, was second. Mr. Dale won the first prize for three vases filled with Chrysanthemums—a pleasing arrangement of colours. Many more classes might be named but space forbids.

Plants were not quite up to the mark, Mr. Hugh Ross staging the best specimens. Mr. Dale had the finest group. Fruit was extensively and well shown. Messrs. Cunningham and Wylie carried out the duties attached to the secretarial department in a creditable manner. Mr. Dewar and the members of the committee were very active in arranging the exhibits.

Non-competitive groups of cut blooms and miscellaneous plants were largely staged and added much to the adornment of the show. Mr. H. J. Jones, Ryecroft Nursery, Lewisham, London, had a stand of new varieties, including the Duchess of York, to which was awarded the Society's silver medal as the best variety not in commerce, as well as a first-class certificate. Mr. Wells, Earlswood Nurseries, had a creditable display of new sorts, Messrs. Austin & McAslan a pleasing group, and Messrs. Cunningham & Wylie a similar collection of miscellaneous plants, including well grown Cyclamens.

DUNDEE.

THE third annual autumn show was held on the 23rd and 24th inst. in the Kinnaird Hall, and was a decided success. To this Society belongs the credit of having produced the best incurved blooms seen at a Scotch show this season. The arrangements were quite perfect, reflecting credit on all concerned.

Cut blooms formed the most important item in the schedule, so numerous were they staged. The principal class was that for thirty-six Japanese, not less than twenty-four varieties. The principal prize given was a silver cup along with money. Mr. A. Smith, Taymount, West Ferry, easily secured the coveted honour with a stand of finely developed blooms, particularly fresh and rich in colour. The most noteworthy were Vivian Morel, G. C. Schwabe, W. H. Lincoln, Mdle. Marie Hoste, Charles Davis, Viscountess Hambleton, Etoile de Lyon, E. Molyneux, Boule d'Or, Sunflower, Niveus, M. Bernard, and Fimbriata. Mr. T. Mackie, Arbroath, was second with smaller but fresh blooms, and Mr. R. Grossart, Benrock, Dundee, third.

For twenty-four Japanese, not less than twelve varieties, six competed, making a good display. Mr. R. Cairns, Balinderry, Dundee, won premier position with a stand of even, well grown examples of leading kinds. Mr. Ruckbie, Linfield, West Ferry, was second, and Mr. J. Bell, Burnside, Forfar, an exceedingly close third. Japanese in twelve blooms were best staged by Mr. J. Fearn, Bourtree Bank, Carnoustie. Mr. Ruckbie was a good second. Mr. James Grant, Crimonmogate, Lowmay, was easily first for six Japanese, staging grandly developed examples of G. C. Schwabe, E. Molyneux, Charles Davis, and Avalanche. Mr. D. Mathers, Abercridg, West Ferry, second. For six Japanese, incurved, Mr. J. Beissant, Castle Huntly Gardens, Longforgan, was an easy winner, with fine examples of Countess Hambleton, Waban, and G. C. Schwabe. Mr. D. Nicoll, Rossie, Forgendenny, was second.

As previously noted incurved blooms were well represented. For eighteen flowers, in not less than twelve varieties, a silver challenge cup was offered, which Dr. Nicoll again won with a stand of handsome blooms. Especially noticeable were Golden Empress, Queen of England, Mrs. Robinson King, Violet Tomlin, Princess of Wales, Miss H. A. Haggas, and Jeanne d'Arc. Mr. Beissant was a good second, and Mr. J. Grant third. Four competed. Mr. Nicoll secured leading honours for twelve also, Mr. Grant following closely.

An interesting class was that for a stand of cut blooms, naturally grown, arranged for effect with any kind of foliage in a space of 30 inches by 24 inches. Mr. Grossart secured the first prize with a pleasing exhibit of freely flowered sprays, amongst which Source d'Or was prominent.

Plants were not extensively shown, neither was the quality of much importance if we except the four specimens contributed by Mr. W. Kennedy, Ardnoch, Dundee, which were most creditable. Mr. Collie, Inverlay, West Ferry, was second.

Non-competitive exhibits added much to the interest of the show. Messrs. W. P. Laird & Sinclair, nurserymen, Dundee, had a pleasing collection of foliage plants and Chrysanthemums; Messrs. Storrie and Storrie, Dundee, foliage and flowering plants, and Messrs. D. & W. Croll, nurserymen, Dundee, Ferns, Palms, and bouquets.

LOUTH AND DISTRICT.

THE second annual show of Chrysanthemums was held in the Town Hall, Louth, on the 13th and 14th inst., and was a great advance upon last year's display, showing increasing interest in the cultivation of the Chrysanthemum in the neighbourhood. The cut blooms were very good indeed, and there were some very creditable groups. Apples and Pears made an excellent display for the season.

In the open classes for twenty-four Japanese blooms, Mr. John Walker, gardener to J. A. Carr, Esq., Waltham Grove, was first, and Mr. G. Burrows, gardener to Sir Henry Bennett, Grimsby, second; the third prize going to Mr. J. Watson, gardener to W. Smyth, Esq., Elkington Hall, Louth. For twenty-four incurved, first Mr. John Walker, second Mr. J. Watson, third Mr. John Clark, Grimsby. For twelve Japanese and twelve incurved the prizes were awarded as follows: First Mr. W. Welton, gardener to G. Ellis, Esq., Grimsby; second Mr. G. Burrows, third Mr. John Clark. For twelve Japanese, first Mr. John Walker, second Mr. W. Welton; and for twelve incurved, first Mr. W. Welton, second Mr. G. Burrows. In the amateur classes Mr. A. Mountain, Grimsby, secured the principal prizes.

BARFORD.

OWING to the generous support given by Mr. C. A. Smith-Ryland, High Sheriff of Warwickshire, this show is rapidly developing into one of the highest excellence—indeed, the cut blooms, fruit, and vegetables staged at the recent exhibition, held on November 22nd and 23rd, were as good as are often found at far more pretentious shows. The temporary theatre, placed at the disposal of the Committee by Mr. Smith-Ryland, is well adapted for displaying the exhibits to the best advantage, and being lighted by electricity and gaily decorated with flags proved a source of great attraction during the evening. The success of the show was in a great measure due to the energetic efforts of Mr. J. Gourlay, the popular Hon. Secretary.

In the class for cut blooms, twenty-four Japanese, not less than eighteen varieties, Mr. R. Jones, gardener to C. A. Smith-Ryland, Esq., The Gardens, Barford Hill, Warwick, was a good first, staging large, fresh, and solid blooms of the best varieties in cultivation. Some of his best were L'Isère, Waban, Primrose League, E. Molyneux, Mdle. Thérèse Rey, and Violetta. Mr. C. Finch, gardener to Mr. W. R. Mann, Leamington, was second with a very meritorious stand of blooms. For twelve incurved blooms, not less than nine varieties, Mr. H. Dunkin, gardener to the Earl of Warwick, Castle Gardens, Warwick, was first, his stand containing good blooms of the Queen family. The same exhibitor led for a like number of Japanese, Etoile de Lyon, Vivian Morel, and Mdle. Marie Hoste being in fine form. For six Japanese, distinct, Mr. Skelcher, gardener to E. K. Little, Esq., Newbold Pacey, won with a very heavy stand, Etoile de Lyon being in grand form, Chas. Davis and Duke of York being also good. For six incurved Mr. Finch was placed first with solid flowers of deep build, Mr. Dunkin being an extremely close second, his stand containing an Hero of Stoke Newington and a Lord Alcester, which were the best incurved blooms in the show.

Mr. Skelcher secured the premier award for a cross of Chrysanthemums, and Mr. Finch for a bouquet. Mr. Jones proved the victor in the class for six foliated plants in 6-inch pots, the competition being very keen. Mr. H. Liney, gardener to W. M. Low, Esq., Wellesbourne Hall, Warwick, won for six Primulas, with plants good in every way.

Prizes were offered by W. Low, Esq., for collections of fruit, to consist of three bunches of Grapes, three dishes of Apples, and three dishes of Pears. These were won by Mr. A. Finch, Mr. Jones, and Mr. A. D. Christie. Mr. J. F. Simpson, Warwick, was first for both dessert and culinary Apples, with beautiful specimens.

Mr. Finch secured the premier award for a group of Chrysanthemums with a highly meritorious exhibit, Mr. G. Burrows, gardener to Rev. J. P. Way, Warwick, being second. This group contained good flowers International, Vivian Morel, and Chas. Davis.

In the section open to amateurs and single-handed gardeners only Mr. W. R. Lindsay, Barford, secured first honours for a group. Mrs. Treadwell, Wellesbourne, occupied a like position for twelve Japanese blooms, and Mr. Chaplin, Emscote, Warwick, was a splendid first for six, staging extremely fine blooms.

WOKING.

THE Woking and District Horticultural and Cottage Gardeners' Association held its first annual Chrysanthemum show on the 20th and 21st inst. in the Church Room, Woking. The number of exhibits was large and of excellent quality, and augurs well for the future success of the Association. Not only were Chrysanthemums well staged, but fruit and vegetables from the amateurs and cottagers of the district made a highly interesting display, going far to prove that these latter classes of the community are greatly interested in gardening matters. The names of the prizewinners in the chief classes are given below.

There were upwards of a dozen classes in the section open to all comers, and, as may be imagined, the exhibits were very good. For a group of miscellaneous foliage and flowering plants arranged for effect, in a space of 42 square feet, Mr. A. F. Seabrook, gardener to R. M. Stevens, Esq., Woodham Hall, Woking, was a good first. The

plants utilised included Paper White Narcissus, Chrysanthemums, Calanthes, Coleuses, Palms, Ferns, Roman Hyacinths, and Bouvardias, and all were creditable examples of good culture. The arrangement was light and pleasing, the best use having been made of the plants at disposal. Mr. F. Kliege, gardener to E. H. Drake, Esq., Grasmere, Woking, was second, but his arrangement was somewhat heavy, though good plants had been used. The third prize went to Mr. J. Tomlin, gardener to Mrs. Goldingham, Anningsley Park, Chertsey. There was only one competitor in the class for a group of Chrysanthemums, and the first prize was deservedly accorded to it. The exhibit was staged by Mr. A. Nottage, Goldsworth Road, Woking, and his arrangement was good, and the plants were carrying numbers of very charming flowers.

For six table plants Mr. W. Jinks, gardener to Maling Grant, Esq., Fairlawn, Fairmile, Cobham, was a good first; Mr. F. Seabrook second; and Mr. H. Cook, gardener to the Rev. F. Poynter, Stoke Hill, Guildford, third. Mr. Davis, gardener to W. T. Jones, Esq., Mount Hermon, Woking, was first for six Primulas, with finely grown examples, Mr. A. F. Seabrook being second, and Mr. F. Adams, gardener to Houston Stewart, Esq., Kitternick, Woking, a close third.

In the cut bloom classes keener competition was observable. For eighteen Japanese, distinct, Mr. W. Jinks was first with Etoile de Lyon, Edwin Molyneux, Mdle. Thérèse Rey, President Borel, Viscountess Hambleton, Amos Perry, Golden Gate, R. C. Kingston, Vivian Morel, Beauty of Castlewood, Condor, Mrs. C. Harman Payne, Primrose League, Wm. Tricker, Chas. Davis, Silver King, W. H. Lincoln, and Florence Davis. The blooms were clean and fresh, and made an even exhibit. Mr. J. Tomlin was second, and Mr. H. Cook third.

There were four competitors in the class for twelve Japanese, distinct, and Mr. W. Jinks was again first, showing Silver King, Marie Hoste, Chas. Blick, Primrose League, Chas. Davis, Vivian Morel, Florence Davis, W. H. Lincoln, Le Verseau, Mdle. Thérèse Rey, Etoile de Lyon, and E. Molyneux in good form. Mr. D. Edwards, gardener to — Kelly, Esq., Send Holme, Woking, was a good second. Mr. J. Tomlin was third with small flowers. Mr. W. Jinks was also the premier exhibitor in the class for six distinct Japanese. Messrs. J. Tomlin and W. Baxter were second and third as named. Mr. W. Baxter, Old Woking, was the only competitor in the class for twelve bunches or sprays of Chrysanthemums, and was placed first with a very beautiful exhibit.

Incurved blooms were not quite so numerous, neither were they of such good quality. In the class for twelve, distinct, Mr. J. Tomlin was first, Mr. W. Jinks second with flowers that were a little past their best, and Mr. F. Adams third. Four competitors staged six incurved, distinct, and Mr. W. Jinks was placed first. Mr. J. Tomlin was second, and Mr. F. Adams third.

Mr. J. Osman, gardener to L. Baker, Esq., Ottershaw Park, Chertsey, secured the first prize for two bunches of black Grapes; Mr. F. Adams, the only other competitor, being second. Mr. J. H. Davis was first for four dishes of Apples with Wellington, Cox's Pomona, King of the Pippins, and Gravenstein. Mr. A. F. Seabrook was second, and Mr. H. Cook third. For three dishes of Pears, Mr. T. Osman was first and Mr. H. Cook second.

For a collection of six distinct kinds of vegetables Mr. A. Jupp, Greencroft, Guildford, was a splendid first. The exhibit comprised Earliest of All Tomatoes, James' Intermediate Carrots, Rousham Park Hero Onions, Autumn Giant Cauliflowers, Beauty of Hebron Potatoes, and President Carnot Brussels Sprouts, all being of excellent quality. Mr. T. Osman was second, and Mr. S. Boorman, Send, Woking, third. The last-named exhibitor was first for four dishes of Potatoes with The Puritan and Snowdrop in splendid form. The second and third positions went to Messrs. A. F. Seabrook and W. Jupp respectively.

The amateurs' classes were, as a rule, well contested, and some good specimens were seen. For a group of Chrysanthemums H. A. Whitburn, Esq., Elm Croft, Claremont, Woking, was first; and F. C. Palmer, Esq., Woking, second, neither showing in very good form. Mr. H. A. Needs, Horsell, Woking, was a splendid first for twelve blooms, in not less than six varieties, Mr. H. W. Robertson, Somerset Villa, Woking, being second with much smaller flowers. Mr. H. A. Needs was again first for six distinct Japanese. Mr. H. A. Whitburn, Woking, was second, and Mr. H. W. Robertson third. The latter was the only competitor for six Japanese, one variety, and received the first prize for very pale coloured blooms of Etoile de Lyon.



HARDY FRUIT GARDEN.

Pruning Fruit Trees.—As it is most desirable that this work should be forwarded early in the winter, not only for the benefit of the trees, but for cleaning and tidying up the ground and imparting neatness to the garden, every opportunity for proceeding with the work should be taken. Where there is an unusual amount of thinning out

to be done among all kinds of trees it is best to commence with the most conspicuous quarters, first pruning the trees or bushes as required, secondly, clearing away the prunings to a heap for burning, and thirdly, forking over the ground to bury weeds and dead leaves. Many growers leave Gooseberry and Currant bushes until February before pruning, owing to the ravages that birds frequently make among the buds. There is, however, a great disadvantage in deferring pruning so late, inasmuch as the pressure of work in the spring may cause it to be hastily and indifferently performed, involving, perhaps, considerable harm to the trees by causing the production of crowded wood, and ultimately inferior crops of fruit.

Gooseberries.—Confine pruning chiefly to thinning out main branches and cutting out weak and exhausted parts, regulating the current year's young wood as evenly as possible over the trees at such distances apart that the hand may be passed down among them without being scratched. Allow no shoots to remain to grow inwards or in reversed positions whereby they tend to crowd the centres, which ought to remain moderately open. Keep the shoots clear of the ground by cutting away the lowest growths. The pendulous growing varieties require special attention in this respect, and when pruned ought to be cut to upward pointing buds. Prune erect growers to outward buds, and those of spreading growth to inside buds, which will modify to some extent their natural habit, producing more shapely and serviceable bushes. In thinning out, either cut the shoots dispensed with entirely out close to the old wood, or leave them to the extent of an inch, when they will form spurs at the base. A dusting of lime when the bushes are damp is good for the trees, destructive of insects, and a preventive of birds taking the buds. If manure is needed draw the earth from below the branches till the roots are visible, then spread a layer of decayed manure on them, covering with a sprinkling of fresh soil. The remainder of the soil outside the radius of the roots may be manured and forked over, or the latter alone will do where the ground is rich and the trees productive.

Red and White Currants.—As the disposal of a proper number of branches—usually five to seven in ordinary sized bushes—is effected early in the existence of the bushes the pruning is a very simple matter. It consists in pruning back to within an inch of the main stems all the side growths produced during the summer, shortening the extension growths in the same way with full sized bushes, but in those required to extend leave a length of not more than 9 inches. With weakly trees 6 inches is enough. The object of shortening the branches to these distances is to cause proper breaks of side shoots, and to strengthen the stems so that they can bear the large crops of fruit which are annually produced from the clusters of basal buds congregated on the spurs. Give the trees a good dressing of manure over the roots, and sprinkle the branches with fine lime, which serves to cleanse them of moss, and otherwise benefits them, as well as preserving the buds from birds, which, however, are not so destructive with Currants as Gooseberries.

Black Currants.—These bear differently, and in pruning abundance of young wood must be left, confining the pruning to thinning out the oldest branches and a large proportion of the latest bearing shoots. Strong sucker-like growths from the base may be freely encouraged, or vigorous growths from any part, but preferably originating in the lower parts of the bushes, can be utilised, avoiding crowding. All the wood removed should be cut out cleanly, none being left to form spurs as in Red and White Currants, though short stubby spurs which form naturally and have received light and air freely, must be retained. Shortening the leading shoots need only be adopted to regulate the size and symmetry of the bushes, but this is best effected by cutting out the longest branches from time to time.

Raspberries.—Raspberries in strong and vigorous health produce a fair number of canes yearly, which, well ripened, yield fruit the following season. Little pruning is necessary at this season if the old bearing canes were cut out after the crops were gathered, thus admitting light, air, and sun to perfect the current year's growths. If not cut out at the time stated they must be removed now, as well as all the weaker new canes, leaving five or six of the stronger ones for bearing the future crop. The unripe tips of the canes may be removed, or the canes shortened to the height of the stakes or trellis. An admirable plan of pruning Raspberry canes when a number have to be trained to a single stake is to shorten them to different lengths, commencing at about 18 inches from the ground, cutting two canes to that length, two more at an equal distance between them and the top of the stake, to which the rest may be shortened. This gives a show of fruit from the base to the summit. A good dressing of manure placed over the roots will afford substantial food for the mass of fibres in abundance near the surface, and among which spade or fork must not be introduced. The unoccupied space between the rows or clumps not penetrated with roots may be manured and dug.

FRUIT FORCING.

Peaches and Nectarines.—*Earliest House.*—To have ripe fruit in April or early in May a start should be made at the beginning of next month, the very early varieties, Alexander and Waterloo, giving fruit about three weeks earlier than Early Louise and a month or more before Stirling Castle and Royal George. The trees having been at rest some time, and previously forced, will start promptly, but those not before started early will not respond so quickly, therefore the house should be kept close, but admitting air freely above 50°, employing fire heat only to prevent the temperature falling below 35°. The more slowly the trees are excited the stronger will be the blossoms. The outside border must be protected so as to exclude frost, for the roots cannot absorb

nourishment from the soil when it is frozen. A thorough soaking of water should be given to the inside border, and if the trees are weakly a soaking of liquid manure (not too strong) will tend to a more vigorous break. Sprinkle the trees in the morning and afternoon of bright days, but do not keep them dripping with moisture, especially at nights, for this has a weakening tendency and tends to encourage wood rather than blossom development.

Succession Houses.—All the leaves are off the trees except in the latest house, where they still hang somewhat unduly, probably from the comparatively dull and wet weather, also absence of frost, but they should not be forcibly removed. When, however, they come easily by brushing with the hand or a light broom the process may be assisted, and when they are all off unfasten the trees from the trellis, prune them, cleanse the house thoroughly, and if needed paint the woodwork, ironwork, and the trellis. Wash the trees with soapy water, and afterwards dress them with an approved insecticide, but do not dislocate the buds. Tie the trees to the trellis, leaving room for the branches to swell. Remove the loose surface soil and supply fresh, giving a top-dressing of some approved fertiliser, and supply water to the inside borders, so as to keep them thoroughly moistened down to the drainage. Keep the atmosphere of the houses as cool as possible.

Lifting and Root-pruning—Fresh-Trees.—Any lifting, root-pruning, or other root requirements of the trees should be attended to without delay; but it is not safe to interfere with too vigorous trees until the leaves are all down or nearly so, a few soft lateral growths being of no consequence, as they will have to be removed. The introduction of fresh trees should be performed at once, the planting being proceeded with as soon as the leaves are off, or nearly so. Trees for houses are best if trained for two or three years to walls or under glass, those of five or more years moving safely if prepared for lifting by digging round them, so as to cause the production of fibres, a year previously. Such trees can be lifted with abundance of roots, and being carefully planted they force readily the first season, and the results are satisfactory provided they are not brought on too rapidly, and a moderate crop taken. It is always preferable to select these trees, as young ones do not fruit much the first two or three years, hence the advantage of planting trees in a bearing condition.

Melons.—The Melon season is over in most places, but well ripened fruits are good in quality even in December. The latest plants have the fruit well netted, and will only need sufficient water or liquid manure to maintain a healthy condition of the foliage. The latter must be discontinued directly the fruit gives indications of ripening, also the watering and atmospheric moisture be lessened. Where the plants are not so advanced damping will be needed in the morning and afternoon, putting on a small amount of air in the early part of the day to insure the dissipation of moisture that may have accumulated or been condensed, and induce evaporation from the foliage. Maintain the night temperature at 60° to 65°, and 70° to 75° by day artificially, advancing as much as can be had from sun heat after the middle of the day. Plants ripening their fruit should have ventilation constantly, a temperature of 70° to 75°, with as much sun heat as can be had by husbanding it, but not closing the house, withholding water, as before stated, from the roots and atmosphere.

THE BEE-KEEPER.

APIARIAN NOTES.

THE LANARKSHIRE HIVE.

BEE-KEEPERS frequently express their gratefulness to me for instructions given in bee-husbandry. To enable such persons to be in the possession of a good hive at a small cost and a little labour I designed and modified the Lanarkshire storifying hive, as illustrated (fig. 76). This shows the hive complete, divested of its outer wrappings and oil cover. It consists of roof, super protector, three divisional boxes, which forms the hive proper, stand, with floor complete, and pedestal.

The roof measures 2 feet 3 inches both ways, and gives about 6 inches drip all round. It is made from the ends of margarine boxes too short for other parts of the hive, and from barrel staves, the whole practically costing a very minimum sum; a few nails, one pair back-flap hinges, and paint being all the actual outlay, which amounts to 4d., or barely that. The boards being planed on one side, and not requiring to be cut, are jointed with match ploughs. Four barrel staves form the bars to clamp them together, and one stave forms the ridge. The bottom bars are nailed to within an inch of the ends of the boards, and the upper ones to within five-eighths. Four nails at each end are ample, driving these in at about an inch from the edge of the boards, as shown in fig. 77, avoiding nailing in the centre. After nailing level the upper end so as to bring it close, and when this is done, fasten the hinges to keep it in its place. This completes the roof, and when tarred beneath and painted outside it will last for years. I have several that have been in use for fifteen years, and are as good as ever. To secure the roof against wind obtain two rather stout wires, each about

18 inches in length, bent in the form of fig. 78. Fasten to the upper edge of the under bar with small staples, forming a hinge to fold in or out so as to be fastened to a cross cord or by screens to the side of the hive.

The super protector is of the same dimensions as the body boxes inside measure, but from 15 to 16 inches deep, enabling it to hold three stories of supers or section crates. It has a close-

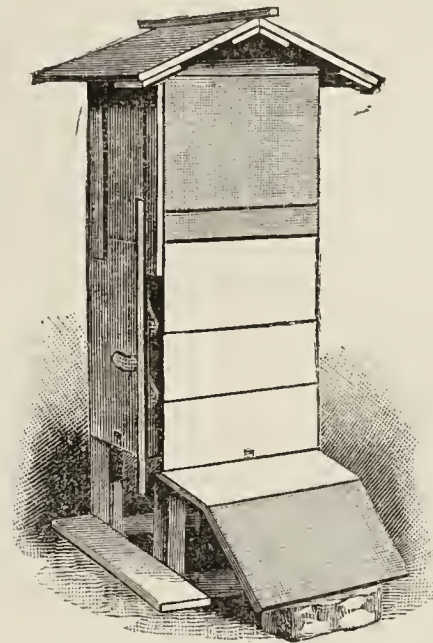


FIG. 76.—THE LANARKSHIRE STORIFYING HIVE.

fitting lid to keep all clean. A strip of wood is fastened at each side corner, projecting down the hive sides about 3 inches. An inch No. 8 brass screw passes through them into the hive, and makes all rigid. It is important that these protectors do not vary in size. The one shown in the woodcut is made of packing cases from various sources, and the bars which clamp them together and to the hive are obtainable for a nominal sum, the chief cost being the four screws and a few nails, and one hour is sufficient for its construction. Within the protector are twelve small supers and an adapting board. The wood of these supers are also from barrel staves and margarine boxes, the latter being well planed on one side. The twelve only cost 2d., but had they been all from the margarine boxes 4d. would have been the price. Two and a half hours were occupied in making them.

I will now commence to describe how they are made. One edge of the board and one face is planed straight, the edge of the one half of them is rebated to hold the bar. A half-inch plow plane is handy in making the rebate quarter deep, leaving a face lip of fully an eighth of an inch, which leaves ample bearing for the bars. They are now gauged to 4 inches and five-sixteenths broad, and planed exactly to that breadth, and the other side is also planed. The pieces from them form the bars, are 1 inch and five-eighths broad by quarter thick. They are now ready for grooving. A special made drawer bottom plane is cheap and handy for the amateur. As a template for cutting neatly and to one size, take a piece of board about 3 feet long by 7 inches broad, nail firmly near the edge a piece of dressed wood about 1½ inch square, leaving the breadth of supers. In the centre of the square, across and down, make a saw kerf with the saw to be employed after; next size an end or a side exactly, leave the saw in the kerf, and put the pattern hard to the



FIG. 77.



FIG. 78.

saw nearest to your left hand, and drive in at the other two nails. By using nails the end is open and does not clog with sawdust, which is liable to cause inaccuracy in cutting as if closed with wood.

Repeat this for the other parts of the super, as there is necessarily a difference in the lengths of the sides from the front and back pieces of a square box. A good plan is to put the blade of a square into the first made kerf, then place the pattern hard to it, mark off the exact length of pattern square, and cut as before. Care must be taken not to have nails where the saw kerfs are to be made, and that two nails be employed between the kerfs, otherwise they would shift. When commencing to cut, first square one end, then draw the board towards the nails at the left hand, and when

hard up cut and lay them on the top of one another with the ragged side upwards. Then with a hand plane make a slight arris upon the longest ones; the short ones require the roughness only removed.

It is necessary to point out that the sides when thin are the longest, but when all are one thickness, say five-sixteenths, the rebated parts or the backs and fronts are the longest. These latter require rebating at the ends as well as the upper edges already rebated. A piece of five-eighth wood a foot square forms the base of this template, a piece about an inch broad by five-eighths thick is nailed close to the front and back edge. About 2 inches from the right hand end nail a piece of a similar size true to right angles as a guide for a trenching plane. When fast lay the plane to this, and on the other side of it, close to the bottom board, nail another piece about the same depth; the plane will now stand in a trench fitting into it exactly, but not too tight, and at right angles to the front fence. Then with the left hand pick up a piece, place its edge hard to the fence, pushing it through till the eye tells you

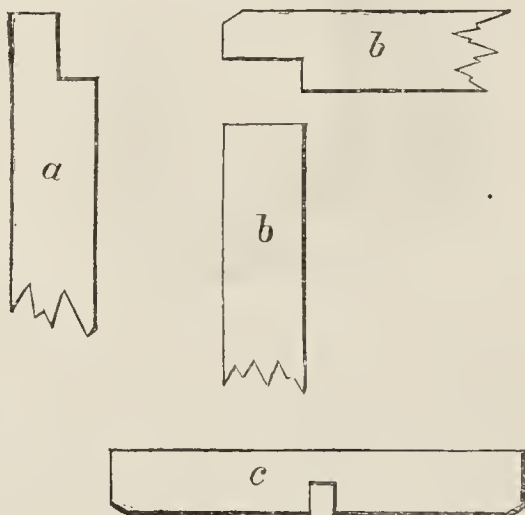


FIG. 79.

it is right distance past the first guide of the trench. Now draw the plane once back over the surface of the wood, then plane down till the lip of the end is the same as the edge. When the right depth regulate the screw of the plane to it, and commence work, as you cannot make a mistake. Fig. 79 (at *a*) shows a section of front, and back of super, and *b* when ready for nailing. Two 1 inch wire nails, one within half an inch of edge being sufficient; *c* shows section of bar also full size, with groove and corners blunted to prevent the bees starting combs upon the edges, as they are liable to do when left sharp.—A LANARKSHIRE BEE-KEEPER.

(To be continued.)

VARIETIES OF BEES.

THERE are several varieties of bees, the most common in England being the native black or brown bees. These are hardy, and by no means inclined to sting without a cause, and if they have abundance of room in their hive and the colony headed with a fertile queen they are not so troublesome for swarming as are some of the foreign breeds. They are, moreover, good workers for either comb or extracted honey. Should they be at all cramped for room, and have started queen cells, although extra room may then be given, it will not prevent them swarming. It may sometimes be prevented by going carefully through the hive and cutting out all queen cells; but when once they have the swarming mania much valuable time may be saved by allowing them to swarm. If an increase of stock is not needed put the swarm in a separate hive, placing it by the side of the old stock for a few days. Then cut out all the queen cells but one, and if the queen with swarm is not a valuable one destroy her, and by adding the bees to the original stock a strong colony will be the result. Should the queen be a valuable one, take a frame of brood with the queen and adhering bees, and put them in an empty hive with some frames of fully drawn out combs or sheets of foundation. Shake the bees from another comb in the hive. There will then be sufficient bees to do the work of the hive, and will make a strong colony by the winter. No more swarming will take place, and if in time for the honey flow and the weather favourable, a good harvest of honey will be the result.

Italians when first introduced came with a great reputation. Having a longer proboscis than our native bee it was thought that the bees could extract the nectar from the red Clover; but I have never yet seen the Italian bees gather honey from the red Clover. They were also supposed to be good tempered, and not inclined to sting. One of their chief characteristics is the bright yellow bands round their bodies, which are so much admired, and cause

them to be easily distinguished from our native bee. They vary somewhat in colour, some being much darker than others. They are good workers, but I have not found them more so than the blacks. It is, however, difficult to keep them pure in the country, and when crossed with the blacks they are very spiteful.

Cyprians were imported from the island of Cyprus, and are similar in appearance to the Italians, but the yellow bands are even brighter than in that variety. They vary somewhat in temper, some stocks being exceptionally mild tempered, while others are very vindictive. They have the character of being good workers, but like some of the other foreign bees are much given to swarming and rearing a great number of queens.

Carniolans are evidently a variety of the black bee. They are a little larger than our native bee, and their bodies have rather a bluish cast; but when crossed with our native bee they are very difficult to detect. They have a great propensity for swarming, which is an objection, and will prevent them coming very much into favour.

Punics are also black bees, being darker in colour than our native bee, but very similar to the Carniolan; and under certain conditions are good workers, but are inveterate swarmers. Their whole aim appears to be increase, and they rear a large number of queens, and are constantly throwing off swarms, which is a great objection when the honey season is so short, as it usually is in this country. As a proof of what they will do in this line one bee-keeper reared upwards of 2000 queens during the past summer, but as it is for the honey harvest the majority of people keep bees, I think our native bees will answer that purpose better than any other bees.

"Hybrids" are the result of a cross between the black and some of the foreign bees. They are invariably good workers but very vindictive, and when once roused will often follow a person a long distance with the intention of stinging. I do not know of any bee that will fill the cells with brood close up to the top bar as these will. In dull or windy weather when they cannot get away from home they are sometimes very troublesome, and will fly straight at the first living object that comes within their reach. In the first cross between either an Italian or Cyprian they are often nearly as well marked with the bright yellow bands as the pure-bred ones, each generation getting gradually darker. Although having much to recommend them it is not advisable to increase them, as owing to their stinging so much they are not pleasant to handle, as at such times smoke has but little effect on them. In some parts of the country they are very common. When there have been stocks of the different foreign bees kept in the neighbourhood it is difficult to find a colony of the true English black bee.—AN ENGLISH BEE-KEEPER.



All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Empty Wrappers (*To Correspondents*).—We have received during the past week two wrappers from which the contents have escaped in the post. If any correspondents whose letters are not answered will send again what they desire us to see, packing securely, their wishes shall have our attention.

Laurels Dying Beneath a Large Yew Tree (*Taxus*).—The Yew tree contains no substance that is poisonous to Laurels, or even to parasitic fungi. The real cause of the Laurels dying is drought and poverty of soil, for the Yew occupies the ground densely with its very fibrous roots, and by its close top growth and evergreen nature excludes light and air. Nothing will thrive under some Yew trees where the branches sweep the ground, but under others, taller and less dense, we have seen a free growth of the small English Ivy.

Fertilising Moss (A. G. P.).—If, as we understand, the preparation is an article of commerce, your letter in its favour comes within the category of advertisements, though this would not occur to you at the time of writing. It is understood that persons who refrain from advertising what they may have for sale do not wish for reference to their wares in the literary columns of the Press.

The Chrysanthemum Fly (F. P. C.).—The leaf-mining insect that attacks Marguerites is the same that attacks, happily much less persistently, Chinese Chrysanthemums, and if it is not identical with is closely allied to the Celery fly (Tephritis). The flies puncture the leaves, depositing eggs which hatch, and the larvæ eat their way through the interior of the leaves and destroy them. The fly may be prevented attacking Celery by syringing the plants with a solution of softsoap and petroleum in the evening, not in the morning, as if hot sun follows when the leaves are wet they may be scorched. We have known this to destroy the maggots in the leaves, but their prevention is infinitely to be preferred. We know of no other way of preventing the insects attacking Marguerites. All the worst leaves should be gathered and burned. Two ounces of softsoap and a lump of soda the size of a nutmeg dissolved in a gallon of soft boiling water, stirring in very briskly while hot half a wineglassful of petroleum, such as is burned in lamps, are safe proportions to use.

Millipedes in Vinery (W. L.).—The insects (Myriapods) were all dead, except the larger one, when received, showing that even these pests cannot long survive without food in the larval state. That is a great point in the treatment of plant infestation by insects, and is one reason why lime is beneficial in such cases, for it acts by converting the organic matter on which they mainly subsist into plant food, whilst rendering it less available as food for their enemies, besides injuring the pests. The best thing you can do is to remove the manure, and let fowls have an opportunity of scratching it over. If that is not practicable you may proceed as you propose, using a peck of freshly slaked lime per rod, sprinkling it evenly on the surface, at once scratching the border over with a fork. This will kill most of the larvæ, and if there be many "prowlers" left follow the next day with a similar quantity of soot, which should be pointed in lightly. Perhaps more fatal to the millipedes, but might possibly be too forcing for the Vines (this depending on circumstances), would be 1½ lb. of powdered nitrate of soda per rod, leaving it on the surface. The larger insect is *Jules terrestris*, and the smaller ones larvæ of that species. The jumping insect had jumped out of the box. Your description is that of the springtail (*Orchesella cincta*), which does not confine its feeding to decaying vegetable substances, but sometimes attacks living tissues. The treatment advised will answer for them.

Fitzroya patagonica (W. A.).—The name of the Conifer of which you send a spray is *Fitzroya patagonica*, and, curiously enough, a similar instance as mentioned in your letter is published in Messrs. J. Veitch & Sons' "Manual of the Coniferae." From this excellent work we extract the following note:—"A fine tree, of from 50 to 80 feet high, on the rocky precipices of the Andes below the snow line; at the snow line it dwindles to a mere bush. At its southern limits, in the neighbourhood of the Straits of Magellan, it also dwindles to a scrubby bush of small dimensions. In England, like the *Libocedrus tetragona*, with which it is frequently associated in its native country, it has failed thus far to adapt itself to the climate; it makes no permanent leader, or rather it forms a multiplicity of leaders, none of which grows more than an inch or two in the course of a single season; the branches are irregular, and the habit unsymmetrical. Introduced by us in 1849, through William Lobb. Nothing is known of the economic value of the timber of the *Fitzroya*; it has probably not yet been much employed for constructive purposes, owing to the inaccessibility of the places where it attains its finest development. As an ornamental tree in this country, its character is sufficiently stated in the above description. It is worthy of notice that the young plants of *Fitzroya* growing in Great Britain bear female cones in great abundance, but which produce no seed; no pollen-bearing plants have yet been observed. They have also spreading leaves, while the adult trees in their native country have the leaves closely imbricated and appressed like those of a *Thuia*. The genus is named in compliment to Captain FitzRoy, by whom it was first discovered, when in command of H.M. surveying ship 'Beagle.' The voyage of the 'Beagle' will be ever memorable in the annals of science. The vessel was despatched by the British Government in 1831, to survey accurately the southernmost points of South America. Mr. Charles Darwin was invited to accompany the expedition as naturalist, an invitation which he accepted. The 'Beagle' returned to England in 1836. A section of a plant of *Fitzroya*, brought home by William Lobb, and preserved in the Museum of the Royal Exotic Nursery, shows that the wood is of a reddish colour, straight, and fine in grain, and susceptible of a high polish. The section contains 260 cubic inches, and weighs 85 ozs., or about 3 c. in. to the oz. A similar section of a plank of the *Alerce* (*Libocedrus tetragona*), of precisely the same size, is found to be of the same weight."

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special

attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. *They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state.* (B. C.).—Lane's Prince Albert. (C. J.).—1, Gloria Mundi; 2, Lane's Prince Albert. (F. D. T.).—A fine example of Golden Russet. (W. J. J.).—Dredge's Fame, a very good Apple for cooking or dessert. (S. D.).—Not known; probably local and worthless. Cut down and graft with a good variety. (W. B. C.).—3, Beurré Clairgeau; 5, Calabasse; 4 and 6 are only fit for stewing.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (E. B.).—1, *Tiarella cordifolia*; 2, *Cineraria maritima*; 3, *Pittosporum undulatum*; 4, *Aloe verrucosa*. (H. B.).—*Justicia coccinea*. (Midlands).—1, *Littonia modesta*; 2, a form of *Odontoglossum crispum*. (Amateur).—1, *Cypripedium insigne*; 2, *C. Leeatum*; 3, *Vanda cœrulea*.

TRADE CATALOGUE RECEIVED.

Alf. William Young, Stevenage, Herts.—*Catalogue of Chrysanthemums.*

COVENT GARDEN MARKET.—NOVEMBER 28TH.

TRADE very dull.

FRUIT

		s.	d.	s.	d.				s.	d.	s.	d.	
Apples, per half sieve	..	1	6	to	4	6	Lemons, case	10	0	to	15	0
" Nova Scotia, per barrel	..	10	0	15	0	Peaches, per doz.	.. ..	0	0	0	0	0
Grapes, per lb.	..	0	6	1	6	Plums, half sieve	.. ..	0	0	0	0	0
Cobs per 100 lbs.	..	22	6	23	0	St. Michael Pines, each	.. ..	2	0	6	0	0
						Strawberries per lb.	.. ..	0	0	0	0	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per lb. ..	0	6	to	0	0	Mustard and Cress, punnet	0	2	to 0 0
Beet, Red, dozen	1	0	0	0	Onions, bushel	3	6	4 0	
Carrots, bunch	0	3	0	4	Parsley, dozen bunches ..	2	0	3 0	
Cauliflowers, dozen	1	6	3	0	Parsnips, dozen	1	0	0 6	
Celery, buundle	1	0	1	3	Potatoes, per cwt.	2	0	4 0	
Coleworts, dozen bunches	2	0	4	0	Salsafy, bundle	1	0	1 5	
Cucumbers, dozen	2	0	6	0	Scorzonera, bundle	1	6	0 0	
Endive, dozen	1	3	1	6	Shallots, per lb.	0	3	0 0	
Herbs, bunch	0	3	0	0	Spinach, bushel	1	6	3 0	
Leeks, bunch	0	2	0	0	Tomatoes, per lb.	0	2	0 6	
Lettuce, dozen	0	9	1	0	Turnips, bunch	0	3	0 4	
Mushrooms, punnet	0	9	1	0					

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	3	0	to	4	0	Poinsettia, dozen blooms ..	3	0	to 6 0
Azalea, dozen sprays ..	0	6	1	3	Pyrethrum, dozen bunches	2	0	4 0	
Asparagus Fern, per bunch	1	0	2	0	Roses (indoor), dozen ..	0	6	1 0	
Bouvardias, bunch ..	0	6	1	0	„ Tea, white, dozen ..	0	6	2 0	
Caruations, 12 blooms ..	1	6	3	0	„ Yellow, dozen ..	2	0	3 0	
Chrysanthemums, doz. bchs.	3	0	9	0	„ Safrano (English), doz.	1	0	2 0	
„ doz. blooms	1	0	4	0	„ Maréchal Niel, doz. ..	3	0	6 0	
Eucharis, dozen ..	2	0	4	0	„ (French), yellow, doz.	1	6	2 0	
Gardenias, per dozen ..	2	0	4	0	„ (French), Red, dozen	2	0	2 6	
Geranium, scarlet, doz.	4	0	6	0	„ blooms ..	2	0	3 0	
„ bunches ..	3	6	5	0	Smilax, per bunch ..	2	0	3 0	
Lilac (French) per bunch	6	0	9	0	Stephanotis, dozen sprays	4	0	6 0	
Lilium longiflorum, per	1	6	3	0	Tuberose, 12 blooms ..	0	4	0 6	
dozen ..	4	0	6	0	Violets (English), dozen	1	0	2 0	
Marguerites, 12 bunches ..	2	6	4	0	„ bunches ..	1	0	2 0	
Maidenhair Fern, dozen	1	6	12	0	Violets (French), Parme,	2	0	3 0	
„ bunches ..	6	0	9	0	per bunch ..	1	0	2 0	
Mignonette, 12 bunches ..	0	6	1	0	Violets (French), Czar, per	1	0	2 0	
Orchids, per dozen blooms	0	6	1	0	bunch ..	1	6	2 0	
Pelargoniums, 12 bunches	0	6	1	0	Violets (French), Victoria,	1	6	2 0	
Primula (double), dozen	0	6	1	0	dozen bunches ..	1	6	2 0	
„ sprays ..	0	6	1	0					

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arbor Vitæ (golden) dozen	6	0	to	12	0	Ferns, in variety, dozen ..	4	0	to 18	0	
Aspidistra, per dozen ..	18	0		36	0	(small) per hundred	4	0	6	0	
Aspidistra, specimen plant	5	0		10	6	Ficus elastica, each ..	1	0		7	0
Chrysanthemums, per doz.	4	0		8	0	Foliage plants, var., each	2	0		10	0
„ large, per doz.	9	0		18	0	Lycopodiums, per dozen ..	3	0		4	0
Cyclamen, per dozen ..	9	0		12	0	Marguerite Daisy, dozen ..	6	0		12	0
Dracæna, various, dozen ..	12	0		30	0	Myrtles, dozen ..	6	0		9	0
Dracæna viridis, dozen ..	9	0		18	0	Palms, in var., each ..	1	0		15	0
Erica, various, per dozen ..	9	0		18	0	„ (specimens) ..	21	0		63	0
Euonymus, var., dozen ..	6	0		18	0	Poinsettia, per dozen ..	10	0		15	0
Evergreens, in var., per	6	0		24	0	Primulas, per dozen ..	4	0		6	0
dozen ..	6	0		24	0	Solanums, per dozen ..	10	0		12	0



WINTERING DAIRY COWS.—2.

To realise fully how imperfectly the value of shelter has been understood, and how ignorant farmers have been of its importance in the economy of farm management, it is necessary to make such an inspection of several ordinary dairy farms as we have done recently. Only an occasional hovel was met with out on the pastures, and at the homesteads the accommodation for housing cows was provokingly erratic. Evidently no thought had been given to proportion, and the size of the farm had little if any influence upon the size of its buildings. For example, a tenant milking twenty-six cows had only sufficient space for twelve of them in that useful building termed respectively in the south a cow-house, in the midlands a milking-hovel, and in the north a cow byre. This was practically an open shed, along the front of which some brushwood had been placed to break the force of cold wind and driving storms of snow or rain. To the tenant's plea for accommodation for the whole of the herd was added a very reasonable request for some improvement of the old hovel. Our recommendation was corrugated iron sheeting for the front, rough plate glass sheets let into the roof for light, and roof louvres for ventilation.

Mention is made of pasture hovels in connection with wintering cows, from the fact of the risk of harm resulting from the very common practice of turning them out to grass by day after they are housed or are kept in yards by night. To take the custom of a dairy county in Cheshire, the cows are very generally taken in at night early in October, but on some farms they are out by day till Christmas. In all such cases there should be open hovels for shelter in every pasture enclosure. But we strongly object to such late grazing, because the herbage is innutritious, is often so scanty that the cows stand about listlessly without attempting to graze; if the land is heavy and sodden by winter rain they become so chilled that cases of abortion are frequent, and they are in a famished condition through the greater part of the day. A little thought ought to convince anyone that an animal requiring nearly an hundredweight of food daily—less or more according to size—must suffer under such ill treatment. A fanciful idea that cows should have daily exercise on pasture in winter has been advanced in justification of the malpractice, but frequently the "exercise" consists of the walk or rush out of and back to the yard. So much harm have we known to be caused by this foolish proceeding that we are bound to call special attention to it. Compare the discomfort—the positive suffering of the exposed cows kept shelterless and hungry for so many hours daily, with that of the herd settled snugly in yards for the winter.

After the morning rations and milking they are let out to the water troughs, and if the morning is fine they have hay in the open racks out in the yard. When the sense of repletion comes each cow chooses some comfortable spot to lie down for rumination. We like to have a small stack of litter in each yard division, some of the cows often choosing a couch against this, others settling in the open or by the side of the yard enclosures. Be very sure they will choose the side less exposed to prevailing winds. Care is taken that they have plenty of clean dry litter down in readiness for them. If they have been carefully divided there is peace in the yard, each cow contentedly chewing its cud, with that sleepy expression which may be taken as an expression of bovine bliss.

The mention of dry litter is a reminder that for shelter to be so perfect as to promote the health and comfort of the cows

frequent attention must be given to the drains of the yard and buildings, floors must be kept rigidly clean, foul litter promptly removed. The cows must never be suffered to lie down on sodden litter, nor should it ever become possible for them to stand out in pools of water in the yard. That these are matters frequently neglected we know from dear bought experience. They never will have proper attention without systematic care, the prevention of pools by keeping drains from being choked or stopped by litter, the rendering it impossible for cows to lie on damp bedding by having it taken out of the yard. It is obvious that by thus doing simply what is necessary for the comfort of the cows, by affording them complete protection from exposure to cold and wet, health is promoted, food is turned to full account for the sustenance and nourishment of the cows, whose condition is well maintained, and they are ready to take full advantage of the herbage for affording a full milk yield when "turn out time" comes round once more.

WORK ON THE HOME FARM.

The recent heavy rainfall has sown the seeds of disease in many a store beast out on pasture with no other shelter than that of a hedgerow or tree clump. A warning note of this is to be heard frequently in the dry husky cough of beasts in tolerably fair condition. We have heard this repeatedly since writing our last farm-work note, and we know it betokens an attack of hoose, which will probably prove fatal, because nothing will be done till the disease has gone too far for a cure to be possible. We were asked recently for an opinion of the possibility of profit upon the purchase of five heifers to clear up the aftergrowth of an 8-acre field. We said they should answer if shelters were provided for them at once, but if they were left out in the open altogether they could not thrive, and losses from hoose were quite possible.

Dairy farmers should turn cheap corn to account by purchasing it at wholesale rates to mix with whey or separated milk for fattening bacon pigs and porkers. It is true enough that high prices have again been such an inducement for excessive breeding that prices have gone down. But for a first-class porker of about 50 lbs. weight there is always a brisk and profitable market. So, too, with well-fed bacon hogs, there is never any difficulty in selling them at a profit. When a dairy farmer has a dozen or more fat bacon hogs nearly finished for market by the close of the cheese-making season—say the end of October, it is a sign that he has wisely taken advantage of cheap feeding stuffs, and has turned his whey to best account.

We knew a tenant who is remarkable for the large number of prime fat pigs he turns out in the course of a year. That worthy man has never been behind with his rent, has never asked for a reduction of rent, and we are only too glad to give him a helping hand by providing more hovel accommodation, and doing what we can for the improvement of his holding. Under the present critical condition of agriculture we must be on the alert to turn everything to account from which profit is possible. That is one reason for the reminder that cheap feeding stuffs are a positive boon to the farmer who has not been at the doubtful expense of growing them.

METEOROLOGICAL OBSERVATIONS.

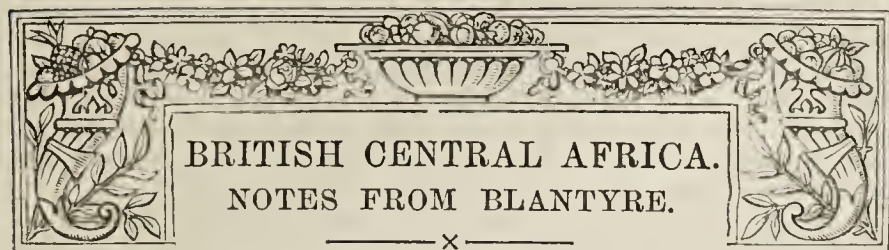
CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1894. November.	Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature			
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.		
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.	
Sunday .. 18	30.133	46.9	46 0	S.	45 8	51.8	42.1	68.0	36.0	—	
Monday .. 19	30.258	40.9	40.9	E.	44 9	52.8	37.1	66.2	31.4	—	
Tuesday .. 20	30.250	48.4	47.1	S W.	44.9	54.2	40.0	71.9	33.7	0.102	
Wednesday .. 21	30.459	40.1	39.3	W.	45.7	46.0	36.9	60.3	30.3	—	
Thursday .. 22	30.379	39.0	38.9	S.E.	43.7	49.2	31.3	55.8	27.8	—	
Friday .. 23	30.337	38.6	38 6	N.E.	43 1	42.9	34.3	48.9	29.6	—	
Saturday .. 24	30.362	38.7	37.8	N.	42.2	50.2	35.4	71.3	31.5	—	
	30.311	41.8	41.2		44.3	49.6	36.7	63.2	31.5	0.102.	

REMARKS.

18th.—Bright sunshine almost throughout.
19th.—Cooler, with thick fog till 11.30 A.M.; gleams of sun at midday; fair afternoon; bright night.
20th.—Cloudy till 11 A.M., then gleams of sun; cloudy afternoon, with spots of rain, and rain from 6.30 P.M. to 8 P.M.
21st.—Fog till about 9 A.M.; the sun visible all day, but no strong sunshine; fine night.
22nd.—Rather thick fog till 9.30 A.M.; generally sunny during day, misty towards sunset; clear night.
23rd.—Misty early; sun visible after 10 A.M., and generally bright in afternoon; clear night.
24th.—Sun visible almost throughout, and bright sunshine for an hour or two in the middle of the day.
A dry week, of very nearly average temperature, but the air damp from the previous soaking of the soil.—G. J. SYMONS.



PERHAPS a few notes regarding this part of the world, one of England's latest possessions, may be of some interest to the readers of the *Journal of Horticulture*. Of our journey up the Zambesi and Shire rivers we will not say much. Suffice it, that we had a most delightful voyage; but what else could we expect, considering we had the good fortune to be on board the best, fastest, cleanest, and most comfortable steamer plying on the great Zambesi—namely, the mission steamer "Henry Henderson?"

Shortly after leaving Chinde, the port of debarkation (formerly it used to be Tuilimane), we in due time reached Shupanga, where we went ashore, and visited the grave of Mrs. Livingstone (27th April, 1862). The Baobab tree under which she rests was measured by one of us, and found to be 50 feet in circumference 5 feet from its base. What a splendid forest there is at Shupanga, and what magnificent trees grow therein. From this forest come most of the canoes used on the lower reaches of the river. Rose-wood we saw in abundance, also some splendid trees of *Lignum Vitæ*. There is also a vast number of Mango trees, said to have been planted by the Jesuit missionaries centuries ago. We do not contradict the statement, for it may well be true, but to-day these trees are a living testimony of the good those early missionaries did.

At Shupanga the Zambesi is much over 1000 yards wide, and beautifully studded with islands. Along the river banks grow many curious and beautiful plants and flowers. The most common are the *Convolvulus* of various colours, climbing up to the tops of the trees, and hanging down in graceful festoons. *Palmyra* Palms are abundant all the way up the river, and are most invaluable as timber for house-building. We also noticed great tracts of the Zambesi Cabbage (*Pistia stratiotes*). Very fertile seemed the gardens of the natives. Along the river banks we saw considerable areas of Rice (the staple article of food of the natives on the river banks), Ground Nuts, Sorghum, Beans, Peas, and Sweet Potatoes. Maize, grown so much in the Highlands, does not seem to do so well in the lower districts.

Ten days after leaving Chinde we reached Katungas or Port Blantyre, and here our river journey ended. After resting for one night we set off early the next morning to walk to Blantyre, a distance of twenty-five miles. For the first few miles of the journey we travelled over a comparatively level road, and then we came to the ascent of the hills, which in some places is as much as 1 in 20°. However, after an hour's steady climbing we reached the top, and right handsomely were we rewarded by the magnificent view that burst upon us. Away down on the plains the atmosphere was close, the air too thick and hot to breathe; but here, up on the hills, how cool and exhilarating! What a charming country! What richness of vegetation! A land that knows not frost or snow! and so, resting at the roadside under the shade of a Bamboo clump we uttered such expressions of approval, on this, our first entrance, into the Shire Highlands of British Central Africa. Continuing our journey we soon reached Mlame where, by the kindness of the present administration, a half-way house roughly constructed of Grass and Bamboo, has been put up for the accommodation of travellers, and here we rested for our midday snack. Mlame is fourteen miles from Blantyre, the metropolis of

the Shire Highlands, and four hours' walk through most beautiful scenery soon brought us to our journey's end.

The Church of Scotland Mission Station at Blantyre occupies a most delightful position, nestling amongst the many undulating hills for which the scenery of the Shire Highlands is justly famed. We entered the Station from the Mandala side, passing up a mile-long avenue of Eucalyptus trees, planted some thirteen years ago. They have now attained to a great height, some of them to nearly 60 feet. In the centre of the square is to be seen a giant specimen, towering to a height of 80 feet, with a stem 18 inches in diameter, and as straight as a telegraph pole. The square in front of the church is a delightful spot. In the wide flower borders which surround it are to be seen such plants as Roses, Pelargoniums, Pentstemons, Dahlias, and Sweet Williams growing alongside; Poinsettias, Clerodendrons, Hibiscus, and Plumbagos, bordered with *Alternantheras*; while the lawn in the centre is dotted over with some fine specimens of Conifers, Eucalyptus, two Cocoa Nut Palms, and some native trees.

The kitchen garden covers an area of a little over 2 acres, and is laid out in the form of terraces, five in number. An irrigation stream, brought from a distance of nearly two miles, runs through the garden, and, but for a few weeks towards the end of the dry season, gives an ample supply of water, consequently vegetables can be grown nearly all the year round. Lettuce, Leeks, Onions, Carrots, Asparagus, Peas, Beans, Tomatoes, and English Potatoes do well, giving an abundant return. One cannot say the Cauliflower is a success. The plants grow well, but the "heads" are small, while Cabbages, as may be imagined, are a never-failing vegetable. We were rather interested in the propagation of the Cabbage, as practised at Blantyre. When the Cabbage proper is cut for table the stems are allowed to remain in the ground for a fortnight or so, by which time "offshoots" will have formed. These are taken off and inserted about 6 inches apart in the ordinary garden soil, which at Blantyre is of a light texture, a little sand being first placed on the surface, and are well attended to in the matter of watering, a process requiring to be done every day in Central Africa in the dry season. After about a fortnight or three weeks the cuttings are sufficiently rooted to allow them to be planted out, and in another four weeks' time are ready for use. We have seen Cabbages grown in this way at Blantyre weigh from 15 to 25 lbs. weight.

During the dry season, from May to November, all vegetables are best grown in trenches. A line is set, and a trench taken out about a foot in depth, and the same in breadth, which is filled with water from the irrigation stream. After about a week some well-decayed manure is dug into the trench, and the seeds sown. In the rainy season ridges take the place of trenches. Turnip seeds germinate in from two to three days, Peas in four days. The varieties of Peas which seem to do best in this part are Lightning, Fillbasket, and William the First. We have never yet been able to grow Melons. They grow to a certain length until the fruit is the size of an Orange, and then the plants become cankered and ultimately die.

About a quarter of the garden is devoted to fruit trees. Apples, both culinary and dessert, do extremely well. The trees are all about ten years old, though there are some fine young ones to be seen. Orange, Lemon, Granadilla, Guava, Peach, Pomegranate, Fig, Loquat, and Papayas are all grown. Cape Gooseberries have made their home in the Shire Highlands, and are to be found in nearly every village. Pine Apples and Bananas are equally as plentiful. A beautiful avenue of Lemon trees stretching through the station gives a never-failing supply of fruit, and in a tropical climate there are worse things than a "Lemon squash" when one is thirsty.

Tea is also grown in the Blantyre Garden, though not to any great extent. In the dry season it is only by irrigating the plants that a flush can be had. Little over a year ago a conspicuous

object in the Blantyre Garden was the first Coffee tree (*Coffea arabica*) introduced into the Shire Highlands in 1878. Mr. Duncan (then gardener at Blantyre) brought with him from the Botanic Gardens in Edinburgh three Coffee trees; two of them died, but one lived, and grew, and flourished. In 1878 there was one Coffee tree in the Shire Highlands, to-day there are millions. The Shire Highlands of British Central Africa have come much to the front of late as being suitable for Coffee growing, and in looking around at the many well managed Coffee plantations in the district one has no hesitation in saying that there is a bright future before it.

Noticeable amongst the foreign trees is the Camphor Laurel, *Camphora officinarum*, the well-known Laurel of China and Japan, introduced into the Shire Highlands in 1884. Nothing as yet has been attempted in extracting the camphor, but if any of your readers wish to know how the camphor is extracted by distillation we would refer them to page 289 of the *Journal of Horticulture* for September 28th, 1893.

But apart from home flowers and plants there are many handsome ones indigenous to the country, and that rightly merit a place in the garden. There is the fine shrub, *Tephrosia Vogeli*, having a profusion of large white flowers, and it keeps flowering all the year round. There is also the white variety of the *Datura*, *Datura alba*, but it is not very abundant, and we scarcely think it is a native of the district; very probably it has been introduced from the coast. Lilies are not very numerous, and as far as we have seen there is but one variety worth cultivating. The name of it we do not know, but its flowers, and in fact the whole habit of the plant, is closely allied to *Gloriosa superba*. Water Lilies are more abundant, but their home is down the lower river and hidden away in the marshes. There is one species, a pale blue *Nymphæa*, which is well worthy of cultivation. Irises are to be found, one variety, a charming yellow, named *Cadalvena spectabilis*, we have never seen before. Of ground Orchids there is an endless variety, but nothing very special. Such families as *Malvaceæ*, *Labiataæ*, *Convolvulaceæ*, and *Sterculiaceæ* are very numerous, and include many species.

But now the sun is far down in the west, and soon darkness will be upon us. So we retrace our steps to the manse. From the manse verandah what a beautiful scene is before us! We first rest our eyes on the Palms and other fine-foliaged plants beneath us, and then they wander away to the fine undulating belt of hills, "The Minchiru Range," over which the sun is just setting in all its beauty of crimson, blue, and gold—truly an African sunset. We will not attempt to describe it, but surely it requires no great stretch of the imagination to convince one that in Central Africa Blantyre Mission Station occupies a very home-like scene, which is not easily surpassed.—NOS-DAMA, *Blantyre, B.C.A., September 28th, 1894.*

[So rarely does an article reach the gardening press direct from Central Africa—the "land of the future" it has been called—that we have pleasure in giving a leading position to the interesting communication of "Nos-dama," from whom we hope to hear again.]

A CODE OF JUDGING.

A VERY large order indeed is that taken for execution by the Council of the Royal Horticultural Society when it undertakes to prepare a code of regulations or rules by which judging at flower shows shall be governed. I do not for one moment wish to deprecate the attempt. So far from that being so, I am pleased that the Council is going to make the attempt, and highly commend the courage which is thus displayed. Courage is indeed needed, and so is judgment and wisdom, for without these a grave failure may result. It is one thing to issue a code of rules; it is another thing to get such a code generally adopted. Even where it is adopted, assuming that to secure its general adoption executives of flower shows everywhere require of their judges, as a condition of engagement, that they agree to adopt the regulations laid down in the code, yet there will be all sorts of diverse interpretations, just

as men are ignorant or otherwise restricted in judgment, or are broad-minded. But as a beginning is to be made the question naturally arises, How best to proceed, so as in the end ensure the greatest unanimity?

Not even a code issued with the imprint of a special committee, unless it be a very representative one, will be generally adopted. The R.H.S. Council should first formulate in concise terms not only what is thought desirable, but on what general lines to proceed. The committee would then proceed to frame its code, but roughly dealing so far as is practicable with every section or subject that may come under the attention of judges at flower shows. Probably this committee would find it needful to resolve itself into some few sections, as, for instance, one would take plants, another cut flowers, a third fruit, and a fourth vegetables, whilst even a fifth might find some special material for consideration in the art or decorative elements of flower shows, such as groups, vases, and various other features.

Having proceeded so far, each section having an outline code adapted to its particular features, there should be issued to several exhibitors, growers, persons employed as judges, and to local committees these outline codes in the form of suggestions, and inviting from these persons concise comments with added suggestions, and these being returned within a given date should be tabulated, and in that way be either adopted or be amended or rejected if found to be useless for the purpose. That would at least pave the way to the creation of a code of judging rules likely to be nationally accepted.

No matter which section is referred to, it is very easy to see that the same rules cannot be made to apply to everything in that section. The rules fitted for an *Auricula* will not suit a *Rose* or a *Dahlia*, or those for a *Carnation* for the *Chrysanthemum*. It is thus seen that in dealing with florists' flowers the special societies identified with the *Auricula*, *Pansy*, *Carnation*, *Rose*, *Dahlia*, and *Chrysanthemum* would have to be consulted also. In the case of fruit it would be needful to deal with each fruit on its merits and separately, for on no other basis could a satisfactory code be established.

I mention these things as showing some of the difficulties as well as pitfalls that beset the promoters of this great reform, and yet every day almost brings to light the need there is for such reform. Judging is at present far too much of chaos—almost all men judge according to their fancies, and not a single exhibitor can tell on what basis he may expect awards to be made. Given a generally accepted code of rules it would be very much more possible to secure greater unanimity than now exists. It should be so much the object of executives, then, to compel judges to base all their awards on the National code.—A. D.



PHAIUS-CALANTHE SEDENIANA.

THE illustration (fig. 80) represents a flower of *Phaius-Calanthe Sedeniana*, a beautiful bigeneric hybrid, exhibited by Baron Schröder, The Dell, Egham, at the meeting of the Royal Horticultural Society on the 27th ult., and for which a first-class certificate was awarded. This charming Orchid was, we believe, raised by Messrs. J. Veitch & Sons some years ago, and is the result of a cross between *Phaius grandifolius* and *Calanthe Veitchii*. The flowers are creamy white tinted pale rose, and are borne on tall spikes. It is a unique hybrid, and attracted some attention on the above-mentioned occasion.

IMPORTED ORCHIDS—CATTLEYA LEAVES SPOTTED.

PLEASE inform me the best way to treat imported Orchids so as to make them produce roots. I should like to know what temperature and moisture are necessary; too much moisture seems to make them decay. I shall also be glad if you can inform me why the leaves of *Cattleyas* become spotted. I have a *Cattleya labiata* in sheath, and the new leaf near the sheath has become covered with small brown spots, which shows, I suppose, that there is something wrong.—L. B. T.

[Newly imported Orchids when first received should be carefully cleaned. The entire plants ought to be thoroughly washed in tepid water and any decayed portions removed. When all are done they may be spread out thinly on the Orchid house stage, and be lightly dewed with tepid water daily, or twice a day when

bright. This will cause them to "plump up" as it is termed, and eventually to emit roots and new growth. The temperature frequently advised in these pages for established Orchids of the various species will suit newly imported plants, the usual atmospheric moisture also sufficing. Cool house Orchids are, however, benefited by a temperature about 10° higher than that in which established plants thrive, at least until the first pseudo-bulbs have been matured. There is a certain amount of risk with newly imported Orchids, and this is greater at this season than in the spring; but if good plants are procured in the first instance and carefully treated, the percentage of loss will be very slight. A note on this subject appeared in the *Journal of Horticulture* of March 29th of this year.

With regard to your Cattleyas spotting, it may be due to various causes, and without seeing the plants or knowing the treatment they have received it is impossible to say what has caused the attack. Too much atmospheric moisture combined with a low temperature predisposes the plants to the attacks of fungoid and other diseases. This may meet your case, or the spots may be caused by sun burns or insects. We cannot advise you further without seeing a specimen of the foliage.]

THE FLORISTS' TULIP.

[By JAMES W. BENTLEY, Hon. Secretary to the Royal National Tulip Society.]

CHAPTER IV.

(Continued from page 489.)

As it is difficult to always get the right classes and the right heights to fit in, I do not recommend a slavish adherence to this plan, although it is well to keep the general idea of diversifying the colours, and having the highest growers in the middle, and the low growers on the outsides of the bed in view. Two blooming bulbs may be put together in the same hole if preferred. Some growers will only have one, but there is no harm in having two, and the display when in bloom is more brilliant.

Let us suppose that we are arranging on this plan a collection in the drawers of the cabinet. A tall growing rose is wanted for the middle hole in the first row; tall growing roses are scarce, however, and it will be seen at once that we shall soon be in difficulties for middle-row roses. We shall have to make use of the large bulbs of *Aglaia*, although *Aglaia* is scarcely a middle-row flower, but large bulbs send up longer flower stems than smaller ones, so it must serve. Having placed *Aglaia* in the middle, we want two bizzarres one on each side of her. Fortunately we have no lack of bizzarres of all heights, let us put in Sir Joseph Paxton; next we must find two rather low growing bybloemens, so we put in Duchess of Sutherland by the side of Sir Joseph, and finish up the row with Alice, a dwarf growing rose, very suitable for the outsides of the bed.

We must now enter what we have done in the Tulip book, which may be an ordinary plain-ruled memorandum book, containing sufficient pages for the purpose, or a more elaborately got-up volume with a good strong binding. I find a book with pages about $8\frac{1}{2}$ inches by $5\frac{1}{2}$ inches, and containing twenty-six lines to a page, suits me very well. I can enter three rows on each page, and there is a blank line between each row, which gives distinctness. It is well bound, with flexible backs, and can be carried in the pocket. The names are written on the left-hand pages only, and the right-hand page is left blank for notes to be made at blooming time. We should then enter our first row thus:—

Row 1.

1. Alice.
2. Duchess of Sutherland.
3. Sir Joseph Paxton.
4. *Aglaia*.
5. Sir Joseph Paxton.
6. Duchess of Sutherland.
7. Alice.

The other rows must be arranged in a similar fashion, and entered as they are arranged, in the Tulip book. It will readily be seen that by using this system it is perfectly easy to identify any variety either when lying as a bulb in its compartment of the cabinet or growing on the bed.

The cabinet must not be air-tight, there should be free ventilation on two sides of it at least; this can be thoroughly assured by having the back and sides made of perforated sheet zinc. The zinc will keep out mice, which often destroy Tulip bulbs when they can get to them.

Many growers do not have cabinets but simply boxes made with compartments exactly as the drawers are. It ought to be mentioned that a suitable size for these compartments is 3 inches by 3 inches by 3 inches, a cube of 3 inches will easily accommo-

date two blooming bulbs. The boxes when the bulbs are dry are piled on the top of each other in a suitable place, with flat laths or something of the kind intervening to allow a current of air to pass over the bulbs in each box. The boxes are not so convenient as the cabinet from which any drawer can be removed without disturbing the others. The drawers or boxes containing the bulbs are taken out to the beds at planting time, and again when the bulbs are lifted.

When September arrives it is quite time to prepare the bed, and before doing this important work it is well to remember what are the chief points to be aimed at in the culture of the Tulip. They may be summarised thus:—

1, To grow the plants in such a manner as to keep up the size and health of the bulbs, and ensure a sufficient amount of increase without injuring the refinement of marking necessary for a fine Tulip.

2, To protect the plants in such a way that the flowers shall be produced free from blemishes caused by weather, and yet not to injure the health of the plants and bulbs.

To attain to a reasonable degree of perfection in these two objects is not the easiest thing in the world, and more than



FIG. 80.—PHALIO-CALANTHE SEDENIANA.

ordinary care and attention are required. If the culture be too liberal the bulbs may get large and bloated, and will produce characterless, coarsely marked flowers; if too poor the bulbs become too small to produce fair-sized blooms, and the markings become so refined as to be scarcely visible at all. Feathered flowers become so short of colour on the edges of the petals as to resemble selfs, and flamed flowers lose the bold beam and bloom in a condition that may be described as neither feathered nor flamed.

If the plants have not a certain amount of protection they and the flowers get spoiled by frost, hail, wind, rain, and sun. If protected too much the plants are weak and sickly, and the colours of the flowers become pale and dull. It is, therefore, evident that a happy medium is what is needed. The culture must be liberal enough to produce good bulbs without spoiling the refinement of the marking of the flowers, and protection sufficient to ensure uninjured blooms must be given without impairing the health of the plants. How this happy medium may be arrived at in the best practicable manner I will do my best to describe.

The most important point to be assured on when making a Tulip bed is the thorough efficiency of the drainage. Tulips will stand more ill-treatment than most things without actually dying. You may starve them, overfeed them, neglect them—even so much as to leave them unplanted for a year, or otherwise despitefully use them, and they will contrive to keep living. They will make less bulbs, or perhaps split up into a number of pieces, each with its germ of life, as if with the idea of increasing the chances of survival by dividing them among numerous individuals. It is evident, therefore, that they are not easy to destroy, but they will not stand being treated as aquatics or bog plants. The situation

of the bed is also of importance. If it can be sheltered from the east and north it is of great advantage; it should not be so near to trees as to receive any drip from them. It should have a walk at least 2 feet wide round it, and where two beds are grown side by side a 3 foot walk between them is very desirable.

Having settled where it is to be, the bed should be marked out 4 feet wide and long enough to contain the collection; a bed of 100 rows would have to be 50 feet in length. If there are more Tulips than suffice to fill a 50-foot bed it is better to have another bed alongside than increase the length above 50 feet. The soil should then be removed to the depth of 2 feet, and (the drainage being quite satisfactory) the ends and sides of the bed should be boarded above the surface of the ground with stout boards 8 to 12 inches wide. A kind of box is thus made which will support the soil of the bed well above the surrounding level. The soil can now be filled in. The Tulip loves a stiff, "buttery" loam, with plenty of fibre therein, and in my opinion sods from a fat old pasture that have been stacked a few months and chopped down with the spade form the best soil that can be used. With such soil I would use nothing else whatever, unless forced to grow in a low-lying damp district, when a proportion of rough grit or sand might be an advantage. I am no believer in nitrogenous manure. When new and raw it is very dangerous, and "well rotted manure" that one hears so much of, if decayed so well that all its manurial qualities have vanished, does no harm and no good. The soil must be carefully searched for the wireworm, which delights in perforating the bulbs, especially the choicest and scarcest; perhaps the flavour also, as well as the other qualities, are superior to the ordinary kinds. The soil should be put into the bed until it is level with the top edge of the boards, and then well trodden down and allowed to settle until planting time. If the weather is very wet the bed should be kept covered from the rain.

Planting may be done at any time, when the weather is favourable, between the beginning of October and the early part of December; it appears to matter little whether early or late. The best guide as to what is the best time is the condition of the bulbs; when they begin to show signs of formation of rootlets at the base of the bulb the planting should be at once proceeded with. Bulbs kept during the summer in a cool place show signs of root development before those kept in a warm situation, and require to be planted earlier. It used to be customary to completely strip the bulbs of all the brown outer skin before planting and put them in the ground perfectly naked. I do not like this method, which is a very tedious one, and unless gone through with great care is likely to be the cause of injury. The bulbs, in my opinion, when taken up in June or July, after being thoroughly dried, should remain untouched with the old roots and skins left on them until shortly before planting time. It will then be found that they come away easily and safely, and there is little risk of injury to the bulbs. There is no need of completely stripping the bulbs, all that is necessary is to be assured that the root-plate is laid bare so that the young rootlets can strike directly into the soil. This is easily done just before planting, as in the majority of cases the swelling of the root-plate causes the outer skin of the bulb to burst near its base, and the lower portion is then easily detached.

There appears to be little or no difference between early and late planted bulbs as far as the time of blooming is concerned. Late planted Tulips come up later, and suffer less from injury to the foliage caused by the keen cutting winds and frosts of early spring. On the other hand early planting is preferable to the grower, as the weather is milder and more likely to be favourable, and if an early frost comes, and stays for a month or so, the late planter may be forced to delay the operation until January or later. According to our floral ancestors the proper day for planting is November the 9th, or Lord Mayor's day, and there is no doubt that about then is a very suitable time. Small seedlings and offsets should be planted early, say in September or October. On account of their small size they become soft, probably from loss of moisture through evaporation, if kept much longer out of the ground. They should be grown in a bed separately from the blooming bulbs, each variety kept by itself, and noted in some way to identify it. The soil may be the same as for the large bulbs, made a little lighter by the addition of sand. Offset growing, although tedious, is very important; it provides a succession of maiden bulbs to replace those on the bed which have become unfit, either from loss of character or loss of size, to remain there.

When the bulbs are ready to be planted, the soil, which should be about 3 or 4 inches below the edges of the boarded sides, must be lightly raked over to soften the surface, and the rows, 6 inches apart, marked out on the bed. A convenient plan is to have the edging boards on both sides of the bed carefully marked with a chalk mark every 6 inches; if a more permanent mark is desired it can be ensured by nicking the boards with a saw instead of using the chalk. To ensure the straightness of the row,

and the proper distance between each hole being kept, it is well to have made a flat straight rod 4 feet long, with marks cut into it every 6 inches of its length. There will be seven such marks on it, and when it is laid on the surface of the bed between the first marks on the edging boards nearest to one end of the bed, the seven marks will exactly indicate the proper place for planting the seven holes of the first row; every other row being treated in similar fashion the straightness and uniformity of the rows are ensured. By following this method every hole will be 6 inches apart from its immediate neighbours, and no bulb will be planted less than 6 inches from the outsides of the bed.

In planting, the bulbs must be pressed gently into the soft soil until they will stand upright firmly; this operation requires care, as the root plate is the vital part of the bulb, and is easily and irreparably injured, so before putting pressure on the bulb the absence of stones or other hard substances must be assured. When the bed is planted in this way the bulbs must be carefully covered 3 or 4 inches deep with similar soil to what the bed is composed of, and no fear need be entertained as to the growth and health of the plants.

Some growers prefer to put a little sand on the bed at each spot where a bulb is to be planted, and they also cover up each bulb with sand before putting on the covering soil. There is no objection to this, and perhaps some little advantage, as the bulbs bed down easily and safely in the soft sand, and when taking them up the sand is a sure indication as to where they are.

There is another method of planting, which consists in making the bed the full height for a start, and then with a kind of boring machine, known as a Tulip planter, removing about 4 inches depth of soil at every hole, putting the bulbs down in the little pit thus formed, and then filling it up again. I fail to see any advantage in this plan, it is apparently slow and troublesome.

(To be continued.)

GROWING, SHOWING, AND JUDGING.

Nor any disparagement is intended of those excellent examples of culture seen, heard of, or read about, by saying that we look for the best on the exhibition tables, and to attain that attention is directed to minute details of culture, which, with non-competitors, is less a matter of urgency. It is frequently adduced as a high meed of praise that certain specimens noticed by correspondents were fit for the exhibition table, hence the importance of growing for showing, as a standard of perfection is admitted. Time has wrought changes in the gardening world which have invaded the field of flower shows. Some of those princely establishments, in which tradition holds the memory of past achievements, no longer enter the arena. With smaller men it is a matter of more or less anxiety to know who are likely to oppose them in a contest, and if they find that some "big guns" are expected in the field a diffidence of encountering them ensues. The question is often asked of someone behind the scenes, "Is So-and-so coming up to a certain show?" and should the answer be "No; So-and-so is now growing for market," the news becomes public and a body of light infantry enter the field. So the falling away of the few becomes the opportunity of the many.

Only in the Roses, I think, is protection afforded to small exhibitors, where classes are provided for growers not exceeding a given number of plants. But there does not appear any valid reason why this protection should not be extended to equally important flowers such as the Chrysanthemum. Taking a broader view of the question, could it not go further and measure the man according to the acres he rules over? The gardener of a small suburban residence can be no match for his lordly neighbour presiding over a much larger area, and when his employers ordain that he should "Go in and win," he is severely handicapped, but endeavours by a prescient knowledge of probable weak classes to gain honours by strategical movements, whereas in the stronger ones it is all but a foregone conclusion of being tripped up in a wrestle with the giants.

Amateurs who enjoy an amount of freedom not possessed by the professional gardener are generously provided for, as a rule, by having a little corner sacred to themselves, although they are not debarred from prospecting in the open field if they choose to do so. The designation of amateur implies no supposition of weakness. Being his own master he can confine his efforts to a limited number of objects as taste directs, and any falling short of the requirements of his household can be made up by purchase, whereas, *per contra*, the gentleman's gardener seldom has facility for doing so; and when expected to grow for showing—and needless to add expected to win prizes—it is additional to his numerous duties. In the different interpretations of the word amateur, one is that employment of the term to distinguish the nursery trade from

private growers; another, and which appears most consistent with prevailing ideas, is that the amateur is one who cultivates for his own pleasure without professional assistance. In this instance he, by the protection afforded, meets his competitors on equal terms. Numerous entries, with well-filled tables, are the backbone of strength to an exhibition. Each exhibitor forms a centre of interest to a local circle of visitors, whom by force of attraction are brought to patronise a horticultural society, and by this means the light is spread over a much wider field than ensues from exhibits contributed by a few large establishments, be those exhibits never so good.

The young actor playing his part for the first time in the staging process cannot but feel envious of the old campaigner who, "Pride in his port, defiance in his eye," methodically proceeds in the work of arranging his exhibits, heedless of that criticism, complimentary or otherwise, on-lookers are apt to express in stage whispers. A novice in his anxiety to finish in time probably arrives hours too soon, and delicate plants or flowers are not improved by the needless exposure, augmented perhaps by the stage carpenter putting his finishing touches. Yet, he who does not afford himself the necessary time, with a reasonable margin, is seriously handicapped in keen competition. To be in time, and to be finished by the time appointed for the judging, is but due to himself and all concerned. Exhibitors who may count on some grace in respect to time may not always receive what they have no right to expect, and suffer accordingly. For the mutual benefit of exhibitors and societies it is essential that the rules be respected. Where an exhibition is limited to one day it is of paramount importance that they should be rigidly enforced, for the few hours afforded to the public do not permit of encroaching in this direction. Taking into consideration the labour entailed on all concerned, a one day's show never appears to do justice either to exhibitors, societies, or the public. Where that is foreshortened by the early closing movement, and evening admission is precluded, most business people are debarred from the pleasure they might enjoy, whilst receipts fall short accordingly.

More than one society suffers from a tightness in the war chest, but are reluctant to seek relief by breaking old-established rules. It may be easy to run in the old groove, and hard to break from it; but in these matter-of-fact times the public eye must be arrested to reach the purse. One has but to think of that splendid undertaking at Shrewsbury to be conscious of the truism that "nothing succeeds like success." Substantial prizes are scented from afar. This is an incentive not commending itself to all. Instances in which the richest and rarest of examples are brought together by enthusiasm and the stimulus only of honorary awards are much in evidence, yet I do not see much difference in the desire of an eminent firm to obtain a Banksian or Knightian medal with the gardener who respects the effigy of Her Majesty on a current coin of the realm. Medals or coins represent so much power to the recipients, and are suitable to each alike.

In *Garden-Work* (October 24th) was reproduced the fac-simile of a watch and chain won by a boy gardener. Happy boy! Will he be the happier when revelling amongst the cups?—a future one may predict for him. I think some of the older boys would not object to compete for something more useful than the ubiquitous cup—something conducive to the advancement of knowledge in his calling. Such articles as a microscope, a camera, theodolite, or case of mathematical instruments should not detract from the dignity of a prize schedule, and a suitable inscription would express the honour and glory which the more showy article represents. This is a gardener's point of view, and need not clash with the leviathan classes of a powerful society, the challenge trophies for which find a suitable resting place in the mansion or in the home of a gardener occupying a prominent position.

Horticultural societies are a power in the gardening world. Assuming that the authorities of such societies are anxious for the advancement of the art they represent, not the least of their obligations is to encourage gardeners. Indirectly they obviously do so, but one could wish more encouragement was held out to the worker by giving him facility to enjoy the privileges of a holiday, which show day affords. There is but little to cavil at in the shilling day, but a one day's exhibition, with admission fixed at double that amount, is a luxury that few workers can afford, especially should he have to dip into his pocket for Mrs. Gardener and the little gardeners, who generally take a very keen interest in matters horticultural. So, ye powers that be, show, I pray you, some consideration to the *bona fide* gardener and his "missus." Verily your reward shall be some easement to your Secretary in the clamour for free tickets, which he is seldom weak enough or indulgent enough to accede to.

Apparently at no time in the history of exhibiting has so fierce a light been turned upon the onerous duties of judging. It is not alone sufficient that the judge should be like Cæsar's wife,

above suspicion, he must be possessed of the highest practical knowledge reduced to a clear mental definition of generally received ideas of superiority. A lucid exposition of the art of judging with, as far as possible, sharply defined rules would form valuable addenda to a prize schedule, tending to avoid that confusion of ideas so often prevailing. Such should be welcomed alike by the judges and the judged, and if sealed by the authority of experts, obtain universal confidence. Until such is arrived at individual opinion, with all its variability, must influence decision. To win the confidence of their clients it behoves societies to obtain the best judicial assistance procurable, and one might add for money, for that will bring the best judges over land and sea. It is false economy to deprive themselves of the best men. I have noticed that exhibitors have the greatest degree of confidence in judges from a distance, though there may be nothing to advance against practical men in the neighbourhood beyond that feeling that a man is not a prophet in his own country.

Human nature in a flower show plays a prominent part, and under any conditions cannot be eliminated. He is a strong man who gains the victory, but a stronger than he is one who can accept defeat and profit by the lesson it contains. It is a sad spectacle when the field day is past to find a petty internecine feud carried on into the future. To conclude, I will quote what has been said by a high authority on growing, showing, and judging. Striving for supremacy in the competitive arena has not only an educational value for a gardener, but should make him "a better man."—E. K., *Dublin*.

FLORAL FACTS AND FANCIES.—6.

No doubt there are some persons of a very practical turn who consider it useless or even foolish to employ flowers for the purpose of expressing feelings or sentiments. But even in an age that gives us numerous ways of expressing thought or emotion, flowers, so vastly varied in form and hue, plentiful both in town and country, attainable too by everyone, must still be valued because of their symbolism. The beginning of it was, we know, at a time when language was poor, and a tangible object, such as an animal or a flower, served instead of a word to give expression to a thought. A lion represented courage, a fox cunning, and an eagle or hawk keen sight; and flowers or trees, in like manner, were noticed to have certain peculiarities which suggested ideas. Hence when the curious fashion arose of carving trees or shrubs of an evergreen habit into devices resembling geometrical figures, animals, and other objects, the tree had its own meaning or significance, and might symbolise some animal besides whose shape had been given to it. This style of tree disfigurement, for so we must call it, once much admired, has ceased to please. Amongst the species selected for this purpose were various Pines and Firs, the Box, Juniper, Holly, and Yew. People still sometimes sow annuals so that they shall on coming up represent names or initials. Formerly flower beds also occasionally exhibited plant devices intended to suggest animals, or perhaps heraldic figures, rudely designed at the time of sowing. Before, however, I return to the garden flowers, which are my principal subject, we may gather up some of the meanings that have been linked to a few familiar evergreens of our shrubberies; all of them as a group signify "solace under adversity," because they are so cheerful during the gloom of winter.

The Box, hardy and heroic, indifferent alike to sun, rain, or frost, may well show "unshaken fortitude." The familiar Privet of our hedges has two meanings, "mildness" and prohibition. Very well does the Holly represent "foresight," since Nature so armed the tree as to guard it from rough usage, and made it a good protection for birds and insects; it would seem, too, to be aware that beyond a certain height prickles are not needed, for the higher boughs of large Hollies have generally smooth leaves. It may seem odd that the Juniper should signify "shelter" or "succour," but the allusion is no doubt to the fact that one of these furnished shade to a wandering prophet. Gardeners a century or two ago rather liked to plant the Juniper on lawns or garden borders, but it has now gone out of favour. Pines and Firs as a group are said to symbolise "Time," because the years roll on and seasons pass without bringing any alteration in their appearance. Rightly does the Larch represent "boldness," for it climbs the bleak hillside, and flourishes where most trees would have a struggle for life. It is a pity it is not more freely planted about England. Some of the Pines are similarly characteristic of "daring." They grow tall and vigorous in unpromising situations; they are able also to brave the perils of ocean when used in ship-building. Then the Scotch Fir, or properly Scotch Pine, is a symbol of "elevation," either from its liking for lofty spots, or from the esteem in which it was formerly held. To the Spruce Fir has been attached the meaning of "hope in adversity."

From the time of the ancient Greeks the Cypress has told of death, and the Cedar, gloomy yet grand, conveys the idea of "strength" and of "incorruptibility." Some assert that the Yew, often planted in churchyards, and at one time much used for garden hedges, was looked upon as a figure of immortality from its perpetual verdure; but there is an old legend concerning it that rather supports the belief that it is a symbol of sorrow. Under a Yew, so is the tale, once sat the Christ-mother on a winter day, and her tears fell upon the babe; upon the morrow the tree put forth new leaves, and thenceforward the species was evergreen. To the Laurel or Bay from very early times has been assigned the significance of "human glory." The Laurustinus was thought by our gardeners of last century, as being a native of South Europe, to be very liable to suffer from English winters unless it were protected, so it came to have the meaning, "I perish if neglected;" but they were somewhat mistaken about its sensitiveness, or else our winters are less severe than formerly.

During last century, and before it, the Myrtle was a great favourite, both as a garden and window plant. The liking, probably, was imported from Italy; in that country it is still freely grown. This is a plant representing "love" or "affection," doubtless from its association with the goddess Venus, whose temples were surrounded by groves of Myrtle, and who was worshipped under the name of Myrtilla; though we have also a story that it commemorates Myrsine, a Maid of Athens, attendant on Minerva, who, loving not wisely but too well, underwent transformation into this shrub. The Athenians also used it as a symbol of authority, magistrates wearing crowns of Myrtle. Conquerors, again, received wreaths of it combined with Laurel, possibly because weapons were sometimes made of its wood. Our poet Spenser alludes to the plant, and Milton places it in Eve's bower, while Thomson compares his Lavinia to a Myrtle. The broad-leaved variety, which flowers freely in England, was supposed to render baths extra refreshing; its medicinal value was also considerable, people thought, and the fruit had a place in cookery. Attached to some of our historic mansions there are Myrtles of remarkable size and age; thus, at Cobham Hall, Kent, there is, or was till recently, one 30 feet high, and others not much inferior.

Many cultivators of the Dahlia may not be aware that this flower, named after Dahl, a Swedish botanist, came very near being called "Georgia," in honour of our reigning family; probably it would have been had not an American State already owned the name. Nor that when first brought to Europe it was on the supposition that the unpleasant flavoured root could be turned to some account. Common as it is now, eighty years ago very few were to be seen in Britain, and those in houses, for there was an idea that, coming from the hot climate of Mexico, it needed the warmth of a conservatory. In flower language it is presumed to say, "My gratitude exceeds your care," because this is a plant that fully repays all attention bestowed upon it, though trouble is requisite to secure fine blooms.

Apparently the China Aster, which took its name through a fancied resemblance between its flowers and the radius of a star, became a symbol of "vanity," from the almost numberless tints developed by the skill of the horticulturist, though the seeds sent over first in 1730 produced only a simple violet flower. In China, to the present day, the Aster is a speciality for floral decorations, and the national patience and perseverance is well exemplified in the careful arrangement of colours and shades. We have to thank Tradescant for the Aster called the Michaelmas Daisy. Our ancestors, unaware of the host of flowers that were to arrive from other countries, regarded it as the latest conspicuous flower of autumn; it was the goddess Flora's "afterthought" or "farewell," when she left the beds and borders at the end of the season. It was said also, that the Michaelmas Daisy displayed its flowers in memory of the valiant deeds of St. Michael.

To the popular Chrysanthemums, taken as a group, has been given the significance of "cheerfulness under adversity," since these plants are chiefly in flower during the winds and rains of the autumn. The variation in colour has suggested other meanings; thus, a red Chrysanthemum, like a red Rose, represents "love," the purity of the white flower suggests "truth," and a yellow one, like many flowers of that hue, reminds us of "envy" or jealousy. The Heliotrope, which still lingers in flower to perfume our bouquets, is symbolic of "faithfulness."—J. R. S. C.

GRAPE GROWING IN KENT.

YOUR correspondent "W. S." (page 493) is under a wrong impression. That Grapes can be grown as well in Kent as any other English county was proved beyond doubt at the Crystal Palace Fruit show. To give him the information asked for I will state a few facts which came under my notice at the above show during the time it was open. I found, after very careful observation, that from Scotland came the

best examples of no less than six varieties. When I say the best examples I mean taking the bunches singly, and not the whole stand. As exhibited the varieties were Duke of Buccleuch, Black Hamburgh, Madresfield Court, Mrs. Pearson, Mrs. Pince, and Gros Guillaume.

To Kent is credited four varieties—namely, Alicante, Buckland Sweetwater, Trebbiano, and Muscat of Alexandria, therefore we have from this county more perfect examples of the most popular Grapes than all the other English counties put together. If "W. S." disputes what I have stated, I will mention the classes in which the examples named above were to be found, also the position Kent stands in regard to other exhibitions in various parts of the country. — A KENTISH GARDENER.



IMPORTANT NOTICE.

WE are requested to state that the annual general meeting of the National Rose Society will be held at the Horticultural Club, Hotel Windsor, Victoria Street, Westminster, on Thursday, December 13th (instead of on Thursday, December 6th, as previously announced) at three o'clock. The annual dinner is also unavoidably postponed to Thursday, December 13th, at six o'clock.

The following proposed alteration of the by-laws and regulations will be considered at the annual general meeting:—

1, New By-law:—"That the Committee shall at its first meeting appoint a Sub-Committee (to be styled the General Purposes Committee) not exceeding ten in number, for the purpose of considering and reporting upon any matters connected with the Society, which may be brought before the Sub-Committee by notice to the Secretaries of the Society, and that the functions of that Sub-Committee shall endure until the next general meeting of the Society. This Sub-Committee to have no executive power whatever."

2, Regulation 6:—"That Chromatella, Cloth of Gold, be removed from, and Mrs. Harkness, Paul's Early Blush, be added to the list of synonymous Roses."

3, To alter regulation 7, so as to read:—"All Roses exhibited in competition must be from plants which have been grown by, and have been the property of, the exhibitor for at least three months."

4, Mr. Lindsell:—"To consider regulation 13, either with the view of making it operative and binding upon all amateur exhibitors, or of repealing it."

5, "To alter regulation 13, so as to read:—"No person shall be allowed to compete as an amateur who sells Rose plants, Rose blooms, or buds for budding, nor any person in the employ of a nurseryman. Any objection raised as to the rightful qualification of an exhibitor shall be referred to the Committee for arbitration, and their decision shall be final and binding on both parties."

NATIONAL ROSE SOCIETY.

BEING unable from pressure of business to attend the annual meeting of the N.R.S. on Thursday the 6th inst., I take the liberty of asking space for a few remarks on matters which will be discussed on that day.* The most important question to be discussed at that meeting will be the abolition or the more rigid enforcement of rule xiii. in the Society's Regulations for Exhibitions. As at present that rule stands thus—

"No person shall be allowed to compete as an amateur who sells Rose plants or Rose blooms, nor any person in the employ of a nurseryman. Any objection raised as to the rightful qualification of an exhibitor shall be referred to the Committee for arbitration, and their decision shall be final and binding on both parties."

Mr. Lindsell intends to propose that this rule be so re-arranged that no loophole for evasion will in future be allowed to exist. The members of the Society may rest satisfied that unless Mr. Lindsell had good reasons for thinking that the rule has been and is being evaded or broken, he would not now bring forward a proposal for its enforcement or abolition. My belief is that if the Committee insisted on every amateur exhibitor filling up himself and signing a paper that he has honourably complied with these rules and regulations there would be no such thing as evasion; a man may wink at indiscretion, but very few will put their signatures to a fraudulent statement, therefore it would be a primary necessity with such a document that the exhibitor himself, and not any representative, should sign it.

VICE-PRESIDENTS.

I have given notice that I shall propose (but I regret if I must do so by deputy) that Mr. Lindsell and Mr. Machin shall be added to the list of Vice-Presidents. It can only be by an unintentional, but never-

* We received a notification of the postponement of the meeting after the receipt of this communication, but that is no sufficient reason that it should not be published. It can, in fact, be more usefully published now than on the day of the meeting, and we have pleasure in inserting it. The only explanation we have of the cause of the postponement is that the waiter at the Hotel Windsor forgot to book the order for the room. Oh! that waiter! Will he feel proud of his "influence" in upsetting the arrangements of a National Society?

theless a remarkable oversight, that Mr. Lindsell has not already been placed on that list. Without undue comparison I can safely say that with one exception he stands head and shoulders over every name on that list as our greatest rosarian. Both Mr. Lindsell and Mr. Machin's personal and social qualities entitle them to the honour, and their status as amongst the greatest of representative English amateur rosarians undoubtedly gives them a claim to the highest position in the gift of the Committee of the Society and of the members thereof. I shall be much surprised if the meeting does not unanimously appoint them.

JUDGING OF ROSES.

I see that the Council of the Royal Horticultural Society has decided or proposes to appoint a Committee to inquire into this subject, and that Mr. Charles E. Shea, a member of the R.H.S. Council, will be the Chairman. No better inquiry and no better Chairman could be made. The present rules on judging Roses, of which subject I may claim to have some knowledge, are not quite satisfactory. At present the accepted arrangement and rules framed by the National Rose Society are:—

1, Three points given for the best blooms, and two and one for inferior flowers.

2, A point to be taken off for every case of decided badness.

Then the definitions are given—

1, A good Rose—the highest type is one having form, size, brightness, substance, and good foliage.

2, A bad Rose—faulty shape, confused or split centre, faded colour, being undersized or oversized.

"Form" means good shape and abundant petals; "size" speaks for itself; "brightness" and "freshness" require no explanation.

It would seem to many who are *not* expert that these points and definitions are as clear as can be, and that no possible error or disagreement can arise, but we who go frequently to Rose shows and judge them know that great divergence of opinions exist on these subjects, and that in consequence much dissatisfaction at results frequently arise.

The opinions of rosarians as to what is fresh, what is undersized, and what is coarse are very much opposed. I know one rosarian of great experience who almost invariably cuts his flowers in a state that I should call stale, and allows them thereby frequently to become coarse; others cut them young and lose a point for size. Some judges overlook the point of freshness if there be size, and some overlook *all* defects if there be size. The principal remedy that suggests itself to my mind is an alteration in the number of points which should be given. If six points or five points were to be the maximum instead of three, then all minor questions could be more closely examined and appraised. Now it is either 3, 2, 1, or 0, or even —1; whereas if a higher plane was arranged there would be a fair margin for good, indifferent, and poor flowers.

I trust that Mr. Shea, than whom there is no one his superior to act as chairman over an inquiry of this sort, will go thoroughly with his Committee into this question, and that the National Rose Society will adopt the alterations the Royal Horticultural Society's Committee may suggest. It will not be one day too soon.—CHARLES J. GRAHAME.

MR. MAWLEY'S ROSE ANALYSIS.

NOTHING like nailing the colours to the mast. So thinks "E. M." (page 466). Certainly he has a right to his own opinion, but after asking for special points, and obtaining them, he might reply. Surely Mr. Grahame and myself deserved some answer to our arguments. Well, "Silence is golden."

Mr. Grahame's election (page 490) would have the Roses more divided if he had obtained the best six, second best six, and next twelve, but any way it is in my opinion a far safer guide than this analysis—a manufactured analysis. What more can be said? The finishing touch which ludicrously points out the absurdity of sifting averages by Mr. Mawley's method is added by "W. R. Raillem." It seems to me to take the very pith and heart out of Mr. Mawley's plan.—Y. B. A. Z.

MR. GRAHAME has made an admirable defence of Mr. Mawley's invaluable analysis in collating the two lists in the last issue of the *Journal of Horticulture*, from which it appears that in Mr. Mawley's list of the best twenty-eight Hybrid Perpetuals the varieties are identical with those selected by Mr. Grahame's "electors," except in half a dozen instances, and in the two lists of the best twenty Teas the varieties are identical except in three instances. It is obvious, therefore, that the great bulk of expert opinion supports Mr. Mawley's analysis.

The differences in the two lists of Hybrid Perpetuals may practically be reduced to four; as one list gives Countess of Oxford, and the other gives the sport from it, Pride of Waltham, two varieties that are identical in every respect except the shade of colour; and further it is improbable that the experts would have omitted all mention of Margaret Dickson had they had any experience of so charming a variety at the time of making their selection; and if they had been dropping out another light to make room for it, they would very likely have left out Marie Finger, which, by the way, hardly seems wanted in a box with Pride of Waltham. How any exhibitor could afford to dispense with Marquise de Castellane or Baroness Rothschild, I cannot in the least understand, while Camille Bernardin is one of the most reliable of reds, easier to get good than Dr. Andry. Of course everybody is in love with the colour of Duke of Edinburgh, and in a fancy selection most

people would give the variety as one of the best, probably recalling some occasion on which they had seen or had grown a flower in perfection; but how often is it exhibited in that desirable state? I believe I grow more plants of Duke of Edinburgh than of any other Hybrid Perpetual, but yet I cannot recall any bloom of the variety that has afforded me any particular pleasure since I grew it as a maiden. Much the same may be said of Comte de Raimbaud, which is very unreliable and only good in "its year," and also of Duchess of Bedford, which, though affording a charming flower as a maiden, makes but a weakly little cut-back, and both varieties I have finally thrown away.

The omission by the "experts" of Caroline Kuster, at once the most vigorous and free-blooming of the entire class, and a variety of which large and well-formed flowers are the rule rather than the exception, strikes me as very astonishing, the more so as Anna Olivier, charming as it is in colour, is by no means easy to get "heavy" enough for exhibition. The other two variations, involving only the last two varieties in each list, might be allowed to pair off together; there is not much difference from any point of view. Rubens is the more charming flower; Madame Bravy the easier to get "big"; Jean Ducher, in a fine season, one of the best of all Teas; Cleopatra, judging from the last, better in a cool summer.

Anyone who has had much to do with statistics knows how misleading "absolute averages" are. "W. R. Raillem" (page 491) cites the case of a cricketer, and the instance is happily chosen. I have not this year's first-class averages at hand, but Wisden's Almanack for 1893 lies before me, and in the list of amateur batting averages I see five names appear above those of Messrs. W. G. Grace and A. E. Stoddart; but does anybody imagine for a moment that the two last named would not, nevertheless, be the two first "choices" in selecting an eleven of gentlemen *versus* players? Again, in the corresponding list of professional bowling averages, Parris and Abel are at the top; yet I fancy that Mr. Grahame would not like to see his county Committee leave out Lockwood or Richardson in order to rely upon "the gov'nor" as a trundler? Instances could be multiplied *in infinitum* from statistics and averages of almost every kind that have ever been compiled; but they are all of a pattern, so I have taken the cricket averages which "W. R. Raillem" suggests.

It is undeniable that rosarians generally are greatly indebted to Mr. Mawley for the valuable analyses and tables that involve so much labour and pains, and their value cannot but be enhanced by Mr. Grahame's demonstration of their practical coincidence with the collated evidence of experts.—T. W. GIRDLESTONE.

SUCH letters as those of Mr. Grahame (page 490) and "W. R. Raillem" (page 491) in your last week's issue are certainly entitled to notice from me, as some proof is for the first time advanced in them in support of the contentions of the writers. I, therefore, willingly withdraw my notice of retirement from the discussion in order to reply to them.

"W. R. Raillem" objects to the heading "average number of times shown." Well, as regards the majority of the varieties, as I have before stated, the averages given in the tables are the arithmetical means which he contends should in all cases be given. But, of course, for the others this heading, unless taken as it should be, in conjunction with the explanations I have from time to time given, would not be as clearly understood as it should be. His illustrations about school attendances and cricketers' averages are not to my mind quite on the same lines as tabulating Roses in an analysis. In the one case the actual figures are imperative, whereas in the other what is really wanted are not so much the actual data as results which are fairly comparable *inter se*. In other words, averages which will place the Roses in their truest relative positions.

I am well aware that to those who have first been in the habit of dealing with statistics of this nature it appears little short of criminal to leave out a single figure; but it must be remembered that these figures of mine and my method of computation were last year submitted to an expert in such matters, and only the other day I consulted another whose life has been spent in discussing statistics of various kinds. His opinion was that the system I had adopted was perfectly legitimate, and as far as he could judge without seeing the figures themselves, the best when dealing with statistics of this kind in which only tolerably close approximations could be looked for.

He instanced, as supporting one of my corrections, the fact that the average death rates for certain diseases would be misleading if a ten-years average were in all cases strictly adhered to. But what surprised me most, after the hours I have lately spent in explaining these Rose analyses to your readers, was the ready way in which he comprehended the whole thing, each point being understood and commented on as soon as stated.

After all, are these corrections of mine, even allowing they be out of place, to use no stronger term, so very dreadful? In order to ascertain how far they influence the positions of the first twenty-four Hybrid Perpetuals in my analysis I have calculated their averages both ways, and find that eighteen out of that number would either rise or fall less than three places. Five come out the same, seven differ by one place, and the remaining six by two places.

Mr. Grahame compares my analysis with his recent Rose election. I have done the same, or rather compared his list with mine, with the following results:—Of the twenty-eight H.P.'s in his list only six fail to find places among the first twenty-eight in mine. They are as follows—Duke of Edinburgh, which is only one place below my twenty-eight; Comte Raimbaud, which has an average of only 8.7, and has

never appeared in any year in more than fifteen prize stands; Duchess of Bedford, average 9.2, highest record thirteen stands; Pride of Waltham, average 9.5, highest record nineteen stands; Dr. Andry, average 13.1, highest record twenty-one stands; and Marie Finger, average 14.0, highest record twenty-four times. It should be borne in mind, or the meaning of the above data will not be understood, that the lowest average for any variety in my twenty-eight is 16. Then as regards the twenty Teas tabulated by Mr. Grahame only three are outside my first twenty—Anna Olivier, which is only one place below them; Rubens, which is only two places below; and Cleopatra, one of the newer Teas. In these comparisons I have given in every case the actual figures without applying any correction whatever.

It will thus be seen that my analysis comes out remarkably well, even when compared with the most recent Rose election. Of course, the positions of the different varieties vary in the two lists; but then a Rose election, as usually conducted, must necessarily be only a rough and ready way of assigning places to the varieties in the tables. In his comparisons Mr. Grahame has, to my mind, reversed the usual order of things—opinions should be tested by facts, not facts by opinions.—E. M., *Berkhamsted*.



EVENTS OF THE WEEK.—The Committees of the Royal Horticultural Society will meet for the last time this year at the Drill Hall, Westminster, on Tuesday, the 11th inst. On the following day, the 12th inst., the Floral Committee of the National Chrysanthemum Society will hold a meeting at the Royal Aquarium, Westminster. As mentioned elsewhere, the annual general meeting of the National Rose Society has been postponed until the 13th inst., on which date the members will also hold their annual dinner.

— **THE WEATHER IN LONDON.**—Fogs have been prevalent in the metropolis during the past week, it being very thick in some districts on Saturday last. Sunday was hazy and rather cold, the same applying to Monday. Tuesday was clearer, but dull, and Wednesday opened similarly. No severe frosts have as yet occurred, and in suburban districts many autumnal flowers may still be seen in gardens.

— **ROYAL HORTICULTURAL SOCIETY.**—The last meeting of this Society for this year will take place next Tuesday, the 11th, in the Drill Hall, James Street, Victoria Street, Westminster, when the Fruit, Floral, and Orchid Committees will meet as usual at twelve o'clock.

— **GARDENING APPOINTMENTS.**—We are informed that Mr. W. J. Penton, for the last three years foreman at The Gardens, Rendlesham Hall, Woodbridge, has been appointed to succeed Mr. J. Deacon as head gardener to H. Harris, Esq., Bowden Hill House, Chippenham. Mr. James Anderson is leaving Airfield, Dundrum, to take charge of the gardens at Marlay, Rathfarnham. Mr. Anderson was previously for two years a foreman at Drumlanrig, N.B. Mr. Owen Roberts has been appointed head gardener and bailiff to James Tompkinson, Esq., J.P., Willington Hall, Tarporley, Cheshire.

— **OUTDOOR STRAWBERRIES IN NOVEMBER.**—Mr. John Gwynne, from near Mexborough, writes to a Wakefield paper:—"Having recently seen in the papers that Strawberries were blooming in the neighbourhood of Pontefract, I beg to enclose a specimen (fruit) that I gathered in an open lane close to the lawn in front of Hickleton Hall, the seat of Lord Halifax, on Wednesday, November 28th. The specimen in question is rather diminutive, but well coloured and fragrant, and beside it three or four other berries have set. It is an extraordinary evidence of the unseasonableness of the weather."

— **MUSHROOMS IN PEAT MOSS LITTER.**—I should be glad to know if any of your readers have been successful in growing Mushrooms in peat moss litter after coming from the stable, and if so, how they used it. I have always had abundance of Mushrooms here with horse droppings collected from straw, but have failed this year by using peat moss litter. I have a warm house with slate beds, and I had the litter fresh from the stable. There was ample heat in it at first, and the spawn ran well, but afterwards died away, and the bed went quite cold. I made another bed a fortnight after the first, but that is just the same, and I do not think we shall have a single Mushroom. The beds appear to lose their heat too quickly with the litter.—R. C. W.

— **MILD DECEMBER.**—A Sussex correspondent informs us that nothing has yet been injured by frost in his garden, tender plants, including Dahlias, Heliotropes, and others being as fresh as in summer. Roses are plentiful in some gardens.

— **NEW OPEN SPACES FOR LONDON.**—The London County Council propose to form various new open spaces in the metropolis, including one in Tottenham Court Road, and which consists of a strip of land known as Whitefield's Tabernacle ground. The other site is situated in Whitechapel, where open spaces are desirable.

— **DEATH OF MRS. MUIR.**—We regret to learn that the wife of Mr. J. Muir, the well-known gardener and bailiff at Margam Park, died on the 27th ult. Mrs. Muir will be remembered as giving a genuine Scottish reception—pleasant and hospitable—to her husband's numerous friends who have called on him during the several years he has been established at Margam.

— **DEAN HOLE IN AMERICA.**—We understand a reception and dinner were recently tendered to Dean Hole, who is now in America. Mr. Barry of Messrs. Ellwanger & Barry presided, and Mr. J. N. May of Summit, New Jersey, carried out all the arrangements. The tower of Rochester Cathedral, together with a view of the Deanery, and a Rose, were, it is said, the decorations on the *menu card*.

— **AMERICAN ALOE FLOWERING.**—At a meeting of the Royal Botanic Society held recently, Mr. Arthur Rigg in the chair, photographs of an American Aloe bearing six distinct flower spikes were shown by the Earl of Bradford, in whose garden at Shifnal the plant recently flowered. The Secretary stated that this was an unusual occurrence, the normal form containing but one spike, and that unbranched.

— **EPPING FOREST MUSEUM.**—We learn from "Nature" that the Drapers' Company have contributed £20 to the funds of the Epping Forest Museum, now being formed in Queen Elizabeth's Lodge, Chingford, by the Essex Field Club, under the sanction of the Epping Forest Committee of the Corporation of London. The museum is intended to illustrate the natural history, antiquities, and scenery of this beautiful district.

— **FLOWERS IN SUSSEX.**—"R. I." writes, "For Sussex, as in other parts of the country, the mild autumn has brought us spring flowers, and a continuance of summer flowers throughout November. Primroses are quite abundant in the woods, full pickings of Violets in the open borders, and Rose buds are still to be found in the rosery. Ulrich Brunner has been remarkably fine, and a strong plant of Madame Berard has furnished buds all through the autumn. Wallflowers are also beginning to bloom.—R. I."

— **MR. HENRY BIRCH.**—We regret to announce the death of this highly esteemed gardener, who died suddenly of apoplexy, on his return from Northampton to Castle Ashby, on November 27th. The deceased, who was forty years of age, began his career with his father at Hatherop Castle, subsequently being placed in the gardens at Sandringham; held a foreman's position at Croxteth Park, as head gardener at Waddesdon, and for the past eleven years filled that position in the noted gardens of Castle Ashby. He leaves a widow and two children to mourn his loss.

— **OX-EYE DAISIES.**—In my "Hardy Flower Notes," on page 489, reference was made to a former article in which I mentioned a new variety of Chrysanthemum maximum. I learn that this may give rise to some misapprehension, in so far that it may lead persons to think that there is only one new variety of this fine Ox-Eye Daisy, while there are at least four. In my former notes I said that several had been raised, and it may be as well to give the names of these—viz., filiformis or filiforme, laciniatum, Duchess of Abercorn, and Elaine. I said filiformis was among the best, and I am glad to find my opinion confirmed by one of our best judges of a good garden flower, who has written me regarding these flowers. With reference to the plant spoken of as being sold as C. latifolium maximum, it is possible that it may have originated in the Rev. C. Wolley Dod's garden; although I am sure Mr. Dod will repudiate the name applied to it by the vendor. It appears that the Edge Hall seedlings were raised from seed sent from Portugal, and that Mr. Wolley Dod retained only the best one of the seedlings, which has flowers 5 inches across. It is possible that the nurseryman may have obtained this Edge Hall seedling, but I am still inclined to think that those I saw in Mr. Wolley Dod's garden were finer than that sold as C. latifolium maximum—a name which I again venture to protest against.—S. ARNOTT.

— THE POMEGRANATE.—Mr. W. H. Divers, Belvoir Castle Gardens, writes:—"I notice a slight mistake on page 497, where it says this plant has fruited here this season. Such is not the case, I regret to say, although it flowered well, and the singularly formed flowers are very pretty and last well. I cannot hear of any fruits having been found here at any time, and conclude that our English climate is too cold for the flowers to set."

— DECEMBER FLOWERS IN SCOTLAND.—Our Lanarkshire correspondent writes:—"Christmas Roses, Chrysanthemums, Primroses, Daisies, Polyanthus, and Wallflowers enliven the borders in the twelfth month of the year, while Snowdrops give promise of blooms before the year is past. Bees are still enjoying themselves during the mild weather on Arabis and the aforementioned flowers. One remarkable thing is a Spider-web Sedum has this year come destitute of its tomentum."

— WHAT'S IN A NAME?—A contributor to a contemporary has been greatly disturbed by the increasing use of the word "scientist." It is usually, he says, the result of a paucity of erudition and expression which comes of the modern system of cramming with text-books and general hurry in education. Why not speak of nomenclators as "nameists," of a sempstress as a "sewist," or a conchologist as a "shellist," or we might add, a Carnation grower a "carnationist"? All these words may come into use, but are as equally out of place as "scientist." The word was apparently first coined by Whewell in 1840, in "Philosophy of the Inductive Sciences," and for some time past has frequently appeared in print.

— NATIONAL AMATEUR GARDENERS' ASSOCIATION.—The last periodical meeting of this Association for the current year was held at the Memorial Hall, Farringdon Street, E.C., on Tuesday evening last, under the presidency of Mr. T. W. Sanders. As usual, an exhibition was held in connection with the meeting, and Mr. Dipper succeeded in winning a silver cup given for the highest number of certificates granted throughout the year. We understand that the members will hold their fourth annual dinner on Wednesday evening, December 12th, at the Guildhall Tavern, Gresham Street, E.C., at seven o'clock precisely. The silver cup, medals, and prizes won during the year will be presented on that occasion.

— OLEARIA HAASTI.—This plant grows freely here, forming bushes 5 to 6 feet high and as much in diameter, and has flowered very freely this season; in fact, the plants were masses of white flowers, and stood out very conspicuously among Rhododendrons and other shrubs at a time when other flowering shrubs were over. *O. dentata* also flowered well, I believe for the first time. It is much lighter and prettier in appearance than *O. Haasti*; it flowers about two months earlier, and I am afraid is not so hardy. It has a very sweet scent, and soon ripens seed. But the gem of the family, as far as I know it, is *O. Gunniana*, a beautiful shrub when in flower, and worth a little extra trouble in the way of protection, which it undoubtedly requires, such as planting close to a south wall, and a mat round it during severe frost. I remember seeing a plant of it in Edinburgh Botanic Gardens some years since, and also had a good plant at Ketton Hall at one time.—W. H. DIVERS, *Belvoir Castle Gardens, Grantham.*

— FOREIGN GRAPES.—There is reason to hope that the low price and plentiful supply of Grapes in the English markets will not be passing privileges, as with the application of freezing processes to the preservation of fruit cargoes the supply from different parts of the world seems likely to increase. Of late, too, says a daily contemporary, in the north of France and Belgium the cultivation of choice Vines under glass has made much more rapid progress than in this country, and the famous hothouses of Jersey have now many Continental rivals in the competition for British trade. While Florida, California, the Canary Islands, and Australia are sending more fruit than ever to this country, a considerable impetus has been given of late to Vine cultivation at the Cape of Good Hope. The quality of the Grapes grown in South Africa is not likely to subject them to the same sort of criticism as that from which Cape wine suffers. The white fruit sold at Covent Garden at 1s. 6d. per pound, and the black at 2s., are said to be quite as fine as the English hothouse Grapes, which fetch more than 3s. or 4s. During the last two years steamers furnished with ice-houses have been occupied entirely in this traffic, and as the climate is admirably adapted to the cultivation it is more than probable that Grape farming at the Cape will be largely extended. Some of the existing farms are very large; one of them, on the Hex river near Cape Town, covering as much as 2000 acres.

— THE WORSHIPFUL COMPANY OF GARDENERS.—This Company dined on the 26th ult., in the Grafton Galleries, Grafton Street, Bond Street, Mr. Beaumont Shepherd, the Master, occupying the chair. Sir Albert Rollit proposed the toast in honour of the Gardeners' Company, which, he said, was doing a good work in the way of awarding scholarships and other rewards to gardeners. The Master briefly acknowledged the compliment.

— THE WEATHER IN WALES.—Mr. William Mabbott, The Gardens, Gwernllwyn House, Dowlais, Glamorgan, writes:—"The following is a summary of the weather here for the past month. Number of days on which rain fell, twenty-one; depth, 7.55 inches; maximum, 1.00 inch on the 12th; minimum, 0.01 on the 16th. Sunshine, fifty hours fifty-five minutes; sunless days, eleven. Very wet until the 22nd, since which we have had no rain, but cold east winds and sharp frosts."

— THE WEATHER IN HERTFORDSHIRE.—Mr. E. Wallis, The Gardens, Hamels Park, Buntingford, writes:—"The weather during the past month has been very mild and open. The rainfall was heavy during the first part of the month. Since the 18th the weather has been most favourable for outdoor work, particularly for planting operations. Rain fell on fourteen days during past month. Maximum in any twenty-four hours was 0.85 on the 12th; minimum in any twenty-four hours, 0.01 on the 28th. Total during the whole month, 3.14; against 1.75 of 1893."

— WEATHER IN IRELAND.—It is satisfactory to report that County Dublin is not behind in the matter of favourable weather, apparently so general over the British Isles. November had all but passed ere we received that snap, which generally reaches us in September, when, on the morning of the 28th, our thermometer registered 6° of frost, and even that seemed bereft of its usual savagery, for Dahlia blooms still hold their heads. I have just gathered a handful of spotless blooms from the Safrano Rose on the south wall, whilst self-sown Nasturtiums peep out brilliant through a Clematis on an archway. The calm and pleasant days of late are productive of some forebodings from the weatherwise, who denominate them as "pet days," a term used here to express that capriciousness of character pet subjects are supposed to possess. I shall not prophesy any serious fall of temperature until the press reports severe weather on the Continent, then we may anticipate a change.—E.K.

— THE WEATHER LAST MONTH.—Mr. W. H. Divers, Belvoir Castle Gardens, Grantham, writes:—"November was very mild, with less fog than October, and no frost worth mentioning. It was remarkable for a very low reading of the barometer—28.736 on 14th, at 4.10 P.M.; and for heavy storms of wind and rain on 12th, 13th, and 14th. The wind was in a southerly direction eighteen days. Total rainfall was 2.50 inches, which fell on twenty-four days, the greatest daily fall being 0.69 inch, on the 12th. Barometer—highest 30.290, at 9 A.M., on 30th; lowest 28.736, at 4.10 P.M., on 14th. Temperature—highest in shade 61°, on 2nd and 3rd; lowest 31°, on 24th. Mean daily maximum, 50.43°; mean daily minimum, 39.83°; mean temperature of the month, 45.13°; lowest on grass 25°, on 24th and 30th. Highest sun heat 105°, on 2nd; mean temperature of earth at 3 feet, 47.16°. Total sunshine, seventy-three hours fifteen minutes, on twenty days, ten days being sunless."

— SUMMARY OF METEOROLOGICAL OBSERVATIONS AT HODSOCK PRIORY, WORKSOP, NOTTS, FOR NOVEMBER.—Mean temperature of month, 46.0°. Maximum on the 2nd, 62.7°; minimum on the 30th, 28.8°. Maximum in the sun on the 4th, 103.0°; minimum on grass on the 30th, 20.0°. Mean temperature of air at 9 A.M., 45.4°. Mean temperature of soil at 1 foot deep, 46.0. Number of nights below 32° in shade one, on grass fourteen. Sunshine—total duration in month fifty hours, or 20 per cent. of possible duration. We had thirteen sunless days. Total rainfall 1.29 inch. Rain fell on twelve days. Average velocity of wind, 8.9 miles per hour; velocity exceeded 400 miles on three days, and fell short of 100 miles on eight days. Approximate average for November.—Mean temperature, 42.3°; sunshine fifty hours; rainfall, 2.03 inches. A dry and very mild month with a large proportion of S. and S.W. winds, and about normal sunshine. The first part was unsettled but without much rain. The last ten days were rainless. The mean temperature is the highest we have ever had in November except in 1881. An unusual absence of frosts. The mean temperature of October was 48.1°; soil temperature, 50°; rainfall, 3.36 inches.—J. MALLENDER.

— THE TOTAL RAINFALL AT ABBOTS LEIGH, HAYWARDS HEATH, SUSSEX, for November was 5.28 inches, being 1.61 inch above the average. The heaviest fall was 1.58 inch on the 11th. Rain fell on seventeen days. Nearly the whole amount fell during the first sixteen days, and for the week ending the 17th, the week of "the flood," 3.89 inches of rain were registered. Maximum shade temperature, 61° on 1st; minimum 32° on 22nd. Mean maximum, 50.21°; mean minimum, 39.29°. Mean temperature, 44.74°, which is 2.30° above the average of six years.—R. I.

— ANCIENT SPECIMENS OF PLANTS.—According to a daily contemporary, the herbarium of the Museum of Egyptian Antiquities at Gizeh contains specimens of plants five and six thousand years old. It was the custom to garnish the mummy with leaves and flowers, some of which have preserved their hue to this day. The flowers most frequently met with in the tombs are the Lotus (white and blue), the scarlet wax-like blossoms of the Pomegranate, the common red Poppy, the Crocus, and a Chrysanthemum (*Chrysanthemum coronarium*). Saffron, Celery, the Onion, and the Leek are also found buried with the dead.

— THE RICHMOND ALLOTMENT HOLDERS' ASSOCIATION.—Realising that the local Horticultural Society's show was held too early in the summer to suit the allotment holders, and being anxious to promote a spirit of emulation, the above Association last year organised a special exhibition of produce from the allotments, and it proved to be a great success. Rendered ambitious by that success, the Association is already actively engaged in preparing its schedule for next year, and in addition to some good special prizes offered by eminent seed firms, have secured from Messrs. Cannell & Sons of Swanley one of their handsome county scarfs, with good money prizes, which will be open to cottage garden and allotment associations only in the county of Surrey, for collections of garden produce. This should create exceeding interest, and is thus specially referred to because it presents for the first time, at least in the county of Surrey, a really county competition. If public spirit be in other districts as in Richmond, a severe contest ought to be furnished. It is a description of contest we should best like to see promoted by so important a body as the County Council, but expenditure in that direction may be outside their functions. If that be so, then all the more heartily should be welcomed the offers of outsiders, even if but seedsmen. A similar competition has in Kent already been instrumental in provoking very great interest and keen competition.—D.

— LOPPING OVERHANGING BRANCHES—LEMMON v. WEBB.—This appeal from a judgment of the Court of Appeal involved a question as to whether the owner of land is entitled to cut off the branches overhanging his land of trees growing upon the land of an adjoining owner, and came before the Lord Chancellor, Lord Macnaghten, and Lord Davey at the House of Lords last week. Mr. Warrington, Q.C., and Mr. R. F. Norton appeared for the appellant; and Mr. Crackanthorpe, Q.C., and Mr. T. Ribton for the respondent. The appellant, Thomas Warne Lemmon, is the owner of an estate called Ewhurst Place, near Guildford, which is bounded on the south by an estate called Malquoits, belonging to the respondent, Walter Webb. On the southern boundary of the appellant's estate there were many trees, some of considerable age, which overhung a lane or roadway on the respondent's estate, and forming a means of access for carts and waggons to a farmyard. The respondent, without notice to the appellant, cut off and trimmed some of the overhanging branches, which he said interfered with the user and enjoyment of his property. Thereupon the appellant commenced an action for a declaration that the respondent was not entitled to do this, for an injunction, and also for damages for trespass. Mr. Justice Kekewich held in effect that the branches which overhung the respondent's land and interfered with his property constituted a "nuisance of omission," it being negligence on the part of the appellant to allow the branches to overhang the land, and that the person suffering the nuisance was entitled to abate it, but only on giving notice. As no notice had been given, his Lordship held that the cutting was wrongful, and gave judgment for the appellant for £5 damages, and costs. The Court of Appeal, however, reversed this decision, and gave judgment for the respondent, but having regard to the obscurity of the law as to notice made no order as to costs. Hence the present appeal. The contention on the part of the appellant was that the branches could not be cut off without his authority, and that the judgment of Mr. Justice Kekewich was, in fact, correct, because the respondent gave no notice before cutting off the branches. Their Lordships, without calling upon the counsel for the respondent, upheld

the judgment of the Court of Appeal, and dismissed the appeal. They were of opinion that notice was not a necessary step before proceeding to abate the nuisance. Appeal dismissed accordingly, with costs.

MR. WILKS AND THE JOURNAL OF THE ROYAL HORTICULTURAL SOCIETY.

I HAVE received so many marks of sympathy and kindness from so many of the Fellows of the R.H.S. during my long and trying illness that I am loth to ask them (if you will allow me to do so through your columns) to grant me still one more indulgence, but it is necessitated by my past illness.

I am not without hope that the ordinary work of the Society (thanks in a great measure to the diligence of the Assistant Secretary) has not suffered much from my compulsory absence at times, but unfortunately the one department which I keep more especially in my own hands, the Journal of the Society, has fallen somewhat in arrear, whilst at the same time the amount of "matter" for it is unusually heavy, so much so that I find it quite impossible to publish the whole of it at Christmas. I have therefore obtained the consent of the Council to publish the Hardy Tree Conference and Crystal Palace Fruit Conference Reports at Christmas and to defer the ordinary volume of the Journal till March 1895. I venture, therefore, to ask this further kindness of my horticultural friends—viz., that they will endorse the consent of the Council and will grant me the further ten or twelve weeks for the editing of the remaining portion of volume xvii. of the Journal. The reports of the two conferences are in the printer's hands and will be issued as volume xviii. at Christmas or New Year without fail.—W. WILKS, *Secretary R.H.S.*

[It would have been impossible for any man to have done more than Mr. Wilks has under the circumstances in question, and few would have striven to do so much. His stout heart has sustained him, and Fellows of the R.H.S. who know the particulars of the case will willingly wait for the issue of the work in the hope of its editor's complete recovery.]

THE HERBACEOUS BORDER.

THE time has now arrived when the occupants of the herbaceous border will need overhauling. Especially is this so when the borders have been undisturbed for several years, and great masses of the varied rhizome-rooting plants have assumed huge dimensions, overgrowing their weaker brethren in the struggle for supremacy. A word on the re-arrangement of such, with a short list of the most useful varieties for cutting and other purposes, may not be out of place in these columns, for nothing to my mind is so interesting, instructive, or so useful as a well kept herbaceous border.

In the first place it will be necessary to lift all the plants possible out of the border, many of them by this time having died away or have been cut down. These may all be placed in their species conveniently near the scene of operation, and covered with mats or litter to prevent the roots drying. Such plants as *Helleborus niger* and its varieties that bloom from now onwards would be best undisturbed, also such as *Gentiana acaulis*, *Hepaticas*, and others that are very impatient of root disturbance, need not be removed unless absolutely necessary. The same remark applies to *Snowdrops*, *Crocuses*, *Scillas*, and other bulbous plants that flower in midwinter and early spring. These are best planted afresh as soon as they have gone to rest after flowering. Supposing all these unseen (as yet) plants are properly marked, i.e., their whereabouts defined, the next operation is to apply a dressing of good decayed manure or leaf mould if the soil is at all heavy. Nothing is better than the decayed leaves and manure of an old hotbed. This should be well incorporated in the border, a fork being the best implement in case of any bulbs being disturbed, a spade often cutting these in halves if carelessly used. All stray roots and weeds should be picked out, and the border dug so as to slope to the walk. I would also advise a number of neat but durable labels or short stakes to be prepared for placing as a mark, or the name of the plants as they are planted, otherwise much confusion may arise. Some of the plants will require a special preparation in order that they may thrive, but this will be understood as not applying in a general sense to the requirements of the bulk of the occupants of the border.

We will suppose the border to be 10 feet wide, and in arranging the plants some regard to the height of the various plants must be observed. For instance, all plants 6 to 12 inches high ought to be planted 1 foot from the edging; those from 1 to 2 feet high a yard or so from the edge, and so on in like manner until the tallest growers of from 5 to 6 feet find a place at the back of the border. For placing as a background, all tall and strong growers can be selected from the following, their heights averaging 4 to 6 feet or more:—*Telekia speciosa*, yellow; *Helianthus multiflora* and varieties; *Verbascum formosum*, yellow; *Thalictrum rugosum*, yellow; *Delphiniums*, all shades from purple to palest blue, magnificent plants for effect. *Aster novæ-angliæ* and varieties make fine masses for the background with their reddish purple flowers, and the *Everlasting Pea* (*Lathyrus latifolius*), with rose coloured flowers, is a very welcome plant, but requires support when growing. *Pyrethrum uliginosum*, with large Daisy-like flowers, is also a very conspicuous plant.—GEO. DYKE, *Stubton Hall Gardens*.



CHRYSANTHEMUM OWEN'S CRIMSON.

COMPARED with the Japanese Chrysanthemums the true incurved kinds are by no means so popular with the general public. Neither are new varieties of them so abundant, but when one of merit is brought forward it usually receives some attention from specialists. As has been pointed out in these pages, many of the recently introduced Japanese

A CHRYSANTHEMUM YEAR BOOK.

AS was announced by the Chairman at the annual dinner of the National Chrysanthemum Society, and a report of which appears elsewhere in this number, a Year Book will be issued by the Society early in January. Under the editorship of Mr. C. Harman Payne this work will doubtless contain much useful information for Chrysanthemum growers, and its publication is being looked forward to with a great amount of interest. We understand that the portrait of Sir Edwin Saunders, President of the National Chrysanthemum Society, will be published on the cover of the book, and among other interesting items an illustration of the champion challenge shield will be issued with the contents.

FLORAL COMMITTEE MEETING—CERTIFICATED CHRYSANTHEMUMS.

THE Floral Committee of the National Chrysanthemum Society held a meeting at the Royal Aquarium on Tuesday last, Mr. R. Ballantine



FIG. 81.—CHRYSANTHEMUM OWEN'S CRIMSON.

and Chinese incurved varieties bear such a close resemblance to each other that even experts have been misled in distinguishing them before developing their characteristics. Thus it is that we have now what a correspondent described as "the missing link" type. Mr. Owen, Castle Hill, Maidenhead, informs us, however, that the bloom depicted in the illustration (fig. 81) is a true Chinese incurved, and as such it was certificated by the National Chrysanthemum Society on the 21st ult. When shown by Mr. Owen, by whom it was raised, at the Drill Hall, Westminster, on the 27th ult., the Royal Horticultural Society likewise adjudged an award of merit for this variety. The flower is of the old show type, with long and broad florets, and dark crimson colour. We understand that the plant is a good grower, and the crown buds should be "taken," the terminals not producing such deep blooms. The engraving was prepared from a bloom produced by a terminal bud, and supplied to us by Mr. Owen.

being in the chair. For so late in the season there was a large number of novelties presented, but many of them were inferior in quality, although of good size. New Chrysanthemums nowadays must not be rough or coarse, and exhibitors at the floral meetings would do well to bear this in mind. The principal collections came from Mr. C. E. Shea, Mr. E. Beckett, and Mr. R. Owen, and first-class certificates were awarded as under:—

La Meije.—A noble looking Japanese, very deep, compact, and globular. The florets are rather narrow, curly, and intermingling. Colour pure white. Exhibited by Mr. W. H. Lees.

Mrs. R. C. Kingston.—This is an incurved variety of the old show type. The blooms are large and deep, the florets good but slightly notched at the tips. Colour rosy blush passing to white towards the centre. From Mr. C. Lawton.

Pride of Swanley.—A very large Japanese with long drooping florets forming a globular flower. The florets are close and compact and of medium width. Colour pure white. Messrs. H. Cannell & Sons were the exhibitors.

Madame Rozain.—A large, broad Japanese incurved variety with rather narrow grooved florets. The colour is a deep silvery rose. This variety has been in commerce several seasons, but seems to have escaped the attention of exhibitors. Shown by Mr. R. Owen.

Several other good flowers were staged; Lekhona, a Japanese with pale yellow lemon florets, and M. le Ministre Leon de Bruyn, of a similar shade, being very attractive. Mr. H. Broomhead, a Japanese incurved, colour golden buff, was shown by two or three exhibitors. Dolly, a small yellow Pompon, was commended, as was C. Lawton, a Japanese with long fluted florets, colour amaranth tipped white.

Votes of thanks were accorded to Mr. W. Wells and to Mr. R. Owen for their collections.

ESTIMATE OF NEW CHRYSANTHEMUMS.

CONTINUING my notes from page 498, the following Japanese varieties are all worthy of attention by cultivators generally, and exhibitors especially.

Golden Beauty.—The florets of this are narrow, pale bronze yellow, fading to old gold, centre chestnut shaded. A full and promising flower, dwarf, sturdy habit of growth.

H. L. Sunderbruck.—This American-raised variety has long loose florets, perhaps a trifle too loose to please all present day cultivators; still it is a grand yellow-flowered Chrysanthemum, and one that should be in the hands of all exhibitors.

Henri Jacotot, fils.—Chestnut bronze with a rich crimson shaded surface; the incurving florets are broad with a reverse gold.

Pearl Beauty.—This I noted last year, and it has been extensively shown this season. It belongs to the incurved section, and all who are interested in this type should add it to their list as it is a fine companion to Louise, one of the best of its class.

Mrs. E. G. Whittle.—This variety was sent out last year by Mr. H. J. Jones, and it has quite come up to expectations. The colour is best described as a deep blush, or very soft pink. The florets have at times a peculiar twist.

Madame Adolphus Chatin.—This is sometimes known as Ada Chatin, and is an incurved Japanese. The florets are of the purest white, exceptionally full in build; one of the best of this type.

Madame Carnot.—This reminds one very much of Madame C. Molin in the formation of its florets, but is superior to that variety. The colour is pure white, the florets narrow, drooping and pleasing in the way that they intermingle with each other.

Duchess of York's Favourite.—The ribbon-shaped florets are bronzy red on the surface, with old gold reverse.

J. Bidencrope.—This variety was well shown by Mr. R. Owen in November. The colour is purple amaranth, reminding one very much of Madame de Sevin, but vastly improved.

Guirlande.—One of Lacroix's introductions. The florets are broad, after the Etoile de Lyon style when in its best form. The colour rose pink, fading off to blush; a full and deserving variety.

Belle Arlesienne.—A seedling from Mrs. Alpheus Hardy, and was raised by Sautel. It possesses in a slight degree the hirsute appendage of its parent. The colour, blush and rose, is very pleasing.

Mrs. C. Payne.—A seedling obtained from Robert Owen, retaining the incurved floret of its parent, the inside of which is bright red, the reverse dull gold.

Ernest Cannell.—This belongs to the incurved Japanese section, and is decidedly promising. The ground colour is old gold suffused with bronze.

Duchess of Wellington.—This belongs also to the hairy section, although in but a small degree. The centre of the flower has incurving florets until fully expanded; the lower ones are long and drooping. In colour a pure golden yellow, and deserving of attention by all.

Inter Ocean.—One of Mr. E. G. Hill's seedlings, and promises to take a high position among exhibition varieties. The florets are slightly forked at the tips; the colour is pleasing, rose mottled white. In build the flower resembles Vivian Morel.

Eugène Daillédouze.—This is an incurved Japanese, and has gained a great reputation in America. The colour, bronze yellow, is suffused with chestnut; very interesting, full and promising.

Theodore Bock.—Another American-raised seedling. In form it somewhat resembles A. H. Neve, but has more massive florets, white, with just a tinge of lilac about its base.

Mrs. W. H. Godfrey.—An English-raised seedling from Mrs. Alpheus Hardy, possessing all the character of that favourite, but with the salient points so much intensified. The flower itself is decidedly larger, the individual florets more massive, while the colour is the purest white. The habit is desirable in every respect, being dwarf and sturdy. I regard this as much the best in this section.

Le Ministre Le Bruyn.—The florets are long and narrow, yellow, faintly edged and mottled with crimson.

Lady Northcote.—A seedling raised by Mr. Godfrey, has an immense flower, the florets flat or strap-shaped. The base colour is white faintly mottled and striped purple. In growth but 4 feet. A promising variety.

Jules Chrétien.—An incurved Japanese; the colour claret, reminds one so much of Lord Derby. The florets twist a little; a full and deep flower, and one worthy of attention.

Golden Gate.—This was sent out last year, but not seen in very good condition. It belongs to that class of yellow-flowered varieties that must become popular. The florets are flat, of medium width, the colour rich yellow with a bronze suffusion about its base.

Mrs. W. H. Lees.—This is a massive-flowered variety, the florets long and drooping, with a curl at the tip. The colour is white with just a tinge of pink about its base. Later-developed blooms show the colour more intensely. It must not be "taken" too early, or the blooms are apt to be loose and not filled up properly. When developed from a late crown bud it is one of the finest Japanese Chrysanthemums we have.

Mrs. Jeremiah Colman.—An incurved Japanese; the florets creamy white faintly striped lilac; large and promising. An American seedling.—E. MOLYNEUX.

CHRYSANTHEMUMS OUTDOORS.

MAY I briefly express appreciation of "A. D.'s" remarks on page 498? Several varieties are still in flower outdoors to-day (December 3rd), and this in the south-east of Kirkcudbrightshire. The Pommpons and reflexed varieties are the best, but even incurved flowers stand the weather better than the Japanese. Unfortunately those grown in this district in the open ground are mostly unnamed, but several seem to be as easily grown as any hardy herbaceous plant.—S. ARNOTT.

CHRYSANTHEMUM MRS. JOHN GARDINER.

I ENCLOSE a bloom of Mrs. John Gardiner, a variety of my raising last year. This bloom was cut on November 13th, and shown at several exhibitions; but I think it is not sufficiently known considering what a good variety it is. Perhaps you will be kind enough to make it better known through the medium of the *Journal of Horticulture*.—ROBERT OWEN.

[The bloom sent is a very fine one, large, and of good depth. The florets are broad and long, incurved regularly, yellow in colour, suffused bronze, making a beautiful flower.]

HORNSEY AND DISTRICT CHRYSANTHEMUM SOCIETY.

THE annual distribution of prizes took place at the National Hall, Hornsey, on the 4th inst. The President, H. R. Williams, Esq., occupied the chair, and was supported by C. Bird, Esq., M.C.C., Courtney Page, Esq. (Hon. Secretary), R. H. Davies, Esq. (Hon. Treasurer), and Mr. T. A. Newman, the Secretary and Superintendent of the exhibition. The Secretary reported that the show held on November 8th and 9th was a very successful one, and also that the Society was financially better off than last year. The President said it was very encouraging to see the interest taken in the Society, and proceeded to distribute the silver medals and prizes.

The annual meeting of the Society will take place at the National Hall, Hornsey, on January 16th, 1895, and the sixth annual exhibition will be held in the same place on November 7th and 8th next year.

ALLEGED PARTIALITY IN JUDGING.

HAVING been the recipient of some uncalled-for remarks respecting the adjudication of the first prize, class 15, six Japanese blooms, any variety, at the late Kingston-on-Thames show, at which I was one of the judges, I ask space in your valuable paper to reply to the same. The prize was awarded to six blooms of E. Molyneux, and as Mr. E. Molyneux was one of the judges, it has occurred to some peculiar minds that undue preference was given to the flower bearing his name. I am able to say that in this particular case Mr. Molyneux refrained from taking any part in the judging, and that the award was made by myself and my colleague, Mr. Douglas. I am pleased to make this fact public, and to state that I have never been called upon to meet a grower, and an old exhibitor, of stricter fairness and impartiality as a judge than Mr. E. Molyneux.—W. DROVER, *The Nurseries, Fareham*.

[Does it not occur to individuals who attribute unworthy motives to others that they rather betray themselves? The idea suggested *re* Mr. Molyneux the judge, and Edwin Molyneux the Chrysanthemum, is ludicrous.]

CHRYSANTHEMUMS AT THE GLASGOW BOTANIC GARDENS.

LAST year, Mr. Dewar, the curator of these gardens, instituted a "Chrysanthemum Day," which was much appreciated by many of the Glaswegians, as was the second annual "Chrysanthemum Day" recently held. It was a distinct success, and showed in every respect a marked advance on last year's exhibition, both in the quality of the flowers and in the increased number of visitors. It was computed that no fewer than 30,000 persons visited the Kibble Palace in two days.

The following, among the 300 varieties shown, were particularly fine—Sunflower, Wm. Tricker, Etoile de Lyon, very large; Bouquet des Dames, Beauty of Exmouth, Vivian Morel, and Mrs. Irving Clarke. Of the incurved varieties, John Doughty, Mr. Bunn, Mons. R. Bahuant, Empress of India, and Lord Alcester were noticeable. The Anemone varieties were best represented by Lady Margaret, Miss Annie Corrie, and Glück. The effectiveness of the single varieties were admirably shown in bush plants of Scarlet Gem, Gus Harris, Madame Le Mont, and Miss Rose. The community highly appreciate the efforts of Mr. Dewar and the amount of skill and care necessary to produce such a grand display.—G. R.

THE SIZE OF EXHIBITION BOARDS.

YOUR correspondent "Lex" in his letter on page 500 put a construction on my reply (page 450) to Mr. Wells that is misleading. According to "Lex's" quotation I am made to say that "Rule 8 of the Kent County schedule definitely states that the boards shall be

24 inches long and 18 inches wide." but this is what I did not do. The point raised by Mr. Wells was "What is the metropolitan plan?" and in my reply I said if Mr. Wells had read the whole of regulation 8 he would have known, as the regulation definitely stated what that plan was, and I quoted the regulation. For my part I think most exhibitors would construe the committee's request to be a command in the same way that a gardener would not refuse to do anything if requested to do so by his employer because that employer did not command him to do it. I think Mr. Wells was rightly disqualified in that he infringed the regulation.

The regulation 8 of the Battersea Society in respect to the boards is very definite, the regulation reading "Every exhibit must be correctly named (groups excepted); stands for twelve blooms must be 24 inches long and 18 inches wide; for six blooms 12 inches long and 18 inches wide; the holes must be 6 inches apart from centre to centre, and each board must be 6 inches high at back and 3 inches in front, and painted green; two 'six' boards may be used for exhibiting twelve blooms, and two 'twelve' boards for twenty-four blooms. No cup or wire support shall exceed 3 inches in diameter."

I may state for "Lex's" benefit that affiliated societies are not bound to accept the National Chrysanthemum Society's regulation as to discretion in the size of boards for Japanese blooms, the National Society very wisely, as I think, allowing societies to make their own regulations. I quite agree with "Lex's" last paragraph.

With respect to Mr. H. Osmán's suggestion (page 500), of inserting a clause in schedules giving exhibitors the option of showing Japanese blooms or larger blooms, I think it a very good one and well worth the attention of committees of societies when framing their schedules for the season of 1895.—R. FILKINS, *Oakbank, Chislehurst*.

THE TEIGNMOUTH DISQUALIFICATION.

WE note in last week's issue of the *Journal of Horticulture* (page 498) Mr. Herrin's remarks *re* Beauty of Teignmouth and Duke of York Chrysanthemums. He says that the slight difference in the colour of the two blooms was due to the fact that Beauty of Teignmouth was a younger bloom. So far from such being the case, we know that the bloom shown at Exeter of Beauty of Teignmouth was shown at Teignmouth eight days before, and was in fine condition a week previous, whereas Duke of York was only cut the day before the Exeter show. Notwithstanding this, the variety we introduced was much firmer and brighter in colour. Anyone seeing the two varieties growing together would at once acknowledge them to be distinct. When one notes the slight difference in many of the existing varieties, we fail to see what right the Judges had to disqualify Mr. Foster on the ground of having two blooms of the same variety in his box. As Mr. Herrin's remarks have been published, we hope you will, in fairness to Mr. Foster and ourselves, make room for this.—W. HANNAFORD & SON.

MR. HERRIN of Dropmore, in your issue of the 29th (page 498) states the bloom exhibited at Exeter show as Beauty of Teignmouth was a young bloom of Duke of York. This very much intensifies the mystery already connected with this award, for the bloom of Beauty of Teignmouth exhibited at Exeter had already been exhibited at Teignmouth show, having been cut a week, while that of Duke of York required several days longer to perfect, as although placed in warmer house for several days before Exeter show it still showed green petals in centre when staged. Where are we getting to, if two varieties altogether different in habit, floret, and colour, and one a month earlier than the other, are to be pronounced identical?

Beauty of Teignmouth on the crown is of a purplish-maroon with reddish-cream reverse, spoon-shaped tips, crown 4 feet 6 inches, terminal 6 feet, foliage sharp; Duke of York clear deep rose, silvery rose reverse, rather pointed tips, crown 6 feet, terminal 7 feet to 7 feet 6 inches, foliage oblate. Beauty of Teignmouth on the terminal is more purple than the crown, and has a sharper petal, but the difference is at the same time clearly discernible. I saw both these plants and blooms before the latter were cut and after staging, and feel sure either the hurry or the light must have misled so competent a judge as Mr. Molyneux, as neither the plants, blooms, nor grower were at fault.—GEORGE CRABBE.

[We have already said on page 468 that the plants sent to us were dissimilar both in colour and foliage, but they were "late struck" plants, and not those which afforded the blooms exhibited. Had they been sent without names we should have regarded the one named Beauty of Teignmouth as Duke of York, from the colour being similar to all the blooms of the latter we have seen exhibited. We have not observed any so pale as those on the plant named Duke of York, but the blooms were not a quarter developed. We are informed that when typical blooms of both varieties were placed before the Floral Committee of the National Chrysanthemum Society they were considered "too-much-alike," and it is said that Mr. Hannaford has practically acquiesced in that opinion, while claiming distinctness in other respects, such as habit of plant and persistence of bloom in Beauty of Teignmouth. Undoubtedly, for the purpose of exhibiting in stands, it is a question of the blooms staged being distinct, and as such clearly recognisable, apart from the habit of plants and foliage, which are not before the Judges. Are the blooms alone of the two varieties sufficiently dissimilar to be regarded as "distinct" for exhibition stands? The N.C.S. experts, judging from the specimens before them, appear to have thought not, and further experience seems necessary for settling the point at issue. The Judges who

officiated at Teignmouth are competent and cautious men, and differences which they failed to see could scarcely be very glaring. Moreover, both are strong enough to admit a mistake if another season's experience satisfies them or the Committee of the N.C.S. that the varieties are not too much alike for exhibiting in cut bloom classes.]

REPORTS OF CHRYSANTHEMUM SHOWS.

AS one who takes an interest in exhibiting, permit me to congratulate you on the many reports of Chrysanthemum shows which have been published in your pages during the last four or five weeks. In the four issues of November I have counted as many as seventy-four reports, and these cannot fail to have interested numerous readers. No doubt there are many persons who would prefer other matter to a report of a show, which must necessarily be more or less of a stereotyped character, but most exhibitors like to see a reference made in the public Press to their productions. In connection with this, too, I should like to say that secretaries of Chrysanthemum and other horticultural societies which provide open classes obviously find it an advantage to announce the terms and dates of their respective exhibitions through the advertisement pages of a well-known gardening paper, such as the *Journal of Horticulture*, of which I am an old reader.—CHRYSANTHEMUM.

No doubt readers of the *Journal of Horticulture* will feel some relief on finding that the season of Chrysanthemum show reports is close at hand. To the conductors of gardening papers reports are matters of almost cruel necessity, as everyone concerned in a show likes to have it reported, and there is often very much taking of offence if such reports be not published. Of course the report may interest only a very few persons, but then so many reports interest so many persons; hence perhaps the chief excuse for their publication. All the same, so much alike are the schedules and the shows that a report of one reads, less the names of the competitors, like to a report of twenty others.

After all it is a trial which ordinary readers can manage to endure as it is of short duration, whilst so many persons are gratified. But it is not so much the pleasure or pain to readers that the multiplication of show reports in the *Journal* may give as is the evidence they afford of the wonderfully widespread range of shows, and the remarkable hold the Chrysanthemum has upon the public at large. Is it possible to obtain a complete record of the Chrysanthemum shows held in Great Britain and Ireland now in each autumn? I think it is very likely to be found they will number 200 at least. I counted in one list no less than sixty-six held in one week alone, and that may have been for that one week a very incomplete return.

It would also be very interesting could we learn how many new shows come into existence each year, and how many die out. Perhaps the Executive of the National Chrysanthemum Society might be able to give this information. Certainly it would present a table quite as interesting as is found in a flower analysis, and much other information relating to the Chrysanthemum, that is from time to time published. We might even go farther and obtain some return as to the total amount offered as prize money at Chrysanthemum shows, and still farther, the total annual expenditure. It is very probable that such a return would show some remarkable figures.

It is sometimes asked whether it is the dog that wags the tail or the tail moves the dog. In the same sense it may well be asked whether the exceeding fondness for the Chrysanthemum in a locality led to the formation of a local society and show, or whether the show was the chief instrument in creating the popular taste for Chrysanthemum culture. No doubt both acts and reacts, and it is very probable that shows have sprung from both causes. One result which may flow from a carefully compiled return of the number of shows annually held would be that we should have an excellent guide in following the fortunes of the flower, whether it ebbed or flowed, waxed or waned.

The next satisfactory feature about the existence of so many shows is that they seem to have come into existence very gradually. Practically they have been the growth of half a century, as the first real Chrysanthemum show is reported to have been held in Norwich so long ago as 1830. Although we do know that growth has been gradual, still we know very little as to its rate, and that is certainly worth knowing. Changes and variations, too, are worth reporting in classes and features.

No doubt the chief change, perhaps the greatest likely ever to be made, resulted from the introduction of the wonderful Japanese varieties, and very happily so, as it seems so doubtful whether the popularity which now attends upon Chrysanthemums could have long endured had it only formal, stiff, and uninteresting incurves, reflexed, and Pompons to subsist upon.

Apart from the fully recognised fact that the Japanese on the show boards have been the saving graces to exhibitions, the newer ideas respecting their adaptability for decorative effect seems likely to spread widely, and perhaps in time effect changes in our Chrysanthemum exhibitions that cannot be lightly estimated. It does seem most improbable, let these shows be ever so popular, that the old formal or stereotyped methods of showing blooms can go on for ever. Even of the most beautiful of sights the appreciative public tire in time, unless some new attractions be furnished. The most popular and long-lived of shows will very likely be those whose promoters realise so much and act accordingly. Whatever may be the ultimate product, at least the Chrysanthemum remains as the only flower that ever has created such profound interest and such a legion of exhibitions.—A. D.

NATIONAL CHRYSANTHEMUM SOCIETY.

ANNUAL DINNER.

THE social gathering which the members of the above-mentioned Society hold annually is always a pleasant ending to the Chrysanthemum season, and that which took place at Anderton's Hotel, Fleet Street, E.C., on Thursday in last week, was no exception to the rule. Sir Edwin Saunders, President of the Society, occupied the chair, and he was supported by a large company, about 150 sitting down to the tables. Amongst those present were Messrs. Coles-Child (President of the Bromley Chrysanthemum Society), H. Briscoe-Ironside, Forsyth, P. Waterer, J. Halse, R. Ballantine, C. E. Pearson, J. W. Wilkinson, C. Harman Payne, H. J. Jones, G. Gordon, B. Wynne, T. W. Sanders, D. B. Crane, H. A. Needs, J. H. Witty, S. Mortimer, J. W. Moorman, with other numerous supporters of the Society. The tables were beautifully decorated with flowers and plants, supplied by various friends, a liberal supply of fruit for dessert also forthcoming from similar sources. As usual, the arrangements were carried out in a most efficient manner by the Honorary Secretary, Mr. R. Dean, to whose energies the success of the dinner may be accredited.

Sir EDWIN SAUNDERS, after the customary patriotic toasts had been duly honoured, in proposing the toast of "The National Chrysanthemum Society," said:—Again we are privileged to meet together in celebration of the annual festival of our Society, and to felicitate ourselves on the amount of useful work accomplished since we last met in carrying out the objects for the promotion of which the Society was constituted. Since January last 118 members and nine Fellows have been added to the muster roll, and eighteen societies have become affiliated—a very gratifying and encouraging proof that the National Chrysanthemum Society is not only fulfilling the expectations originally formed of it, but is steadily growing in influence and power. The number of members now upon the books is 734. Losses are sustained annually through deaths and removals, and some decline to continue subscribers, but the flowing tide of increasing membership reaches to a higher level year after year. The societies in affiliation appear to greatly appreciate the privileges they enjoy; the parent Society is often able to be extremely useful to them in various ways, and the attendance of representatives of affiliated societies at the meetings of the General Committee is very satisfactory. (Hear, hear.) The exhibitions held in October and November were in each instance worthy of the Society, and with the single exception of the incurved varieties, which were not seen at their best owing to the incidence of the season, all the types of the Chrysanthemum were well represented. Such an exhibition of illustrations of the decorative value of the Chrysanthemum was never before seen in London, and called forth the warmest encomiums from the daily and gardening Press. (Cheers.) The preparation of a Year Book or annual, which is to be published on January 1st, marks a new advance upon the part of the Society, and the Committee may be congratulated on entering upon an enterprise likely to be very popular in the Chrysanthemum world. These are but a few among other matters of interest which have engaged the attention of the Society, which appears to be making progress in every direction, and is now the leading special floricultural Society whose base of operations is in London. (Applause.) Considering the lack of sunshine which had characterised this year, it was a matter of surprise that such beautiful blooms had been staged at the exhibitions. In connection with this a table indicating the hours of sunshine that had been automatically registered in the gardens of the Royal Botanic Society in 1893 and the present year would be interesting. This read:—

1893.			1894.		
	Hours.	Minutes.		Hours.	Minutes.
January	12	30	January	34	20
February	40	23	February	59	46
March	116	16	March	118	48
April	193	34	April	103	51
May	199	46	May	150	50
June	196	23	June	145	25
July	163	2	July	152	22
August	203	30	August	121	26
September	131	56	September	85	7
October	111	58	October	41	1
	1374	18		1012	56

Even if we had been unable to report any considerable increase during the past year, continued Sir Edwin, we should not have felt discouraged, for in societies as in commercial enterprises, progress is not to be looked for as continuous, but as subject to periodical remissions, like the incoming tide on the seashore, where an all-conquering wave seems to rush on, carrying all before it, and reaches a higher level than any yet recorded; but which is not maintained at that altitude, being borne down again by the backward rush of the retreating waves. Such has been the experience, as we all know, of too many large industrial organisations during the past two years, and not a few, it is to be feared, have been swept away by the swirl of the back-rushing waves of excessive competition, over-production, strikes, and the perpetual recurring and disastrous conflicts between capital and labour. But as in the physical world, there is in the rising tide a real advance notwithstanding an apparent recession; so in the social and commercial world there is in the sum total a real advance in prosperity which more than compensates the temporary depression. Happily there are not wanting signs of a good time coming in the financial and commercial world after a prolonged period of suspended animation, from which, however, our society has been fortunately free. Reverting to the November

exhibition of the Society, he thought no one could have visited it without noticing the great variety of flowers, the splendid Zonal Pelargoniums from Swanley being particularly brilliant. (Hear, hear.)

Flowers, he might observe, represent the poetical side of human existence. They cannot be said to be necessary—as light, air, and water are necessary—for physical existence. But man doth not live by bread alone, and when the intellectual side of humanity begins to assert itself, flowers play a very important part; in religious festivals, in national triumphs, in state ceremonies, and no less in the great events of individual life—birth, marriage, and death. In ancient times they have been the crown and glory of the victorious warrior, the brilliant orator, the successful statesman, the inspired poet, and in our own day they confer an added charm and a new grace to those great gatherings of distinguished men and beautiful women which give animation and colour to modern society. Everywhere they diffuse their fragrance, and raise pleasurable emotions by their beauty of form and colour. (Hear, hear.) The appreciation of flowers and their cultivation belong essentially to a high state of civilization and refinement of manners, and their appreciation will be in exact ratio to the stage of civilization attained by a people. They are and always have been used in all countries and at all times as symbols of courtesy and affection, or of tender remembrance. They are employed as ornaments in all costly fabrics of the loom, in works of art in silver, bronze, and marble, in china, in the decoration of our furniture, our houses, our palaces, and our temples. Indeed, we might well ask, where would art be if it were not for the suggestions, the inspiration, and the uses of flowers? Have we not all felt how the enjoyment of a concert is enhanced where there is a liberal floral display? May we not say that the floral display at our own board has added immeasurably to our enjoyment to-day? But flowers have also always been the delight and inspiration of poets of all ages. What would our poetry be if deprived of the images, the ideas, the symbols and emblems, the graces of thought and expression to which they give rise? And what would this world be without flowers—flowers that abound everywhere, in peaceful and fertile valleys, in primeval forests and wild uplands, amidst alpine mountain ranges, as well as in low-lying pestilential swamps that give rise to miasma, fatal alike to health and life? Can we imagine a dull, prosaic earth, without a blade of grass or group of wild flowers to relieve its sad and dreary monotony? The poets have been fond of comparing flowers to the stars, and we could as soon realise the world bereft of flowers as the darkly blue vault of night with all its myriad sapphires blotted out. What a dreary waste! what a blackness of despair! Longfellow had seized, appropriated, and amplified this thought in his beautiful lines:—

"In wild and cultured places, and in all seasons,
Flowers expand their light and soul-like wings;
Teaching us by most persuasive reasons
How akin they are to human things."

Having recited a few more verses from the American poet, Sir Edwin concluded his speech with a quotation from Wordsworth's poems. (Applause.)

Mr. H. BRISCOE-IRONSIDE rendered the toast of "The Affiliated Societies," and in doing so spoke of the advantages accruing to provincial and other societies through affiliation. He said that since March last twelve societies had become connected with the N.C.S., and at the present time they had no less than 111 affiliated societies, one of the last being a society in South Australia. Each affiliated society had the power to send a delegate, who was entitled to speak at the meetings of the parent society. This, he was happy to say, had been appreciated, and, moreover, they were indebted to many valuable suggestions which some of the delegates had made. (Hear, hear.) By affiliation growers in the country were kept in touch with the National Chrysanthemum Society and all advances made with it. With regard to the class for forty-eight blooms at the November exhibition, and open to affiliated societies, he considered this one of the principal classes, because it was a combined one of Japanese and incurved flowers. It appeared to him that the combined classes tried the powers of growers better than the others. In this class alone at the recent exhibition nearly 200 flowers had to be pointed, and they knew that the chief honour was won by the Bromley Society. He was happy to see Mr. Coles-Child present, and hoped they would have the good fortune to see him elected a Fellow of the National Chrysanthemum Society. (Cheers.)

Mr. COLES-CHILD, in responding, said that as President of the Bromley Chrysanthemum Society it seemed to him a melancholy fact that out of the 111 affiliated societies only five had entered into competition at the November exhibition. The Bromley Society had become affiliated with the determination of competing for the champion shield, and the members had won it. He hoped their success would stimulate others to try and win the prize (cheers).

Mr. R. DEAN at this point handed the challenge shield to the Chairman, who presented it, with a cheque for £10, as first prize to Mr. Coles-Child for the Bromley Society. The other cups and medals won by various exhibitors during the season were also handed to the respective winners. These included Mr. W. Mease and Mr. W. H. Lees, who were the recipients of the Holmes Memorial cups, Mr. Lees also having another cup. Mr. H. J. Jones was presented with the President's piece of plate for so admirably demonstrating the decorative uses of the Chrysanthemum this season, and was enthusiastically cheered on receiving his prize. Medals were also presented to various exhibitors. Mr. Dean then remarked that from an analysis prepared by Mr. A. Taylor it transpired that no less than 3674 blooms were staged at the November

exhibition. These included 1993 Japanese, 787 incurved, and 888 Anemone, Pompon, and single Chrysanthemums. There were 219 distinct Japanese, and eighty-one incurved varieties, staged at this show, and 5000 superficial feet of tabling were required for the exhibits. Mr. Dean took the opportunity of paying a tribute to Mr. J. W. Wilkinson (Secretary of the Royal Aquarium), Mr. J. Bird, and Mr. T. Bevan, and staff, for their services rendered to the National Chrysanthemum Society. Subsequently Mr. Dean announced that Sir Edwin Saunders had kindly offered to give a first prize for a group of Chrysanthemums arranged with foliage plants at the principal exhibition held under the auspices of the Society in 1895.

Mr. R. BALLANTINE proposed "The Health of the President," remarking on the great interest which Sir Edwin Saunders took in the Society. In responding, the Chairman said it had occurred to him that they should have a younger man as President—(No, no)—but Mr. Ballantine had said that he (Sir Edwin) should be their "Grand Old Man." He should always take an interest in the National Chrysanthemum Society, and he trusted it would continue to flourish. (Cheers.)

Mr. C. HARMAN PAYNE, in responding to the toast of "The Vice-President, Officers, and Committee of the Society," which was proposed by Mr. G. J. Beer, referred to the interest taken in Chrysanthemums and the Society in Colonies, America, and France. From the latter country a large number of flowers had been sent to the Floral Committee meetings; but the most striking instance was in a bloom having been sent from Philadelphia, in America, to the November exhibition. As regards the work of the Society, a new catalogue of varieties had been issued, and, as they had heard, a Year Book would shortly be issued. The portrait of their President (Sir Edwin Saunders) would be published on the cover, and amongst other interesting items the contents will include an engraving of the champion challenge shield.

Mr. C. E. PEARSON responded to the toast of "The Donors of Special Prizes," proposed by Mr. J. H. Witty, and said he was delighted to see the numerous exhibits in the classes for special prizes. He had twitted the Society with not making the most of the Chrysanthemums from a decorative point of view, but he was glad to say a move had been made in the right direction. He had intended proposing to form a class for a group of plants arranged in an artistic manner on precisely the same lines as that in which their chairman had offered to give a special prize. If any changes were deemed advisable, he ventured to suggest doing away with the classes for trained plants. (No, no.) He had not a word to say against them as grand examples of cultural skill, but it would give more space for decorative groups. Members of the National Chrysanthemum Society ought to see that they were not behind the times. At Hull and other places they had groups of plants which would be an honour to the exhibitions of the N.C.S. Were they to move in this matter the National Chrysanthemum Society would lead the world. (Applause.)

Mr. G. GORDON rendered the toast of "The Exhibitors," to which Mr. J. R. Chard responded. "The Press" was proposed by Mr. J. W. Wilkinson, and was spoken to by Mr. T. W. Sanders.

The musical arrangements were by Mr. Mortimer Dudman, Royal Aquarium, Westminster, and enabled those present to spend a most enjoyable evening.

CHRYSANTHEMUM SHOWS.

ROYAL AQUARIUM.

THE last exhibition of the year held by the National Chrysanthemum Society opened on Tuesday last at the Royal Aquarium, Westminster, and continued the two following days. Seldom has a better show been seen at this time of the year, the space at disposal being well filled. Chrysanthemums, of course, formed the bulk of the exhibits, and these were displayed in a charming manner. Groups of miscellaneous plants were also good, the same applying to vegetables.

The principal competitive class in the cut bloom section was that for twenty-four Japanese flowers, in not less than eighteen varieties. There were seven entries, and Mr. W. Mease, gardener to A. Tate, Esq., Downside, Leatherhead, succeeded in taking the first prize. The flowers staged by this exhibitor were fresh and beautiful, the most noteworthy being Golden Gate, Eda Prass, Vivian Morel, Violet Rose, Charles Blick, and Robert Owen. Mr. H. Perkins, gardener to the Hon. F. D. Smith, Greenlands, Henley-on-Thames, was a good second; the third prize going to Mr. W. Neville, gardener to F. W. Flight, Esq., Cornstiles, Twyford. An extra prize was awarded to Mr. W. Wells, Earlswood, Redhill.

Mr. Philip Plumb, gardener to G. J. Beer, Esq., Biskra, Langley Park, Watford, Herts, secured the first prize in the class for twelve Japanese blooms. These included fine specimens of Mrs. G. F. Beer, Captain Torrens, Waban, and Eda Prass. Mr. W. Slogrove, Gatton Cottage Gardens, Reigate, was second with a stand of good blooms. Mr. J. Sandford, gardener to G. W. Wright-Ingle, Esq., Wood House, North Finchley, was third.

Incurved Chrysanthemums were not very numerous. Mr. Mease had the best dozen blooms, the varieties including Lord Rosebery, Lady Dorothy, Robert Petfield, Miss M. A. Haggas, J. Kearns, and C. B. Whitnal. Mr. W. Neville was second with small but neat flowers, the third prize going to Mr. Charles Brown, Langley House, Abbots Langley. The last named exhibitor was first with six flowers, the second award going to Mr. W. Tysler, gardener to Miss Smith Dorrien, Hartwell Villa, Aylesbury.

Mr. W. Lane, gardener to Miss J. Durning-Smith, King's Ride, Ascot, was placed first in the class for twenty-four bunches of Chrysanthemums, any varieties. Mr. C. W. Knowles, gardener to Mrs. C. Egerton, Selna, Roehampton, was second; and Mr. G. Springthorpe, Coombe Court Gardens, Kingston-on-Thames, third. Mr. C. W. Knowles was first for a dozen bunches; Mr. H. Alderman, Morden, being second; and Mr. D. Tysler third. Mr. Knowles was also first for six bunches of Chrysanthemums.

There were four exhibitors in the class for six new varieties of 1893 and 1894, the special prize being given by Mr. H. J. Jones. Three of these exhibitors were disqualified, however, for having blooms of a prior date in their stands. Mr. H. Perkins was adjudged the winner with a stand including flowers of Rose Wynne, James Myers, Walter Surman, and Chas. Davis.

Mr. D. B. Crane, Highgate, won the first prize for an epergne of Chrysanthemums, the second award going to Mr. J. Bertenshaw, East Dulwich, and the third to Mr. Walter Mole. Messrs. E. Linfield, H. Love, and W. Amies won in the class for six Japanese blooms. The single Chrysanthemums made a good display, Mr. W. Wells being first for a dozen bunches; Mr. C. W. Knowles was second, and Miss Debenham third, all showing well. Primulas were well shown by Messrs. C. W. Knowles, W. Mease, A. Newell, and T. P. Macgregor.

Cyclamens were well shown by the St. George's Nursery Company, Hanwell, to whom the first prize was awarded. Mr. J. A. McLeod, Dover House Gardens, Roehampton, secured the first prize for a dozen Cyclamens in pots.

In the class for a group of miscellaneous plants arranged on a table, Mr. A. Newell, gardener to Sir Edwin Saunders, Wimbledon Common, won the premier position. The contribution included Poinsettias, Primulas, Crotons, and other plants tastefully arranged. Mr. W. Howe, The Gardens, Park Hill, Streatham Common, was second, and the third prize went to Messrs. W. Cutbush & Sons, Highgate.

The adaptability of Chrysanthemums for decorative purposes was shown to advantage. Mr. H. J. Jones, Ryecroft Nursery, Lewisham, had a splendid table of huge vases filled with blooms and foliage. At other shows this exhibitor has demonstrated what can be done in this direction, but on this occasion had a larger table than usual. Exhibitors are apparently making an advance, and they would do well to follow the example so admirably set them by Mr. Jones, to whom a gold medal was awarded. Mr. J. R. Chard, Stoke Newington, had a table of floral designs composed chiefly of bouquets, epergnes, and wreaths of Chrysanthemums (gold medal). Mr. W. Wells, Earlswood Nursery, Redhill, was awarded a silver-gilt medal for a collection of Chrysanthemums, including all the latest novelties. A bouquet of pink Carnation, Lily of the Valley, and the green Chrysanthemum Ethel Amsden, was also shown by Mr. Wells.

Messrs. H. Cannell & Sons, Swanley, had a large collection of new varieties of Chrysanthemums of various types. Zonal Pelargoniums in their best array were also shown by the Swanley firm, and these made a grand display. A splendid collection of vegetables likewise came from Messrs. Cannell & Sons, to whom a silver-gilt medal was deservedly awarded. Mr. R. Owen, Maidenhead, contributed a large number of new Chrysanthemums of various types, and was awarded a silver medal. Mr. W. J. Godfrey also had some new Chrysanthemums, and the well known Carnations, Miss Mary Godfrey and Reginald Godfrey (bronze medal). Mr. H. Perkins, Greenlands, Henley-on-Thames, sent a group of Amaryllis, for which a silver-gilt medal was awarded.

Groups of Chrysanthemums were only staged by two exhibitors, these being Mr. J. H. Withy and Mr. Davis, to both of whom a silver medal was awarded. It is gratifying to notice that these stereotyped groups are gradually giving place to others of a more effective nature. Mr. Davey, gardener to C. C. Paine, Esq., Cedar House, Stamford Hill, secured a bronze medal for trained plants. Messrs. B. S. Williams had a group of miscellaneous plants (silver-gilt medal), and Mr. Alfred Young, Holmesdale Nurseries, Stevenage, won a bronze medal for a collection of Chrysanthemums. Several new varieties of Chrysanthemums were certificated, and these are referred to on another page of this issue.

SOUTHWELL.

THE second annual show was held under the auspices of the Southwell Horticultural Society in the Concert Hall, Southwell, and it may justly be said that the display of Chrysanthemums has seldom been excelled by exhibitions of a similar character in the county. The flowers were arranged with much taste upon the tables at the sides of the hall, and their picturesque appearance was added to by numerous foliage plants and Ferns, kindly lent by Mr. Hy. Merryweather, the well-known Southwell horticulturist, who also decorated the platform with a magnificent array of Chrysanthemums from his nurseries.

The leading prizewinner was the Rev. L. Stayner of Stubton Rectory who was first in the class for twenty-four distinct blooms, and whose stand was full of rich colours, the flowers being brought to the highest state of perfection. Mr. Smith, Nottingham, was second in this class with a praiseworthy exhibit. There were some fine blooms staged by the Misses Wheatley and Sadler, and Messrs. Johnson, Kemp, and Pearsall, reflecting the greatest credit upon the care and skilful attention bestowed upon them by their exhibitors.

There was, in addition to the show of Chrysanthemums, an exhibition of autumn fruits and vegetables, arranged on the left-hand side of the hall. In section 1 Mr. Boddam-Wetham showed a fine collection including Cauliflowers, Beet, Parsnips, Brussels Sprouts, and Savoy; and in section 2 Mr. E. Wadsworth of Newton was the principal prize-

taker. His entries were artistically arranged, and showed to the best advantage. Mr. Boddam-Whetham was again noticeable for a fine assortment of fruit, including Doyenné du Comice and Beurré d'Amanlis Pears, and Apples Bramley's Seedling, Blenheim Orange, and Normanton Wonder, well known and highly popular varieties. Mr. Hy. Merryweather's stand of fruit was worthy of the highest commendation. His show of Bramley's Seedling Apples, consisting of twelve plates, for prodigious size and excellent qualities could hardly be surpassed.

ADIANTUM RUBELLUM.

THIS most beautiful Adiantum is worthy of a place in every choice collection of Ferns, although it is seldom grown. The soft purplish-crimson colouring of the young fronds—changing with age to pale green—in a well-grown specimen, renders it very attractive. The plant is of dwarf habit, the fronds disposed in a graceful manner that adds quite a charm to it. It is of easy culture, thriving well in a compost of equal parts of loam, peat, and leaf mould, with a liberal addition of silver sand, and small pieces of charcoal or sandstone amongst it.

It is a stove species, but an intermediate temperature suits it well during the summer, with free exposure to the light; and a good share of sunlight consistent with safety brings out the colouring of the young fronds most effectively. As the winter approaches remove the plants to the cool end of the stove; this is advisable, it not being wise to risk it in too low a temperature. The plants assume rather a rusty appearance towards the autumn, but no fear need be apprehended as to their well-being; the only matter requiring attention is that water should be very sparingly applied during this time, and on the return of spring they will start forth afresh in all their beauty.

Young plants are easily raised from spores of established specimens, the best plan being to stand the old plant over a rough compost similar to that recommended for potting, and allow the spores to fall naturally. This year I have so raised some fifty young plants in the manner indicated, which are now in 3-inch pots and doing well. For them the compost should be rather lighter than for older plants. The largest specimen here is about 3 feet in diameter; when at its best it is a charming sight.

Adiantum Veitchianum tinctum is a good companion to the above, of bolder type, and the young fronds of a bright red hue, but not so pronounced in the colouring as A. rubellum. This is also a stove species, succeeding under the same conditions as the former. They are both natives of Peru.—J. J. CRAVEN, Allerton Priory Gardens.

"WAYSIDE IRELAND."

IN a pamphlet of sixty pages bearing the above title, Mr. Baylor Hartland describes those features of the West of Ireland which struck him most during a recent trip through those parts. The work has no pretensions to literary style, and is more in the nature of casual notes, attended with aside commentaries of the traveller. The whole, making due allowance for the progress of ideas during the last fifty years, is curiously mixed and discursive, like the effusions of that quaint but now almost forgotten writer, Grant Thorburn of New York. With all their extravagances such writings are far more instructive and entertaining than those of many conventional correspondents. They are especially useful in after years, when they serve to throw curious side lights upon the life of their times which evaporate in more pretentious works. How many of the formal and dry-as-dust tomes of the Elizabethan and Carolean periods could we not spare for a few breathing pamphlets such as these coming from past ages.

If we had any such relating to the West of Ireland in former times they would probably satisfy us how immeasurably the average condition of comfort and general well-being have advanced in what Home Rulers love to call "that distracted country." The knowledge we have tends to show that the golden age of Ireland is but a dream of the past, and that the sordid life led by the men and women of Galway nowadays is a considerable advance upon the savagery prevailing there in Elizabethan times. It is our ideals which have risen, not the conditions which have retrograded.

Mr. Hartland seems to think that Socialism, or Paternal Government as he calls it, can alone establish a satisfactory condition of small culture in the poorer districts of the Sister Isle. The State must afford the capital and take the risk of loss, as there is little prospect of individual profit in creating public improvements. He also makes the pregnant remark—which goes to the root of our troubles—that when suitable small holdings have been created they must not be sub-divided, as was the practice in Ireland among a large number of children. The benefits of a living wage and living allotments can only last so long as population is stationary. The slightest increase upsets the balance of comfort, unless it is readjusted by immediate emigration. Of the consequences of over-population Ireland received an appalling lesson in 1848, when all that philanthropy could do did not save 300,000 persons from perishing of starvation. Since that time emigration and circumspection have limited her population to half what it was before the famine with the most satisfactory results.

Mr. Hartland also shows that in a system of small allotments men and women must both do manual labour, which is a hard doctrine for the modern maid and the modern youth, especially the former. Small allotments may enable families to exist independently upon their pro-

duce, but they will not afford sufficient profit on its sale to enable the sons to drive tandems and the daughters to frequent lawn tennis parties and afternoon teas. However, it is not impossible that the ideal of a showy idleness which has been set by a rapidly created middle class may yet yield to a belief in a good average of intellectual culture for everybody. Then social ambition will cease to torment the small farmer, and local effort will become co-operative for mutual entertainment and improvement.



FRUIT FORCING.

Vines.—*Early Vines in Pots.*—Attention must be given to the fermenting material in pits, which, as every pot is placed on a brick pedestal built up from the bottom of the pit, will admit of frequent additions being made as the bed settles down. The heat about the pots must not exceed 70°, as the root action will be all the steadier and the growth of the Vines sturdier than with a higher temperature, also not so liable to be checked when the pots are only partially plunged or surrounded by the material. Supply water carefully in the early stages of growth, not giving any until the soil becomes rather dry, then sufficient to moisten it down to the drainage, and not giving any again until there is need. Keeping the soil constantly saturated disfavours the emission of roots, and sometimes destroys those present, besides producing a sodden and sour condition that results in disaster later on and promotes shanking, or otherwise interferes with the satisfactory finishing of the crop. Weak tepid liquid manure may be given whenever water is required. Attend to disbudding as soon as the fruitful and best growths can be decided on for retaining, it being undesirable to allow fruitless and unnecessary shoots to remain, as they only impoverish those reserved for producing the crop. It is generally advisable to cease syringing the Vines when the bunches show, then the final disbudding should be made, leaving the most promising with a surplus for contingencies. Stop the growths a couple of joints beyond the show of fruit, laterals below the bunch at the first leaf, and those beyond may be allowed to extend as far as it can be done without crowding the principal foliage. Where there is little space stop all the laterals to one leaf as produced.

Early Forced Planted-out Vines.—When the buds in the house started at the middle of November show signs of swelling, gradually increase the temperature so as to have it 65° to 70° by day and 60° to 65° at night by the time the Vines are in leaf, allowing an advance of 5° to 10° from sun heat. Supply tepid water to inside borders so as to insure their thorough moistening down to the drainage, taking care, however, not to make the soil sodden and cause the decay of the fleshy roots, as these in time produce the most active feeders, which are tardily pushed in a very wet soil. Weak liquid manure will assist weakly Vines, but water is most advisable for vigorous until the growth is advanced beyond the showing stage, then they can be fed as the exigencies of the crop require. Cease syringing the Vines when the bunches show on the points of the shoots, then commence disbudding, performing it gradually, and maintain a genial condition of the atmosphere by damping the floors, walls, and borders two or three times a day.

Early Muscats.—No Grapes pay so well when properly grown as very late or the earliest Muscats. Black Muscat (Muscat Hamburg) may be forced so as to be ripe at the end of April, but it is such a bad setter as to be very unsatisfactory. Madresfield Court is just the opposite, setting freely, or may be made do so by careful fertilisation, either with its own or pollen from another variety. It also finishes well, being as good in that respect as Black Muscat is the contrary way for producing red and shanked berries. There is no difficulty in having it ripe in May, and it succeeds under similar treatment accorded to Hamburgs, but is better for an inside border and a house to itself, as it requires less water at the roots and in the atmosphere when ripening. Canon Hall Muscat possesses the quality of the parental variety, with a superior contour when well finished. This variety is such a bad setter as not to be available for early work, therefore we are still restricted to Muscat of Alexandria, which to ripen in May or early in June must be started without further delay. For this purpose the roots must be confined to the inside borders, that being brought into a proper state of moisture by watering with tepid water. Nutriment has a great influence on the presence and activity of roots, phosphates promoting their emission, as also does liquid manure, which may be supplied, but not to make the soil cold and wet. Commence with a temperature of 50° to 55° at night, 60° to 65° by day, and 10° to 15° rise from sun heat, sprinkling the Vines in the morning and early afternoon, damping the paths, walls, and borders in preference to keeping the Vines constantly dripping with water. Young Vines that have not been forced early will require bending down to a horizontal position to insure an even break down to the base, but old Vines may remain tied to the trellis, and will usually break freely.

Succession Houses.—The unfavourable weather that has prevailed of late for outdoor work has given opportunity of pruning Vines and thoroughly cleansing them and the structures. This is a very important

matter, which is often relegated to a convenient season to the prejudice of the Vines, their resting, and freedom from insects in the ensuing year. Early pruning conduces to a strong and even break without loss by bleeding when the time arrives for forcing; cleansing the house and Vines as soon as the latter are leafless and the crops cleared prevents pests hibernating. In dressing the Vines do not remove more than the loose bark, and wash with tepid soap and water not too strong, for the excessive use of soft soap injures the bark, causing it to become hard and dry, the Vines break very irregularly in consequence, and sometimes so weakly that the bunches shrivel instead of expanding. Judgment must be exercised in such matters, and use only 4 ozs. of soft soap to the gallon of water. Thoroughly cleanse the glass with clear water, the woodwork and trellis with soap and water, using a brush, reaching well into the angles and crevices, and limewash the walls, adding a good handful of flowers of sulphur to each pailful. Remove the loose surface soil, and give fresh material; lumpy loam with a little charred refuse, and a sprinkling of steamed bonemeal, or some approved fertiliser may be similarly employed.

Late Houses.—Where Grapes have been properly ripened they will keep satisfactorily on the Vines with the temperature falling as low as 40°, with just sufficient fire heat to dispel damp and protect them from frost. Muscats and other thin-skinned Grapes, however, soon suffer in a low temperature, as they are sooner acted on by moisture than the thick-skinned varieties, being very liable to spot, and when that sets in all further chance of keeping the Grapes is gone. On the other hand, fire heat provokes evaporation, so that thin-skinned varieties soon begin shrivelling in a warm dry atmosphere. Muscats require a temperature of 50° to keep satisfactorily when the leaves are all down, and will not suffer depreciation so much from warmth (50° to 55°) as Grapes of the Sweetwater race. In damp weather, when the external air is charged with moisture, the house should be kept dry, cool, and close, and when the nights are frosty light non-conducting material, such as scrim canvas, or even fishing nets drawn over the roof, will prevent the radiation of heat and economise fuel, while the subdued light is rather beneficial than otherwise to the Grapes. The prevention of moisture being deposited on the berries is the great thing to aim at, and that can only be done by preventing the atmosphere becoming stagnant.

Pines.—Rapid progress at this time of year is inadvisable, it being better to rest content with a slow advance in a steady uninterrupted manner than to force the plants. Indeed, the temperature should now be lowered to its minimum in each section, which for the fruiting plants should range from 65° to 70°, successional houses 60° to 65°, and for suckers 55° to 60°, allowing a rise of 5° to 10° from sun heat. The house containing the fruiting plants will need attention in sprinkling the pathways and moistening other surfaces in the house as they become dry. In airy and light houses the plants will need sprinkling about once a day, having due regard to the fruit and plants in flower. The plants should be examined at intervals of not less than a week, affording tepid liquid manure liberally to such as are swelling their fruits; but any that are well advanced therein and approaching ripening stages should be carefully watered, as an excess of water may cause the fruit to become discoloured at the centre.

Plants in fermenting beds do not, as a rule, require nearly so much water as those subjected to the heat arising from hot-water pipes; but, notwithstanding, the plants must be looked over at least once a week, affording a supply to such as need, and to those only. In succession houses and pits where less heat is applied, a moderate and equable state of moisture should abound, and no more fire heat be employed than is absolutely indispensable, which with covering over the lights at night will in a great measure dispense with fire heat, and therefore should be employed wherever practicable, for it not only saves fuel but is better for the plants than an arid atmosphere. Afford the plants in every department ample space and the full benefit of light in every division by keeping the glass clean.

THE KITCHEN GARDEN.

Forcing Asparagus.—If a good supply of this choice vegetable is needed at Christmas, or thereabouts, it is time forcing should commence. It can be forced very rapidly, but in this case the produce is drawn and weakly compared with what would have been had if the forcing had been less hard. Asparagus can be forced entirely on hot-beds or without the aid of fire heat, but if heated pits are available these should be used, a bed of leaves and manure providing the bottom heat of about 70°, a very little warmth in the pipes to ensure a temperature of 55° to 60°, will suffice. If frames or unheated pits have to be used keep the heat from escaping by means of heavy coverings of mats and litter, only admitting enough light to green the shoots. A hotbed made from 2 feet to 3 feet deep, and firmly put together, is usually ample for heated pits, but exposed frames and unheated pits should have an extra foot in depth. Cover the surface with 3 inches of rather rich moist soil instead of poor dry soil, as is too often used. The best results often attend the practice of preparing young roots, especially for forcing very fine shoots springing from three-year-old crowns.

If roots have to be lifted from a bed commence at one end and gradually fork out all the roots till enough has been found to cover a bed under two or three lights. Exposure to either frosts or cold drying winds weakens the roots. Pack them closely together, well spreading out the roots and cover with about 5 inches of soil, shorter, less succulent growths resulting from shallower coverings. Keep the soil uniformly moist, and when the shoots are long enough turn down and twist them off at the base rather than attempt cutting. Form successional beds every fortnight or three weeks according to the demand, conveniences

and supply of roots. Asparagus may also be forced, packing the roots rather thickly in flat boxes, surrounding them with good rich soil, and place in Peach houses, vineries or other structures where gentle heat is kept up. Keep them well supplied with moisture.

Forcing Seakale.—As a rule the finest and most succulent growth is had by adopting the old-fashioned practice of forcing where the roots are grouped. The ground about them should be loosened, and the crowns be then enclosed by bell-shaped or Seakale pots fitted with lids. Ordinary flower pots are not suitable, as when these are inverted over the crowns the forced growths cannot be examined without moving much of the heating material. Heavily cover with well prepared stable manure, or a mixture of leaves and manure, and see that no harm results from over-heating. Cover four or five groups every fortnight. Where breadths of young roots have been specially prepared for forcing, lift and place these at intervals in a Mushroom house, or pit, or frame, prepared as for Asparagus, with this difference, that a greater depth of soil will be needed in the first instance. Straight roots packed thickly in deep boxes or pots of rich soil may be set in brisk heat in either houses, stokeholes, Mushroom houses, or heated pits, but they must be kept well darkened or otherwise the growths will be valueless. Every week or ten days is none too often to start fresh supplies of roots, and a temperature of from 60° to 65° answers well. Keep the soil uniformly moist about the roots, cut the tops when ready cleanly off, and force out a second growth; that given by the stronger roots frequently proving most acceptable.

Rhubarb.—Not much heat is required to start the early red forms of Rhubarb, and the attempt ought to be made to have some fit to pull at Christmas or thereabouts. Enclose permanently planted roots in either large deep pots or bottomless boxes and tubs inverted over the clumps, moveable tops or lids being necessary. At this early date a good square hank of stable manure, leaves, or the two in mixture, is needed, a width and depth of 4 feet being none too much. Watch closely, as a sudden change from cold to mild weather may lead to violent heating, and much harm to the Rhubarb accrue accordingly. If a few clumps can be spared, for they are of no further use after being lifted and forced, dig them up with a moderate amount of soil about them, and either force in a Mushroom house, or they may be forwarded very considerably in a warm cellar. They need not be covered with soil.

Forcing Potatoes.—Whether it is intended to force Potatoes in pots, boxes, houses, pits, or frames, the preliminary details of starting the sets into growth should be observed. Pack them, small end upwards, in shallow boxes, and place in gentle heat, or say a newly started Peach house or vinery, to commence active growth. A light position should be assigned them, and they will then each form a single strong sprout, all others being rubbed off prior to covering with soil in which they are to grow.

THE BEE-KEEPER.

APIARIAN NOTES.

THE LANARKSHIRE STORIFYING HIVE.

(Continued from page 508.)

THE adapting board is one-quarter thick and about a foot broad, reaching to the middle of the two outermost bars. This, when the supers are in position, gives ample space for the bees to enter the supers from the side openings. A mortice half inch wide can be cut directly over a portion of the second spaces if the bee-keeper prefers it, but on no account should the top of the hive be exposed more than can be helped if pure supers are wanted, and draughts excluded from brood nest. The adapting board preserves the top bars of hive from being covered with wax or propolis, and gives additional strength to them; it is altogether a good thing, and only costs one penny.

Section crates take the place of supers 7 inches square, or large ones 14 inches. The protector holds three stories of them with ample space for the winter or summer. Crates are the same breadth as the supers, and may be one-sixteenth of an inch less than 14 inches, or in two forming the same size. When in two they are handy for keeping the bees at work when a glut of honey occurs, as the full and partly full ones are always kept above one another, but the larger size gives less trouble otherwise. The sides of these are cut to 13½ inches long by 4 5-16ths inches broad by three-eighths of an inch thick. A piece one-sixteenth of an inch less than 14 inches, and of the same breadth, by a quarter of an inch thick, is nailed with inch nails to one end. The other end is cut to go inside. The crate is half an inch thick, and rounded on the bottom edge so as it will turn as if hinged. To do this a gauge the length of three sections is used to keep it in place, then with wire nail driven at the centre of what forms the knuckle it works as if hinged. When the sections are to be put in the crate it is folded down, and when filled is closed, pressing the sections close to one another, obviating much labour to the bees propolisising between the sections. The pieces of wood used as rests are the exact length of

the wideness of the crate and a quarter of an inch thick. Three of them are nearly an inch broad, and the one beneath the folding end $1\frac{1}{4}$ inch; the two outermost are nailed flush to the ends, and the two inner ones guided to their proper position beneath the sections by a notched stick, which is a much better plan than measuring. A small fillet one-quarter by three-sixteenths of an inch is nailed to the top edge, and to within half an inch of the bottom of the two ends, for the purpose of giving the bees space and filling the sections more satisfactorily.

The cost of these crates is nominal, and they can be made in about half an hour. The larger size holds twenty-one $1\frac{1}{8}$ -inch sections, or eighteen 2-inch ones, but the latter requires a "jammer" to fill the space. The "jammer" may be made of quarter-inch wood, the bottom edge having a piece nailed at right angles of the proper breadth. To close the space above it should be stuffed with cloth or paper to keep the bees out. The folding end of the crate is of great advantage when it is removed full from the hive. Two brass screws near the top edge, which makes it rigid, have only to be removed, and the end folded down, when the sections may, after being slackened by the operation, be lifted easily from it. By using a board having three blocks of the width of the sections, and rather deeper, nailed at the proper distances to pass easily between the bearers of the crate, the operator has only to place the crate in position, and bringing a little pressure to bear upon it, it is pushed to the bottom, while the sections rest on the top of the blocks. The above plan obviates all risk of damaging sections, as is the case in ordinary crates.

The divisional boxes, or hive proper, are three in number, fewer being unsatisfactory. They are made of $\frac{5}{8}$ -inch timber, 14 inches from side to side (inside measure) by $14\frac{1}{4}$ inches from front to back (inside) by $6\frac{1}{2}$ inches deep. Each division has nine frames minus bottom rails, and mouthpieces as shown at figure 83 (*d, e*). The bee-keeper may not adhere strictly to the size given between the front and back, but from side to side it must be followed. The frames hang in rabbets on the top edge of the front and back, standing at right angles to the entrance and $1\frac{1}{2}$ inch from centre to centre. This gives a quarter of an inch more at the extreme sides, which, for various reasons, is desirable. First plane one side, straight one edge, then, gauging the breadth accurately, square one end. Take the measure stick, butt it hard to the end squared, then with an awl mark and square the sides, cut outside or clear of the draught. This is all the preparation the sides require before nailing, which is much to be preferred to dovetailing.

The fronts and backs are those which require rabbeting.

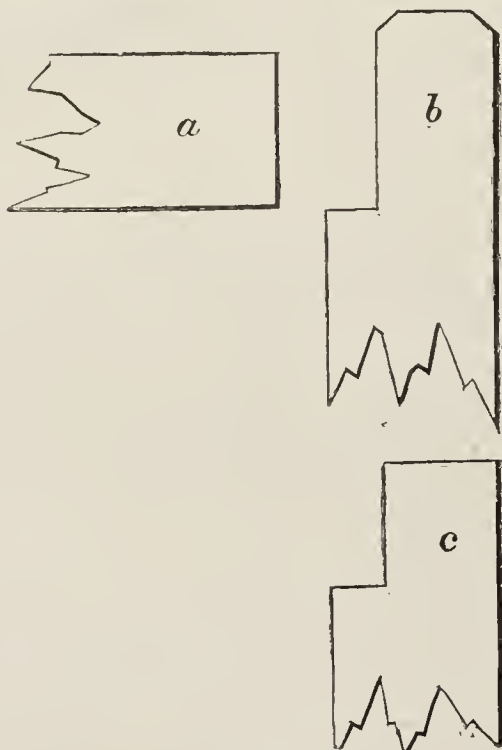


FIG. 82.

Figs. 82 and 83 show how it is done, and may be made by the same method as the supers, or the edge with the plane mentioned and ends with a saw; *a* (fig. 82) is the side, *b* the front, prepared for nailing, with end projecting to save cleaning off when nailed; *c, d,* and *e* section of front, showing the rabbet for bar and slide for mouthpiece, $\frac{1}{2}$ inch deep; *f* section of top bar, showing groove for foundation, and tacket to preserve distance; and *g, g* end pieces of frame. The tenon is quarter square, and of course the pieces are a quarter thick, these lines are full size. The end pieces may be made from thin pieces of wood, but it is better to work blocks, as shown in illustration, then get them cut with a circular or hand-

saw. The tenon should be a little larger than the hole in the bar. To prevent splitting the latter bore a hole with same centre-bit as bars are bored with in a piece of hard wood, and drive the tenon in it.

The bars are prepared by planing the face of a half-inch board, squaring one end, then with the same gauge-stick used for the sides mark the square, and cut inside the draught. This gives the necessary slack to the bars for easy manipulation. When cut try them in the template where they are grooved in, and if of the right

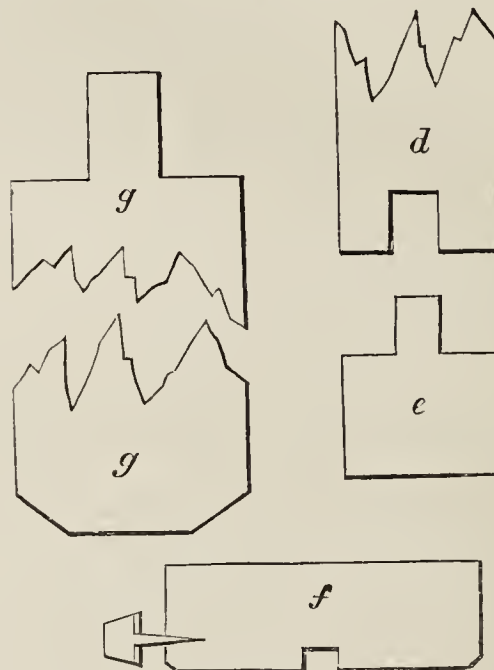


FIG. 83.

length run a marking gauge set at $\frac{5}{8}$ -inch along the ends, and with another at base $1\frac{1}{4}$ -inch the sides for the breadth of bar, then again the $\frac{5}{8}$ one, where the lines intersect, enter your centre-bit.—A LANARKSHIRE BEE-KEEPER.

(To be continued.)

TRADE CATALOGUES RECEIVED.

Dicksons & Co., Edinburgh.—*Fruit Trees*.
Robert Owen, Castle Hill, Maidenhead.—*New and Select Chrysanthemums*.



All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Books (T. B.).—The "Parks and Gardens of London" treats on carpet bedding, with designs and the propagation of the plants employed. Post free for 2s. 11d. from this office. You would also find Mr. D. Thomson's excellent "Book of the Flower Garden" very useful. It is published by Messrs. Blackwood & Sons, Edinburgh, and can be obtained through a bookseller. We do not remember the price.

Petroleum Emulsion — Naming Plants — Rain Gauge (Henri).—The petroleum emulsion (page 485) to which you refer is quite safe and effective for dipping smooth-leaved stove plants for the destruction of mealy bug and scale. Varieties of Crotons raised originally from seed can only be named by comparing the leaves with others in a large collection. For information respecting a cheap and accurate rain gauge, write to G. J. Symons, Esq., Camden Square, London.

Wash for Orchard Trees (X. Y. Z.).—You do not say whether you want a winter or a summer wash. We give both. *Winter Wash:* $\frac{1}{2}$ lb. caustic soda (98 per cent.), $\frac{1}{2}$ lb. crude commercial potash, water 6 gallons. Dissolve the soda and potash in hot water, and apply with a

spraying apparatus on a fine day while the trees are quite dormant. This wash will kill lichen, moss, scale, and eggs of almost any insect. It is a very old preparation, and English (not American, as generally credited), having been used at least a century for the destruction of scale, sometimes with and sometimes without the soda. *Summer Wash*: Softsoap 15 lbs.; dissolve by boiling in 30 gallons of water. Caustic soda $1\frac{1}{2}$ lb., and flowers of sulphur 3 lbs.; boil the soda and sulphur together in 1 gallon of water until dissolved, when it is a dark liquid, or sulphide of soda. Mix the soap solution and sulphide together, and allow the mixture to gently boil for half an hour. Dilute to 120 gallons for use early in the season, and to 100 gallons after the foliage becomes firm, applying warm (90° to 100°). Phenyle is sometimes used over the foliage, a teaspoonful being sufficient for 1 gallon of water. For general purposes you could not have anything better than the advertised insecticides. All solutions that contain caustic soda should be employed in a spray.

A Plague of Millipedes (*W. L.*).—We think you can make short work of the pests in crevices where there are no roots to injure by forcing petroleum into the fissures with a syringe, or even "boiling hot" water, muffling your hand for holding the syringe. If you have been applying lime, soot, or nitrate of soda to the border you are perhaps driving them out of it, in which case the fissures will be convenient for you to "settle" the pests. If you find the hot water does this it would have the further advantage of not making the haunts distasteful to other detachments of the retreating foe, as petroleum might. Pieces of Mangold Wurtzel buried in the soil will act as "traps" for the "worms," and in this way many can be caught and cleared away. You ask, "how they came in the first instance?" They came from eggs introduced with manure or decaying vegetable matter, and they would certainly be encouraged by old boards long resting on the soil as "standage" for plants. This is bad practice—bad for the borders and not good for the boards. If they must be used cannot you support them on bricks? The old surface soil should be removed, and sweet loam added free from decaying animal or vegetable matter. By thoughtful and persevering action you ought to be able to banish this plague of millipedes.

"Molyneux" (*Inquirer*).—You ask why the "x" is dropped in sounding this well-known name? It is not dropped by all the families of the name, but it is by some, and it is only courteous to adopt the pronunciation of the bearers of the name in each case. In one district of England there are many families of this name, and it is pronounced by all of them "Molynoo." The family to which Mr. Molyneux of Swanmore belongs sound the "x," and it is therefore proper that others should do so in this case, though we suspect the owner of it whom you have in mind is not very particular, and it is credibly stated that if anyone remarks to him, "Your name is pronounced Molynoo, is it not?" he is apt to reply, "Yes, that will do for me very well." This, perhaps, is the justification for the following lines which appeared in print, and written, we believe, by a personal friend of Mr. E. Molyneux. Referring to the name his "Poet" wrote:—

Some people think it rhymes with Jukes,
That's Molynewks;
But M. himself, who ought to know,
Says Molyno.

All the same, if you wish to be strictly correct in this case, you will follow the method of the family, of Mr. W. H. Myers, M.P., the owner of Swanmore, also of Dr. Hogg of the *Journal of Horticulture*, and let the "x" be heard in the pronunciation of the name. We are informed that the name is of Norman origin, and when used in France the "x" is never sounded.

The Goat Moth Caterpillar (*F. A. M.*).—The caterpillar to which you allude as burrowing in the wood is the larva of the goat moth (*Cossus ligniperda*). As is stated in Miss Ormerod's "Manual of Injurious Insects," the moth lays her eggs in crevices in the bark commonly at the lowest part of the tree, and the caterpillars which hatch from these eggs feed at first in the bark, or between the bark and the wood; as they grow stronger they eat their way into the wood, and form chambers and galleries of various size and width, some as large as a man's finger. The caterpillar has the power of exuding an oily fluid from its mouth with a remarkably pungent goat-like smell, whence the name of the moth. Infested trees may often be known by this disagreeable smell, and sometimes by heaps of dirt or wood-dust thrown out by the caterpillars lying below the entrance of their burrows. During the winter they lie quiet, otherwise they feed for a period of three years, and when ready to change form cocoons of little bits of wood roughly spun together just inside the entrance of their burrows, in which they turn to a reddish-brown chrysalis. Shortly before the moth is ready to emerge the chrysalis forces itself partly through the cocoon, where the empty case remains sticking out from the tree, and is a useful guide as to infested timber. The moths are heavy and sluggish, and may be taken easily by hand as they rest quietly during the day on the bark of the tree out of which they hatched. The caterpillars sometimes leave the trees, and may be found straying about in May and in the autumn, and in such case they should always be destroyed; but generally (as above mentioned) they change to chrysalids at the entrance of their burrows, and where trees are known to be infested these reddish chrysalids should be looked for during June or early in July. Any mixture that can be laid on the tree so as to prevent the moth laying her eggs on the bark is useful, and a thick coating of clay and cowdung has been found to answer well. The caterpillars may be diminished in number by crushing them in their holes with thick strong wire; a glance at the state of the end

of the wire when it is withdrawn from the hole will show whether the caterpillar has been reached or not. If the direction of the hole admits of the caterpillar being dragged out by a finer wire doubled at the end, so as to form a kind of hook, this plan is also serviceable. Paraffin injected by a sharp-nozzled syringe with as much force as possible into the holes where the caterpillars are working is a good remedy, and any fluid poisonous to the caterpillar, or which would make the wood of its hole poisonous or distasteful to it for food, would be serviceable, such as tobacco water or a solution of softsoap. The fumes of sulphur blown into the hole are also effective.

Straw Skeps (*F. J. W.*).—In provincial towns straw skeps can usually be obtained from basket makers and ironmongers, who are often agents for bee-keeping sundries. Try Messrs. Geo. Neighbour and Sons, 127, High Holborn, W.C. We shall publish an article on the subject in an early issue.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. *They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state.* (*P. C.*).—Doyenné du Comice. (*H. F.*).—Cellini. (*C. M.*).—1, Beurré d'Aremberg; 2, Easter Beurré.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*B. H. R.*).—*Pittosporum Tobira*; doubtful if hardy. (*F. T.*).—We have many times stated that *Chrysanthemums* are florists' flowers which we do not undertake to name. See the above note to that effect. The same applies to *Zonal Pelargoniums*. (*C. P.*).—1, *Odontoglossum crispum*; 2, *Cypripedium barbatum*.

COVENT GARDEN MARKET.—DECEMBER 5TH.

No alteration.

FRUIT

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, per half sieve ..	1	6	to	4	6	Lemons, case	10	0	to 15 0
„ Nova Scotia, per barrel ..	10	0		15 0	Peaches, per doz. ..	0	0		0 0
Grapes, per lb. ..	0	6		1 6	Plums, half sieve ..	0	0		0 0
Cobs per 100 lbs. ..	22	6		23 0	St. Michael Pines, each ..	2	0		6 0
					Strawberries per lb. ..	0	0		0 0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Beans, Kidney, per lb. ..	0	6	to	0	0	Mustard and Cress, punnet	0	2	to	0	0
Beet, Red, dozen ..	1	0	0	0	0	Onions, bushel ..	3	6	4	0	
Carrots, bunch ..	0	3	0	4		Parsley, dozen bunches ..	2	0	3	0	
Cauliflowers, dozen ..	1	6	3	0		Parsnips, dozen ..	1	0	0	6	
Celery, bundle ..	1	0	1	3		Potatoes, per cwt. ..	2	0	4	0	
Coleworts, dozen bunches	2	0	4	0		Salsafy, bundle ..	1	0	1	5	
Cucumbers, dozen ..	2	0	6	0		Seakale, per basket ..	1	3	1	9	
Endive, dozen ..	1	3	1	6		Scorzoneria, bundle ..	1	6	0	0	
Herbs, bunch ..	0	3	0	0		Shallots, per lb. ..	0	3	0	0	
Leeks, bunch ..	0	2	0	0		Spinach, bushel ..	1	6	3	0	
Lettuce, dozen ..	0	9	1	0		Tomatoes, per lb. ..	0	2	0	6	
Mushrooms, punnet ..	0	9	1	0		Turnips, bunch ..	0	3	0	4	

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.		s.	d.		s.	d.		s.	d.
Arum Lilies, 12 blooms ..	6	0	to	8	0	Poinsettia, dozen blooms ..	3	0	to	6	0
Azalea, dozen sprays ..	0	6		1	3	Pyrethrum, dozen bunches	2	0		4	0
Asparagus Fern, per bunch	1	0		2	0	Roses (indoor), dozen ..	0	6		1	0
Bouvardias, bunch	0	6		1	0	„ Tea, white, dozen ..	0	6		2	0
Carnations, 12 blooms ..	1	6		3	0	„ Yellow, dozen	2	0		3	0
Chrysanthemums, doz. bchs.	4	0		12	0	„ Safrano (English), doz.	1	0		2	0
„ doz. blooms	1	0		4	0	„ Maréchal Niel, doz. . .	3	0		6	0
Eucharis, dozen	3	6		4	6	„ (French), yellow, doz.					
Gardenias, per dozen ..	2	0		4	0	blooms	1	6		2	0
Geranium, scarlet, doz.						„ (French), Red, dozen					
bunches	4	0		6	6	blooms	2	0		2	6
Lilac (French) per bunch	5	0		6	0	Smilax, per bunch	3	0		4	0
Lilium longiflorum, per						Stephanotis, dozen sprays	4	0		6	0
dozen	6	0		9	0	Tuberose, 12 blooms ..	0	4		0	6
Marguerites, 12 bunches ..	1	6		3	0	Violets (English), dozen					
Maidenhair Fern, dozen						bunches	1	6		2	6
bunches	4	0		6	0	Violets (French), Parme,					
Mignonette, 12 bunches ..	2	6		4	0	per bunch	4	0		5	0
Orchids, per dozen blooms	1	6		12	0	Violets (French), Czar, per					
Pelargoniums, 12 bunches	6	0		9	0	bunch	1	9		2	0
Primula (double), dozen						Violets (French), Victoria,					
sprays	0	6		1	0	dozen bunches	1	6		2	6

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arbor Vitæ (golden) dozen	6	0	to	12	0	Ferns, in variety, dozen ..	4	0	to	18	0
Aspidistra, per dozen ..	18	0	36	0	(small) per hundred	4	0	6	0		
Aspidistra, specimen plant	5	0	10	6	Ficus elastica, each ..	1	0	7	0		
Chrysanthemums, per doz.	4	0	8	0	Foliage plants, var., each	2	0	10	0		
" large, per doz.	9	0	18	0	Lycopodiums, per dozen ..	3	0	4	0		
Cyclamen, per dozen ..	9	0	12	0	Marguerite Daisy, dozen ..	6	0	12	0		
Dracæna, various, dozen ..	12	0	30	0	Myrtles, dozen	6	0	9	0		
Dracæna viridis, dozen ..	9	0	18	0	Palms, in var., each ..	1	0	15	0		
Erica, various, per dozen ..	9	0	18	0	" (specimens) ..	21	0	63	0		
Euonymus, var., dozen ..	6	0	18	0	Poinsettia, per dozen ..	10	0	15	0		
Evergreens, in var., per					Primulas, per dozen ..	4	0	6	0		
dozen	6	0	24	0	Solanums, per dozen ..	10	0	12	0		



WINTERING DAIRY COWS.—3.

As a point of departure in our endeavour to determine what is wholesome food for dairy cows in the winter take the cows at their best—say at midsummer, when they yield milk of the highest quality. The herbage of pastures is then so rich, so nutritious, that we have only to supplement or add to it some bran twice daily at milking time to obtain a full flow of rich milk of exquisite flavour. More than that, the cows are so well nourished that they are sleek, or in the best condition, and their coats absolutely glisten with health. The milk then yields up 91 per cent. of its fat—or, in other words, it is then precisely that we are able to obtain most butter from a given quantity of milk. What are the conditions which produce results so satisfactory, and withal so profitable? Warmth, and food that is at once admirably nutritious and so wholesome that the milk may indeed be termed pure, or free from taint of any sort. Later in the year the grass may be just as wholesome, but it is certainly not nearly so nutritious, nor is it eaten under such favourable atmospheric conditions, and those dairy farmers who claim merit in management on the score that their butter is from cows grass-fed all winter cannot look closely into cause and effect, or they would not thus proclaim their ignorance of it. At most the herbage of pastures is only at its best from the beginning of April till the end of September; in the other six months it is inferior in degree, and it must not be forgotten how frequently we are unable to turn out for a full bite till May Day.

Nutritious as the best meadow hay undoubtedly is when it comes into use in the autumn, with a steady continuance of the bran ration at milking time, it has been found, under close observation, that there is a falling off in the butter yield of 10 per cent. It is then precisely that an addition of Cabbage and Carrots tells. The quantity used depends entirely upon the size of the cows. For big-framed Shorthorns a Drumhead Cabbage of moderate size morning and night, with a few pounds of sliced Carrots mixed with a gallon of bran and crushed Oats, may answer very well. Certainly we should not allow each cow to consume half a hundredweight of Cabbage daily, but with fine sweet firm hearts to the Cabbage 30 or 40 lbs. might not affect the milk so as to impart taint. We avoid exact quantities of intent, because we hold that with a change in the dietary there should be caution, and the first churning of butter should then be watched closely, the butter carefully tested, and the slightest indication of taint or unpleasant flavour should induce some reduction in the quantity of the Cabbage, which has been proved to impart bad flavour to the butter when used too freely.

Entirely do we believe in a mixed dietary, but we cannot understand how butter without taint can be made from the milk of cows having upwards of 60 lbs. of Swedes daily in mixture with malt, Maize, Oat straw and hay, as we have seen recently recommended for big dairy cows. Whatever may be the size or

breed of cow, caution and test is the only way to be safe with the winter feeding. Now that Wheat has come into use for stock it may be well to mention that two parts of crushed Wheat to one of Oats has been found to keep up condition and to promote a full milk yield. Pay no heed to niceties of calculation or to fractional differences in results. What is wanted generally is such additions to the best meadow hay for our dairy cows in winter that they may be kept in healthy condition and may yield milk free from taint. We do not forget the fact that the milk of cows approaching the "dry" time is often inferior. Home farmers having to provide for the wants of a large household, take care to arrange the calving of the cows so as to have a cow or two calving at intervals of a few weeks all the winter. The milk from such fresh cows is used for the daily churnings, and then by the exercise of due care in other details of management good butter is forthcoming all winter.

It is therefore obvious that with shelter there must be careful feeding and intelligent management generally. In the final result cleanliness tells perhaps more than anything else; with it a crown and finish is given to the work, without it our efforts are in vain, and there will be failure where success ought never to be in doubt, but ought to be a certainty.

WORK ON THE HOME FARM.

Look to kneelers in the flock. Hardly a week passes without some of such neglected animals coming under our notice. We have also seen an article advertised for the treatment of foot-rot in sheep, which the vendor asserts will cure any case by a single dressing. That is, of course, as false as it is misleading, because there are cases of foot-rot where the foot is hot and swollen without any wound or discharge, and for which linseed meal poultices are the only remedy. What we specially deplore in connection with this wide-spread contagious disease is the disgraceful negligence of first cases, which so frequently leads to serious harm to an entire flock. The only thing possible is persistent effort in calling general attention to the certainty of keeping it well under if it is taken in time. Isolation, daily treatment by paring, bathing with warm water, dressing with Gell's ointment, or the application of linseed poultices, are the simple but efficient means which answer so well in its treatment. Remember, too, that pregnant ewes having foot-rot are bound to fall off in condition if they have it badly, and, as lambing time draws nigh, they cannot be handled with ease or at all, which is another important reason for timely and prompt attention.

We may as well say now that, in this matter, if the flock is kept so well in hand that the feet of the sheep are frequently examined, there never will be anything like a serious spread of foot-rot in it. A sheep that falls lame at all frequently would soon be marked for drafting out of the flock altogether. This can only be done in the right way when a shepherd knows his flock individually, as he will do if he is worthy of the trust placed in him—is fond of his charge, has a kindly heart, and is humane in his treatment of the sheep. There will then be no cases of kneelers found among the flock, simply because prevention will be the rule, cure the exception. As an extra incentive now to keep under this disease, it should be remembered that lambs take it so readily that they may often be seen limping about while quite young.

METEOROLOGICAL OBSERVATIONS.

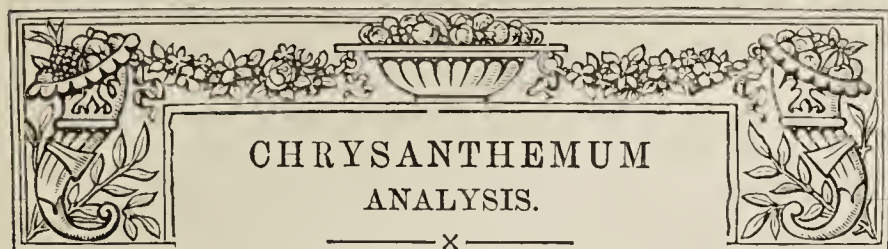
CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.				Rain.
1894. November and December.	Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday .. 25	30.366	44.4	42.9	N.E.	42.6	46.2	38.7	59.0	34.8	—
Monday .. 26	30.359	39.2	37.1	E.	42.4	41.8	36.7	42.7	31.2	—
Tuesday .. 27	30.368	41.2	39.3	N.E.	42.2	43.7	38.2	45.1	37.9	—
Wednesday 28	30.396	40.0	37.4	N.E.	42.4	43.1	39.1	47.4	38.2	—
Thursday .. 29	30.307	40.1	39.4	W.	42.1	48.9	31.9	52.1	26.1	—
Friday .. 30	30.512	37.6	35.9	N.	42.2	45.0	34.9	63.9	27.5	—
Saturday .. 1	30.530	36.2	35.8	N.E.	41.9	44.6	35.0	54.1	27.3	—
	30.405	39.8	38.3		42.3	44.9	36.4	52.2	31.9	—

REMARKS.

25th.—Fine, with sun visible almost all day.
 26th.—Cloudy and cold throughout.
 27th.—Overcast all day.
 28th.—Overcast day; fine clear night.
 29th.—Slight Scotch mist early; cloudy day, a little misty in afternoon; clear night.
 30th.—Bright sunshine all day; fine night.
 1st.—Fine, but haze or slight smoke cloud till about 11 A.M.; smoke fog after 3 P.M.
 A rainless week, with much sunshine and exceptional freedom from fog. Pressure very high, and temperature slightly below the average.—G. J. SYMONS.



THE exhibition held by the National Chrysanthemum Society in November last was not, if all the sections be included, quite as extensive as that held during the same month in 1893. But with this exception the exhibits were more numerous than at any similar show since the Centenary exhibition of 1890.

The aggregate number of blooms staged in competition at each of the last six exhibitions, exclusive of those shown in the classes set apart for six flowers of a variety, has been as follows:—

	1889	1890	1891	1892	1893	1894
Incurved...	682	1377	827	609	885	716
Japanese...	922	2054	975	1033	1862	1759
	1604	3431	1802	1642	2747	2475

At the exhibition this year there were more large Anemones and Japanese Anemones staged than at any previous show. On the other hand a considerable falling off was noticeable in the case of the reflexed varieties. There were also fewer Pompons and Pompon Anemones than at the preceding exhibition. At the last two shows the Japanese have outnumbered the incurved by more than two to one, and at the 1892 exhibition there were more than half as many again of the former as compared with the latter. Not only has this been the case, but nearly all the leading incurved varieties have likewise been staged in fewer numbers in recent years than formerly. That is to say, when their average records for the last five exhibitions are contrasted with those for the previous five they come out much lower. I have, therefore, this year calculated the averages for all the varieties throughout the table, which are old enough to allow of this being done, for six instead of ten years. The relative positions of the varieties in the analysis by doing this are but little altered, but the averages themselves which govern these positions will be found to have been in many cases considerably reduced, and yet even now are evidently not as low as they should be. I cannot quite understand why this general decline, which I referred to last year, should have taken place, unless it be that the number of good sorts available having of late years increased there are more varieties for exhibitors to select from, and therefore the same restricted number of kinds is not so repeatedly to be seen in the different stands as in the earlier years of the analysis. There were but few of the established varieties which were this year staged in unusual numbers even as compared with the last few exhibitions, the most favoured being Alfred Salter, Prince Alfred, Mrs. Heale, and Refulgens. On the other hand there were again a good many well-known varieties which appeared in fewer stands than ordinary, such as Golden Empress of India, Jeanne d'Arc, Golden Queen of England, Nil Desperandum, Lady Hardinge, and others.

We now come to the newer sorts, and it is no doubt owing to the greater numbers in which these have been cultivated in recent years that the decline in the averages of the established kinds before referred to must in a great measure be attributed. Of those sent out in 1890 Mme. Darier stands at No. 5 in the analysis, and was as frequently staged as in the previous year. M. R. Bahuant (No. 18) also holds its own remarkably well, but neither Mme. F. Mistral (No. 35) nor Ami Hoste (No. 41) were as well represented this year as last. Mrs. R. King

(No. 36), the only 1891 incurved on the list, has also not improved on its former position. On the other hand, Baron Hirsch, sent out in 1892, has risen from No. 24 at one bound as high as No. 6, and was as often staged as almost any variety in the table. Brookleigh Gem, of the same year, has likewise done remarkably well, rising from No. 36 to No. 15, while C. B. Whitnall on its first appearance in the analysis will be found at No. 43. It will thus be seen that we are not only indebted to the year 1892 for a surprising number of grand Japs, but for several exceptionally fine incurved varieties as well. Of the 1893 sorts Lucy Kendall rises from No. 43 to No. 20, whereas Robert Petfield takes its place at No. 39.

A glance down the dates of the Japanese in the table will at once show how impossible it has become to attempt any analysis of their previous performances, most of them having no history at all, or at all events none from which any satisfactory conclusions could be drawn; I have therefore this year placed all the varieties on the list according to the number of times they were staged at the last exhibition alone. A certain interest attaches to such a record, but of course the varieties cannot, for several obvious reasons, be placed in their true relative positions, like in an analysis extending over a series of years. At all events, the table shows what sorts were most popular with exhibitors during the past exhibition season. The results in the table are for the whole exhibition, but by confining the investigation to the larger classes only it will be seen from the list given below how much more extensively some of the newest kinds are grown by the larger than by the smaller growers. No doubt the expense of keeping a collection of Chrysanthemums now-a-days quite abreast of the times has much to do with this. The first twenty-four varieties, arranged according to the number of times they were set up in the open classes, arrange themselves in the following order:—V. Morel, C. Davis, Sunflower, Etoile de Lyon, Mrs. C. H. Payne, Avalanche, E. Molyneux, Mdle. M. Hoste, F. Davis, G. C. Schwabe, W. Tricker, Col. W. B. Smith, Mdle. T. Rey, Duke of York, Mrs. F. Jameson, W. H. Lincoln, Primrose League, W. Seward, Miss D. Shea, Stanstead White, J. Shrimpton, President Borel, Viscountess Hambledon, and Princess May.

Of the foregoing the only sorts whose positions in the table would be in any way seriously affected had the analysis been confined to these larger classes, instead of taking the whole show, are the following:—Col. W. B. Smith, which would fall nine, and W. Seward, six places. On the other hand Primrose League would gain six, Viscountess Hambledon seven, Mdle. T. Rey three, F. Davis three, and Duke of York four places. Outside the above twenty-four M. Bernard would lose eleven, Boule d'Or six, and Alberic Lunden nine places; whereas Amos Perry would gain nine, W. W. Coles eight, and Val d'Andorre also eight places.

As nearly all the varieties named in the table are of recent origin, and to have the advantage of a year's start must in many cases be a considerable gain to those so favoured, I will now arrange them in accordance with their dates of introduction.

1890.—W. H. Lincoln, Alberic Lunden, and Mr. A. H. Neve.

1891.—V. Morel, Mdle. M. Hoste, W. Tricker, F. Davis, Gloire du Rocher, Eda Prass, Viscountess Hambledon, and International.

1892.—Col. W. B. Smith, Mrs. C. H. Payne, G. C. Schwabe, W. Seward, Mdle. T. Rey, J. Shrimpton, President Borel, Primrose League, Princess May, Excelsior, Van den Heede, Beauty of Exmouth, G. W. Childs, Niveus, Amos Perry, C. Shrimpton, Lord Brooke, Louise, Madame C. Capitant, and W. K. Woodcock.

1893.—C. Davis, Miss D. Shea, Autumn Tints, Col. Chase, Cecil Wray, Mrs. A. G. Hubbuck, Richard Dean, Rose Wynne, and Violetta.

1894.—Duke of York.

The revolution that has recently been going on this section is

little short of marvellous, and as yet there appears no sign whatever of its abatement. For instance, of the leading twenty-four varieties given above only Sunflower, Etoile de Lyon, Avalanche, Edwin Molyneux, Mrs. F. Jameson, and Stanstead White are more than four years old, and even of these few veterans, for so they might almost be styled, considering the youthful character of their fellows, not a single one dates back more than eight years. In fact, in the whole table of Japanese varieties there are only two—Boule d'Or and Val d'Andorre—which have been out ten or more years.

As regards the so-called "veterans" of which I have complete records since they were first distributed, Edwin Molyneux, only a few years ago the leading Jap, has gradually lost ground at the last four exhibitions, but nevertheless still manages to hold its own fairly well among the giants. Again, Avalanche was as frequently staged this year as at the previous show, and Etoile de Lyon as frequently as at the two preceding exhibitions. Sunflower, too, has also lost comparatively little ground, but how it will fare when brought into competition with some of the more recent yellows remains to be seen. Mrs. F. Jameson, owing no doubt to its unique colour, still remains as popular as ever, while Stanstead White was as often shown this year as last, but less frequently than at the three previous exhibitions.

I have often before directed attention to the contrast between the more conservative incurved and the revolutionary Japanese, therefore I need now only give one more example. The average age of the first twenty-four incurved in the table is eighteen years, whereas a similar number of Japs average only three years.

As to the other sections I have, as usual, arranged below select lists of the leading kinds in these. They are arranged according to their average records at the last six or fewer exhibitions, as the case may be. The few varieties marked with an asterisk are new to the analysis.

Reflexed.—Cullingfordi, King of Crimson, Cloth of Gold, White Christine, Golden Christine, Peach Christine, Pink Christine, Dr. Sharpe, R. Smith, Phidias, Mr. M. Sullivan, and Chevalier Domage.

Large Anemones.—Mrs. Judge Benedict, Delaware, Lady Margaret, Glück, Miss Annie Lowe, Grand Alvéole, Mdle. Nathalie Brun, W. & G. Drover, Empress, J. Thorpe, jun., and Gladys Spaulding.

Japanese Anemones.—Monsieur C. Lebocqz, Jeanne Marty, John Bunyan,* Monsieur Panckoucke, Nelson, Sabine, W. W. Astor,* M. Dupanloup,* Mdle. Cabrol, Madame Robert Owen, and Sir Walter Raleigh.*

INCURVED VARIETIES.

Position in Present Analysis.	Average Number of Times Staged at the Last Six Shows.	No. of Times Shown in 1894 in True Relative Proportion to the Average.	Name.	Date of Introduction.	Raiser's or Introducer's Name.	Colour.
1	49.7	42	Empress of India.....	1861	Downie, Laird & Laing	Pure white
2	46.0	43	Lord Alcester	1882	Freemantle	Pale primrose
3	45.0	36	Queen of England	1847	J. Salter.....	Delicate rose blush
4	43.8	29	Golden Empress of India	1877	Loader	Pale yellow
5	42.5	42	Madame Darier.....	1890	Sautel	Yellow, shaded purple
6	41.0*	41	Baron Hirsch	1892	Owen	Golden buff
7	39.0	32	Princess of Wales.....	1865	Davis	Blush, tinted rose
8	38.2	36	Miss Violet Tomlin	1888	Doughty.....	Bright violet purple
9	37.7	24	Golden Queen of England	1859	J. Salter.....	Pale straw colour
10	36.7	25	Jeanne d'Arc.....	1881	Lacroix	Blush white, tipped purple
11	36.0	31	Miss M. A. Haggas	1888	Hayes	Soft bright yellow
12	35.8	31	Lord Wolaeley	1883	Orchard	Bronzy red
13	30.7	31	Mrs. S. Coleman	1889	Russell	Bright rose, shaded yellow
14	30.0	31	Alfred Salter	1856	J. Salter.....	Clear lilac pink
15	29.0*	29	Brookleigh Gem	1892	Cante	Lilac pink
16	28.9	28	John Doughty	1889	Doughty	Bronze fawn, suffused rose
17	28.6	33	Prince Alfred	1863	Davis	Rose carmine, shaded purple
18	24.5	23	Monsieur R. Bahuant... ..	1890	Hoste	Rose purple
19	24.4	25	Mrs. Heale.....	1867	Heale	Pure white
20	24.0*	24	Lucy Kendall	1893	Owen	Coral red
21	21.7	17	John Salter	1866	J. Salter	Cinnamon, orange centre
22	21.0	4	Mrs. W. Shipman.....	1878	Shipman.....	Fawn colour
23	19.8	10	Nil Desperandum.....	1862	Smith	Dark orange red
24	19.7	8	Princess of Teck	1868	Pethers	White, suffused pink
25	19.2	8	Barbara	1859	J. Salter.....	Bright amber, shaded orange
26	17.8	5	Hero of Stoke Newington	1873	Forsyth	Rose pink
27	15.8	8	Lady Hardinge.....	1861	Clark	Silvery rose
28	15.6	9	Jardin des Plantes	1859	J. Salter	Deep golden yellow
29	13.5	9	Empress Eugénie.....	1866	Pethers	Rosy lilac
30	13.4	17	Refulgens	1873	Hock	Rich purple maroon
31	11.7	5	Alfred Lyne	1888	Lyne	Rose lilac
32	11.0	9	Camille B. Flammarion	1889	Sautel.....	Dark violet
33	10.9	8	Princess Beatrice	1868	Wyness	Delicate rosy pink
34	10.5	5	Cherub	1862	Smith	Orange, tinted rose bronze
35	10.4	9	Madame F. Mistral	1890	Sautel.....	Violet rose, tipped salmon
36	10.3	9	Mrs. Robinson King.....	1891	Hotham	Rich yellow
37	10.2	8	Lady Dorothy	1887	Buss	Cinnamon buff, suffused rose
38	10.1	6	Mr. Brunlees.....	1884	Smith	Indian red, tipped gold
39	10.0*	10	Robert Petfield	1893	Owen	Bright silvery rose
40	9.0	3	Robert Cannell.....	1889	Cannell	Deep golden buff
41	8.7	5	Ami Hoste	1890	Sautel.....	Buff yellow, striped carmine
42	8.0	9	Mr. Bunn	1881	Bunn	Bright golden yellow
43	6.0*	6	C. B. Whitnall	1892	Hill & Son	Velvety crimson maroon

* New varieties, the positions of which are dependent upon their records at the 1894 show only.

Pompons.—Black Douglas, Mdle. Elise Dordan, William Westlake, Prince of Orange, Mdle. Marthe, Golden Mdle. Marthe, Pygmalion, President, W. Kennedy, and Perle des Beautés.*

Pompon Anemones.—Antonius, Francis Boyce, Mr. Astie, Madame Montels, Perle, Marie Stuart, Regulus, Astria, Emily Rowbottom, Marguerite Decoy, Rose Marguerite.

Singles.—Mary Anderson, Purity, Jane, Admiral Sir T.

Symonds, D. Windsor, Mrs. D. B. Crane, Lady Churchill, Rev. W. E. Remfrey, Æsthetic,* Emily Wells,* Nora.*

I am again indebted to Mr. C. Harman Payne for kindly supplying me with the raisers' names, and the dates and colours of the new varieties in the tables, which are not to be found in either the catalogue of the National Chrysanthemum Society or its supplements.—E. M., *Berkhamsted*.

JAPANESE VARIETIES.

Position in Present Analysis.	Number of Times Shown in 1894.	Name.	No. of Times Shown in 1894 in the larger classes only.	Date of Introduction.	Raiser's or Introducer's Name.	Colour.
1	89	Viviand Morel	38	1891	Lacroix	Silky mauve
2	72	Charles Davis	37	1893	N. Davis.....	Buff yellow
3	65	Col. W. B. Smith.....	23	1892	Spaulding	Light terra cotta
4	63	Mrs. C. Harman Payne	33	1892	E. Calvat	Bright rose and white
5	56	Sunflower	36	1888	Cannell	Rich golden yellow
6	55	Etoile de Lyon	34	1888	Boucharlat.....	Rosy purple
7	54	Avalanche	30	1887	Cannell	Snow white
8	53	Mdle. Marie Hoste	28	1891	Lacroix	White, slightly tinted pink
9	46	Edwin Molyneux	29	1886	Cannell	Chestnut crimson, golden reverse
10	43	William Tricker	26	1891	Cannell	Rich light pink
11	42	G. C. Schwabe	26	1892	Owen	Carmine rose
12	41	Florence Davis	26	1891	N. Davis.....	Pure white, greenish white centre
12	41	William Seward	17	1892	W. Seward.....	Very dark crimson
14	33	W. H. Lincoln	20	1890	Fewkes	Deep yellow
15	32	Mrs. Falconer Jameson	21	1888	Cannell	Orange bronze
16	29	Mdle. Thérèse Rey	22	1892	E. Calvat	Ivory white
17	27	Stanstead White	16	1887	Laing	Pure white
18	26	Duke of York	21	1894	Cannell	Rosy amaranth, silvery reverse
19	23	Miss Dorothea Shea	16	1893	Shea	Terra cotta
20	22	Gloire du Rocher	13	1891	Gibson	Orange amber, flushed crimson
20	22	John Shrimpton	15	1892	W. Seward.....	Crimson scarlet
20	22	President Borel	15	1892	E. Calvat	Dark purple rose, yellow reverse
23	19	Primrose League	18	1892	Pitcher & Manda	Pale yellow
23	19	Princess May.....	14	1892	Agate	White
25	17	Excelsior	13	1892	Owen	Cerise rose
25	17	Monsieur Bernard	8	1886	Laing	Rosy purple
25	17	Mrs. E. W. Clarke	13	1888	Craig	Amaranth
28	16	Eda Prass	12	1891	Dorner	Pale salmon rose
28	16	Viscountess Hambledon	15	1891	Owen	Silvery pink
30	15	Boule d'Or.....	8	1882	Bernard	Rich yellow, tipped bronze
31	14	Alberic Lunden	7	1890	Delaux	Purple crimson
31	14	Van Den Heede	10	1892	Crozy	Mahogany red
33	13	Beauty of Exmouth.....	8	1892	Godfrey	Ivory white
33	13	G. W. Childs.....	9	1892	Thorpe	Dark velvety crimson
33	13	Niveus	10	1892	N. Smith & Son	Pure white
33	13	Puritan	9	1887	Waterer	White, flushed lilac
37	12	Amos Perry	10	1892	Ware	Golden yellow
37	12	C. Shrimpton.....	8	1892	W. Seward.....	Bronzy chestnut or buff
37	12	Miss A. Hartshorn	7	1889	Waterer	White, slightly tinted pink
40	11	W. W. Coles	10	1888	Craig.....	Bright terra cotta
41	10	Autumn Tints	4	1893	Jones	Pale yellow, shaded red
41	10	Colonel Chase	6	1893	Kelly	Blush white, shaded cerise
41	10	Val d'Andorre	9	1883	Pertuzes.....	Orange red
44	9	Lord Brooke	7	1892	Pitcher & Manda	Yellow and bronze
44	9	Madame John Laing	4	1885	Délaux	Creamy white, tinged rose
46	8	Cecil Wray	2	1893	Kelly	Clear light yellow
46	8	International.....	6	1891	Hill & Son	White, tinted rosy mauve
46	8	Louise.....	6	1892	E. Calvat	Blush pink
46	8	Mrs. A. G. Hubbuck	4	1893	Jones	Carmine amaranth, rosy reverse
46	8	Mrs. Dr. Ward	6	—	—	—
51	7	Madame C. Capitant	4	1892	Calvat.....	Pale rose
51	7	Mr. A. H. Neve.....	3	1890	Owen	Silvery blush, purplish centre
51	7	Richard Dean	7	1893	Owen	Crimson, buff reverse
51	7	Rose Wynne	7	1893	Owen	Blush white
51	7	Violetta	3	1893	Kelly	Soft shade of rose
51	7	W. K. Woodcock	7	1892	Davis	Dark crimson

FRUIT-GROWING A "FATAL FAD."

MR. R. D. BLACKMORE has in his time played many parts—an Oxford tutor, a member of the bar, and a market gardener. From these various careers the world has gained the world-famed novelist, "R. D. Blackmore," who, by virtue of his magical pen and musical English, has invested various men, women, and girls with a tender charm, which has conferred immortality upon all

those persons that his genius has touched. Surely he has achieved sufficient fame for one generation; but Mr. Blackmore the brilliant novelist and Mr. Blackmore the market gardener possess dual lives, and most men who have meddled with literature would probably acknowledge that the two pursuits will not blend harmoniously.

Mr. Blackmore is not satisfied with the profits resulting from his ten acres of market garden; but Mr. Blackmore, the industrious,

practical, attentive, and obliging gardener, visiting his customers daily, vending his wares personally, and keeping a sharp eye upon his assistants in the garden, would probably make a very good living from the few acres of land given up to market gardening. Teddington is a wealthy neighbourhood, and the mellifluous tongue of the novelist would ensure a ready sale for his produce. But what would the world have lost if the novelist had been engaged in the somewhat sordid and unsavory details necessary to make a market garden of this limited area profitable to the market gardener?

Now from this experience Mr. Blackmore the novelist has misused his high literary position by addressing a series of articles to the most influential journal in the world, denouncing fruit-growing in England as a "fatal fad." The alliteration is apt and venomous, and it is scarcely credible that an educated Englishman could offer such unworthy counsel to his fellow countrymen.

The land is not the property of one generation only, it is held in trust for others to come. The cessation of fruit tree planting in a very few years would cause the fruit supply of England to pass into the hands of importers of foreign produce, with the certainty that the vilest rubbish would eventually be foisted on the markets, and the waning supply from English orchards would gradually descend to prices which would be practically profitless.

It seems hardly possible that Mr. Blackmore's literary skill could bring about such a woeful result, but that is what his denunciation of fruit-growing as a "fatal fad" would bring about if his counsel were followed. The agricultural returns have shown that for some years an annually increasing extent of land has been devoted to fruit tree culture, and many thousand acres are now occupied by fruit trees; many thousand more are necessary before England is properly equipped to bid defiance to the foreign grower. Mr. Blackmore would have done better service to his countrymen if he had advised his Devonshire friends to cut down their worn-out and useless trees, and in place of these time-worn veterans to plant the county with young trees. The coming Devonian would then link his name to other Devonshire worthies as a public benefactor, which the author of the pernicious saying, that the important industry of fruit-growing in England is a "fatal fad," does not deserve.—F. R. H. S.

EDGINGS FOR KITCHEN GARDEN WALKS.

A QUARTER of a century ago Box was used to form edgings for the principal walks in nine-tenths of the kitchen gardens throughout the country. Its use for this purpose has of late very much decreased, but even now instances may be met with in newly made kitchen gardens where the time-honoured Box edging is a conspicuous feature. But little fault can be found with them on the score of appearance, if the requisite labour is expended upon them. When, however, the necessary annual attention of clipping and filling up blank or thin places is in the least neglected the edgings become unsightly rather than ornamental.

Even when they are kept in the best condition I question if there is a kitchen garden in Great Britain in which the labour expended upon Box edgings could not be more satisfactorily employed in other directions. These are points strong enough I think to sound the death knell of edgings of this description for kitchen garden walks, but I have yet a stronger one to advance. It is this, where chemical weed-killers are used for clearing walks—and who would be without them?—much damage is frequently done where the walks are edged with Box. Of course the precaution of fixing a board an inch or two from the edging should at all times be taken when weed destroyers are used, but somehow or other browned patches in the edgings soon show themselves after such applications. Sometimes this may be caused through inadvertence on the part of the workman, at others in consequence of the Box roots having penetrated the walk. No matter how brought about, the result is the same—disaster. To put the matter in a nutshell I maintain that the edgings of all kitchen garden walks should be of such a nature as to be secure against mishaps of this description. One or other of the many materials possessing these good points are within the reach of all, and the sooner they are universally utilised for that purpose the better for both employers and gardeners.

Plain or corrugated edging tiles with a wide base, such as are largely manufactured for the purpose, are in every way suitable. I prefer those with a plain, smooth surface, as they are less liable to be chipped or broken, and their trim rounded outline is in keeping with a well managed garden. Tastes, however, differ, and those who consider a corrugated surface more pleasing to the eye will find no serious objection to that form of tile. In preparing

the ground for fixing these edgings, after the trench has been taken out it is important to tread the soil and make it uniformly firm. The proper levels and gradients should then be taken throughout the entire length of each walk. Where the ground slopes considerably the level throughout should first be taken by the aid of a spirit level, straight edge, and pegs, starting at the highest point. It is then an easy matter to mark on the peg the height at which the edging requires fixing at the lowest end. Next measure on the same pegs the difference between the level and the required height of the edging. Then find out how many feet the two extremities of the walk are from each other, calculate how much fall that will allow in every 10 feet, drive pegs in at that distance apart in a straight line with each other, keeping the tops of each at the right distance from the level. If a line is then strained to touch the tops of these pegs, a uniform gradient will be secured.

On comparatively level ground the edgings should slope gently in one direction, so as to convey superfluous water along the sides of the walk to the drains. In filling up the trenches it is necessary to ram the soil and rubble very firm, so as to hold the tiles securely in position; if this is well done in the first instance there is but little danger of their being afterwards displaced, except by very rough treatment. Hard blue bricks are also excellent for forming edgings, and when only short lengths are to be dealt with these prove convenient, being generally at hand. When, however, a considerable amount of this kind of work has to be carried out at one time, it is wise economy to purchase tiles, as by buying them in large numbers, and taking into consideration the less labour required in fixing, the entire outlay involved is but little more than when bricks are used. There are many ways of fixing these; some stand them on end in a perfectly upright position, others lay them lengthways in an angle sloping towards the walk, and those who have a hankering after novelty stand the bricks on one of the corner angles, so that when fixed the edging has the appearance of a row of equilateral triangles, exactly like the teeth of a saw. To my mind this is too fanciful a style to adopt in a kitchen garden, and the angles of the bricks are, moreover, liable to be broken, and then look unsightly.

When new gardens are being formed the trenching of the soil usually brings to the surface numbers of stones which have to be disposed of. If these are of a hard nature, similar to the well known Kentish ragstone, they form excellent material for edgings, and have the advantage of being the most economical of all. It is seldom that stones of this description requires much preparing beyond chipping off the sharp edges with a hammer, for to aim at complete uniformity would quite spoil the appearance of an edging of this character, as its beauty lies in its ruggedness, and so long as that ruggedness is not pronounced enough to impede the performance of the necessary operations incidental to kitchen gardening, these stone edgings answer their purpose from every point of view. In fixing the stones a line should be used to get the right general level, the tops of the stones being allowed to touch the line here and there, the majority of them being more or less below it. If this course is followed a rugged yet compact edging is secured, which will last for centuries, require but little annual labour to keep in order, and will always look well.

Whatever style of edging is decided upon should be employed throughout, as there are few things so incongruous about gardens of pretension as the indiscriminate admixture of various styles of work through the want of decision to determine which under the circumstances is the best. As we have reached a season when contemplated alterations are usually carried out, I trust these remarks may be helpful to some who in the rush of modern days have far too little time to think out the details necessary for the successful conduct of work in progress.—A KENTISH MAN.

CLEANING VINES.

Now the season has arrived for cleansing Vines, a word or two may not be out of place as to the manner in which it should be carried out. Judging by what one sees in many places where Vines are grown, the work is carried out most indiscriminately; often trusted to inexperienced men, whose chief object is to strip the rods of as much bark as possible, and scrape them, especially about the spurs, as bare as they can be. After this performance is finished the Vines are washed, and perhaps plastered over with some obnoxious compound. Does this unnatural treatment impair the constitution of the Vine? In my opinion it certainly does. Notice Vines so treated and those that are never peeled or hard scraped; there is no comparison in the thickness of their stems. The one with its thin rods, the other under

more rational methods, with its rods well clothed with bark, having every appearance of promise.

I always like to see Vine rods with abundance of bark on them, they seem to indicate there is something good to follow. Nature never provided bark to be peeled off annually, she placed it there for a purpose, that purpose being to protect the internal tissues, and the vital functions they perform. Even if I had to take charge of Vines infested with mealy bug I should be very reluctant to strip them much. I think several thorough washings with some approved insecticide, painting them afterwards (in such a bad case) would be my method, that is if the Vines were in good condition otherwise. Then I should keep a particularly sharp look out as soon as heat was applied the following season. That is the period to stamp mealy bug out of Vines.

In my own practice the cleaning of Vines is entrusted only to my most experienced men. I never peel or scrape them, but only cut off the bark that is actually hanging loose, the spurs being carefully rubbed round with the hand. They are then washed with a solution of soapy water sufficient to create a lather, a partly worn spoke brush being handy for cleaning about the spurs. If they have been infested with more red spider than desirable repeat the washing as hitherto done. As each rod is finished it is syringed over with clean water. After this operation, as soon as the rods are dry enough, all holes are stopped with Gishurst compound. This is all that is done to them; they are then finished, and ready for tying up. I never find it necessary to dress them in any other way. Painting Vine rods, except in very bad cases, I do not consider to be of any utility. It closes up the pores of the bark, which is detrimental, not to speak of the time taken in preparing and applying the mixture. It is not elaborate dressings at winter time that prevent the spread of insect pests so much, it is looking sharp after them immediately they make their appearance in the spring, and keeping them under. Of course, all other matters connected with the cleaning of the Vines must be thoroughly attended to.

I may remark that when cutting back young Vines it is a good plan to leave an additional foot of stem beyond that actually required, so that the young shoots from the succeeding year's growth can be trained along it as soon as practicable. This method will ensure a fine straight rod from the base upwards. Young canes often break awkwardly, and it is difficult to train the young shoots straight, they having a tendency to curl away from the main stem.—J. J. CRAVEN.



CYPRIPEDIUM METEOR.

WHEN this fine *Cypripedium* (fig. 84) was exhibited under the varietal name of "Meteor" by Mons. Jules Hye at the Drill Hall, Westminster, in September last, a first-class certificate was awarded for it by the Orchid Committee of the Royal Horticultural Society. It was described as being the result of a cross between *C. bellatulum* Mariæ and *C. barbatum grandiflorum*, and is a decided acquisition. The petals are very broad, and dull rosy red spotted dark brown, with hirsute edges. The upper sepal is of the same shade as the petals, and is margined white, while the pouch is reddish purple.

MR. R. I. MEASURES' CYPRIPEDIUMS.

MR. R. I. MEASURES, Cambridge Lodge, Flodden Road, Camberwell, S.E., is, as most persons interested in Orchids know, the possessor of one of the most complete collections of *Cypripediums* in the world. He published a list of them a few years ago, which passed through two editions. A third issue is now ready for distribution, in the form of an extremely neat leather-bound gold-lettered brochure which can be carried in the waistcoat pocket. Yet the "wee bookie" contains a list of all the species and their native countries, as well as most of the hybrid varieties, with their parentage and raisers, up to date. They are arranged alphabetically, under every initial letter except "Q" and "U," no less than 850 names being recorded with admirable clearness. The compilation

has been no light task, yet Mr. Measures has no desire to profit by it, but, on the contrary, would prefer to lose a little on the sale of each copy, provided the Gardeners' Royal Benevolent Society and the Royal Gardeners' Orphan Fund may gain; therefore this valuable list is sold for 3s. 6d., 2s. of this amount going to those charities. Copies are obtainable from Mr. H. J. Chapman (Mr. Measures' gardener), at the above address. We hope the edition will soon be sold out.

LÆLIA ANCEPS.

AT this season a good supply of this Orchid alone in its many varieties is sufficient to make a fine display. It is one of those species we never seem to have too many plants, and of which we never tire. The ordinary varieties are cheap enough to be within the reach of all who aspire to a glass house, and if newly imported



FIG. 84.—CYPRIPEDIUM METEOR.

plants are procured it is very interesting to note the characteristics and beauties of the varying types as they flower.

The cultivation of *L. anceps* is of the simplest description. The ordinary compost consisting of equal parts of peat and sphagnum will suit it. In potting the plants the leads should be kept as near the centre as possible, and elevated a little above the rims of the pots, which must be clean and well drained. As regards temperature it is a very accommodating plant, but thrives best in a little less heat than *Cattleyas* usually require; it should have a light position not far from the roof glass. A copious supply of moisture is needed while making its growth, and the plants must be kept free of insects, especially aphides, which are often troublesome when the spikes are forming.

The flowers last about three weeks in perfection, and in the type are about 3 inches across. The sepals and petals are warm rosy lilac, the lip deep purple in front, the side lobes creamy white veined with bright red. *L. anceps alba*, *L. a. Stella*, *L. a. Amesiana*, and *L. a. Dawsoni* are superb white varieties, the latter the best of all. This splendid variety originated in the once famous collection at Meadow Bank, Glasgow, more than a quarter of a century ago. Its distinguishing characteristics are great substance and width in the petals, size, and purity of colour being in these respects superior to any other. *L. a. delicata* produces six to eight flowers on a scape, is much lighter in colour than the type, and altogether a charming kind. *L. a. Barkeriana* is a splendid variety, very dark and rich in colour, and very scarce. *L. a. Scottiana* and *L. a. grandiflora* are all strong growing, deeply coloured forms. *L. a. Warneri* is a light variety, flowering usually much later than any other.

These do not by any means exhaust the list of varieties, as upwards of thirty said to be distinct have been described. The white varieties are not usually so free-flowering as the darker coloured forms, although many cultivators now succeed in blooming them annually. Abundance of sunlight and air are needed for these beautiful kinds, with a little more heat than the type, and if given these, and otherwise carefully grown, established plants will seldom fail to flower freely.—H. R. R.



MR. MAWLEY'S ROSE ANALYSIS.

"E. M." (page 518) says "opinions should be tested by facts, not facts by opinions." Quite so; that is just the complaint we make of his analysis—that it has a large basis of facts, which have been not only tested but also actually altered by opinion.

As a county cricketer of many years' standing, I agree with Mr. Girdlestone that averages may be misleading; but the voice of the public says, "Let us have the actual figures, and we will make the deductions ourselves."

To take another homely illustration—a cup of tea. Some may be content with as much sugar as the hostess likes to put in it; some may like to drink it absolutely unsweetened, but a large number may prefer to have their tea given them just as it leaves the pot, and that the sugar basin should be passed round separately, that they themselves may sweeten or not, according to taste.

Now, "E. M." gives us his analysis ready flavoured by himself; but I for one say, Please, if you can manage it, let us have the flavouring or adjusting and the bare figures neat and undiluted, in separate cups. If "E. M.," to whose painstaking labours I am as alive as anyone, would arrange this, I think very little fault would be found.

I have but little knowledge or experience in statistics, and considerable reverence for due authority. When, therefore, he states, as last year, that experts in statistics have approved of his method, and consider it justifiable and fair, I use the Suffolk expression, "There I must leave"—i.e., I shrug my shoulders and stand aside.—W. R. RAILLEM.

THE letters of Mr. Girdlestone and Mr. Mawley (page 517) have given fresh interest to this topic; they discuss the subject temperately and critically, and comparing the analysis with the results obtained from the great experts I mentioned in my letter of the 29th ult., page 490, evidently believe I have given myself away.

I would remind these two gentlemen that I have not taken exception to the Roses mentioned (we most of us know which are the "best Roses"), but partly to the fact that Mr. Mawley having obtained statistics of certain flowers at one show on one day in several years, and manipulated them, he has practically claimed that these flowers represent the "opinions" of the exhibitors as the "best Roses grown," or to be grown, for exhibition purposes. The fallacy of this argument I have explained, as the Roses shown on one particular day represent merely the best Roses which are in bloom in a garden on that or the previous day. We exhibit the best Roses we have in form, not giving thereby our opinions that we value them most for exhibition.

But what I especially take exception to is the plan adopted, in fact gloried in by Mr. Mawley, of altering his figures backwards and forwards, and ignoring past performances (as in the case of *Senateur Vaisse*) without giving satisfactory reasons, practically the reverse, for his vacillating method. The year 1888 suited the *Rose Senateur Vaisse* better than any subsequent year; but possibly in 1894, the temperature being similar to 1888, this *Rose* would, but for the frost, have again been more prominent; notwithstanding this Mr. Mawley specially selected and exemplified his manipulation of the figures gained in his analysis by this *Rose* as an instance of the value of his analysis. I now give it as one instance of where his plan is misleading and incorrect. But as I said in my previous letter, if the actual figures come out pretty much the same in the long run, why not give them and save all the unnecessary, even if scientific, labour? I do not wish for one moment to detract one iota from Mr. Mawley's work, but I must say that when common sense suits all purposes, and Mr. Mawley practically acknowledges it, "glorified common sense" with me would be considered as time wasted.

I will again repeat a question which I asked in one of my previous letters. Why have *Ethel Brownlow* and other *Roses* been taken for two or more years at the actual figures as shown at the Crystal Palace, whereas *Caroline Testout* and *Margaret Dickson* have been unduly exalted? It cannot be truly said that 1894 suited *Ethel Brownlow*, although it did suit *Margaret Dickson*.

I have the very greatest respect for Mr. Girdlestone's opinion as a rosarian, as well as on other matters, but when he says that *Caroline Kuster* has "large and well formed flowers as the rule rather than the exception," I at once join issue with him, and accept the opinion of the experts in preference. The only great rosarian whom I know as invariably showing this variety well is Mr. Lindsell. I never get it of any size or form, although of late years I have managed to do so with most *Teas*, even *Cleopatra*, which I have found reliable for three years, and not alone in 1894. Every man has a right to his opinion, but to say that *Baroness Rothschild* and *Marquise de Castellane* appear to Mr. Girdlestone indispensable, and that *Comte de Raimbaud* is "unreliable" (what does Mr. Pemberton, the best exponent of that *Rose* say to this?), I think cannot be accepted as a correct judgment as against the experts' verdict on these varieties. Similarly, *Jean Ducher* has been given up as hopeless by nearly every

amateur I know, whereas *Cleopatra* is steadily advancing in favour. As Mr. Girdlestone truly says "these instances might be multiplied *ad infinitum*," but they do not really alter the objections made both last year and this as to the weak points of the system adopted by Mr. Mawley for his analysis.

Finally, I can only re-assert the view I entertain, which is that if Mr. Mawley had been content to give us the tabulated results of the flowers actually shown in winning boxes, and had not manipulated those figures to make them appear to come out as if the actual exhibits and opinions of the best varieties were identical, then the table would have been correct and most interesting. And I contend that in striving to prove too much he has materially lowered the value of his analysis, and has simply given us a "glorified version" of his own opinion alone.—CHARLES J. GRAHAME.

MR. LINDSELL'S MOTION.

AS an amateur *Rose* grower will you allow me space in your valuable *Journal* to ask members of the National *Rose* Society to well consider at the general meeting to be held on the 13th inst. the proposal to be laid before them—viz., whether rule 13, disqualifying as exhibitors members who sell their surplus *Rose* blooms, shall be repealed or enforced? To enforce it means the exclusion of scores of ardent amateurs with limited incomes who cannot afford the expense of a good garden, but who, with the intense devotion of the true flower lover, spend many a happy hour among their plants, growing their own stocks, budding and pruning with their own hands, quite content if, by the sale of their surplus blooms, they contrive to pay the year's expenses for rough labour and manures. Professional gardeners they are not, yet these are the members it is proposed to exclude in favour of the richer men who, without any real love or sympathy for their flowers, can afford to pay for professional skill. That these big men and their highly paid servants, with gardens where expense is no consideration, should show jealousy of the success so often attending the humble amateur working for sheer love of his hobby is not surprising; but if the *Rose* Society is to deserve the title of "National," it must do its utmost for the encouragement of all classes. Should Mr. Lindsell's motion be successful there will not be a *Rose* the less grown, but there can be little doubt of its disastrous effect on the membership of this hitherto most popular and useful Society.—A. F. GRACE.

HYBRID BRIAR ROSES.

IN previous contributions to the *Journal of Horticulture* I have endeavoured to illustrate and emphasise the value of the beautiful and uniquely fragrant Hybrid Briars, raised by Lord Penzance, who some time ago wrote me a very interesting communication on the subject. His lordship says that a considerable number of his seedling Sweet Briars, which have hitherto flowered, have now turned out to be Perpetuals, blooming with great facility in the autumn months. One of their most attractive attributes is their delicious aroma, which is entirely different from the fragrance of the leaves.

Their parents are the Sweet Briar, also known poetically as the *Eglantine*, and certain picturesque varieties among the *Noisettes* and Hybrid Perpetuals, such for example as *Paul Neyron*, *Fortune's Yellow*, and *William Allen Richardson*. Most of these are reminiscent of our Scottish romantic literature, having for their names the heroines of the *Waverley Novels*. I should not be astonished in the light of their popularity, already extraordinary, if they achieve an equal fame.

There has undoubtedly been of late years, as Mr. Wm. Paul recently affirmed in this *Journal*, a reaction in favour of free-flowering garden *Roses*, however inferior they may be in perfection of form, in compactness, and in dimensions, to the great Hybrid Perpetuals, *Noisettes*, and *Teas*, a fact sufficiently indicated by the rapid rise in the popular estimation of Lord Penzance's introductions.

The Hybrid Briars, I am credibly informed, do not require any pruning beyond removing, when necessary, superfluous branches. If pruned like ordinary *Roses* they will refuse to bloom. They are naturally of a very healthy and vigorous constitution, and will not succeed unless when grown in the open air.—DAVID R. WILLIAMSON.

PLANTING ROSES.

HAVING decided upon what ground *Roses* we are going to plant, we must first of all consider the class of manure most likely to be beneficial. Deep digging and a thorough incorporation of more or less manure, according to the richness of our soil, are most essential in *Rose* culture. One great failing with the inexperienced amateur is to plant in too rich a compost; another is the close proximity of roots and manure. Never allow these to come in direct contact. A little thought will show us how detrimental to healthy root growth this is. We find new roots pushing out very vigorously and rapidly when *Rose* plants are laid into porous soil, or a compost not excessively rich; but it is not so if you lay them into rich soil. Let us follow out the hint so plainly given us by Nature, and place a little porous soil of no great strength around the roots when planting rather than rich manure. Spread over a wider space, and the plant allowed to find or leave it at pleasure, is much the wisest way.

All dwarf *Roses* should be planted at least a couple of inches below where stock and scion were joined, whether during grafting or budding. There are three advantages in this. First, the stock can swell more freely, and so meet the growing *Rose* growths of vigorous kinds; second, you can more readily protect the most vital parts—in fact, a dwarf is very seldom killed if properly planted; thirdly, it is possible to draw

soil around them, and so secure as well as encourage those suckers from the crown of our plant, and which are the life of dwarf Roses. Before planting, trim off all coarse roots, or shorten them severely, and also trim the jagged ends of those mutilated during lifting. Strong growers with much wood may be slightly shortened back to advantage, thus giving less strain upon the stored-up sap in the cell vessels. We had far better have a less amount of firm and plump wood than much in a partially shrivelled condition. Such wood may be cut away without fear, as it would be of little service during the coming season, seeing that all strong growers need their roots well established if they are to do justice to wood made the previous season. A light mulching with rough stable manure upon the approach of hard weather is an excellent plan, but do not overdo this.

If we neglect to make our newly planted standards firm, the swaying they go through during the winter is most injurious. As fast as the roots start into new growth a wind sways the plant, and probably wrenches some of them off. If this does not happen, a hole is made at the base of the Briar, water collects here, and, when frost with wet combine, few Roses can survive. More standards are killed or seriously crippled during the first winter through neglect in securing them than many of us imagine. This form of Rose must be healthy from the first, or there is little hope of satisfactory results.

Early planting, if properly carried out, is an immense advantage, and I most strongly recommend it. If one cannot plant early in the winter, wait until February, when we may look for a fairly quick start after planting. In standards especially, do not purchase varieties without knowing their habit of growth, and let no one persuade you to have weak growers in this form. As short standards, those upon Briar stems of from 1 to 2 feet, a number of our moderate growers are grand, but above that height they are far more often than not failures. Do not plant such as Gabrielle Luizet and Ulrich Brunner the same distance apart as you would Baroness Rothschild or La France, and do not plant these two last so close as you would some of our moderate growing Teas, Hybrid Teas, or Hybrid Perpetuals. I mention this because I saw a case where Cleopatra, some small plants of climbing Perle des Jardins, and others of equally distinct habit had been set in at similar distances one from another. A little consideration will avoid much future disappointment.—PRACTICE.

AMERICAN RIVALRY IN FRUIT GROWING.

I HAVE noticed on several occasions letters from Colorado appearing in the columns of the *Journal of Horticulture*, which to my mind are apt to be misleading. The letters are, apparently, from English residents in Colorado, and from fruit growers, theoretical or practical, as the case may be.

I enclose a clipping from the "California Fruit Grower," and with the writer I am personally well acquainted. It is to be deplored that such a country should be so "boomed" as a fruit-growing region. Some three weeks ago, about November 1st, Colorado was visited by a severe snowstorm, but the late spring frosts render crops of fruit always uncertain. It would seem almost that the much-landed sections are those most to be avoided. I have been in the fruit-growing business nearly twenty years in California, and have seen the industry grow from a mere nothing to its present gigantic proportions. All over the United States it is becoming customary for dealers to label their fruit with the magic word "California," whether it had been grown here or not.

This year were shipped from California to various markets east of the Sierra Nevada Mountains, and chiefly to Chicago and New York, as the great distributing centres, 7000 car-loads of fresh fruits, or 84,000 tons. To add canned, dried, and preserved fruits—Raisins, Nuts, Olives, Oranges, and Lemons, would bring the grand total for this year to over 40,000 car-loads of 12 tons each. These are vast figures, but none the less true. A failure of crops is never known in California, and taking into consideration all the natural advantages, supplemented by the fact that the fruit industry here is in the hands of largely very intelligent men, it seems folly to attempt to compete with us. All the varieties of fruits from Europe and Asia have been and are being tried here, and many new varieties, surpassing those hitherto known, have originated in California.

Orchards have been for fifteen years systematically sprayed for various insect and fungoid diseases, and while growers in Europe are just beginning similar experiments, and in a very crude way, we have about discarded all insecticides, and in their place have discovered various coccinellidæ, which are the natural enemies to our worst pests. Take, for instance, the white or fluted scale (*Icerya Purchasi*), which five years ago threatened to destroy the Orange groves of Southern California. It has been cleared out by the *Vedalia cardinalis*, a beetle closely resembling the lady bird (*Coccinella septempunctata*). The Olive orchards were even in a worse plight through the black scale (*Lecanium oleæ*), and I know of one grower, the Hon. Ellwood Cooper of Santa Barbara, who annually spent 3000 to 5000 dollars in spraying, and to little purpose. The rhizobia (another lady bird) has completely eradicated it. Most of these scale insects were imported from Australia, and that is where our State Board of Horticulture looked for the remedy, engaging an expert to hunt until he found the natural foes of the various scale insects. Several other coccidæ are being bred at the rooms of the State Board of Horticulture in San Francisco, and which are colonised in different portions of the State, and sent to individual growers in rotation as they make application.

There are many English and Scotch growers of fruit in California, but, unfortunately, most of them, at least, whom I have met, are men who would make a success nowhere. I generally have occasion to be ashamed of my countrymen. Contrasting the climate of Colorado with California, I cannot refrain from picturing briefly the outlook from my window.

The date is November 20th. Large bushes of Heliotrope in full bloom; Roses—La France, Clare Carnot, Shirley Hibberd, Madame Lambard, Papa Gontier, Mabel Morrison, and scores of others, all in full bloom out of doors. Palms of several varieties, Oranges, Lemons, Guavas, and a host of beautiful plants and trees, which nowhere else could be seen in conjunction with magnificent orchards of all deciduous fruits. Where else in the world can Apples and Peaches, Olives and Oranges be grown to perfection in the same orchard? And this is in Northern California, about fifty miles north of San Francisco. In this part of the State no irrigation is required. I have grown nursery stock as well as orchards for nearly twenty years here, and have never used water artificially, although we have no rain during the summer.—LEONARD COATES.

CRANE FLIES AND TIPULA GRUBS.

WE generally find that when one of our native insects appears in unusual numbers, or out of its ordinary time, so as to force itself upon the notice of the public, absurd and incorrect ideas are soon afloat concerning it; this has been the case recently in North Kent, probably in other districts, the result of an exceptional abundance of crane flies or Tipulæ. Knowledge of insect transformations is yet so scantily diffused that some persons when told the flies emerged from the earth seemed to think that they issued forth as flies without having undergone any previous life in a larval state of existence. One friend, whose notions of insect changes were peculiar, asked what these insects "turned to," supposing that from such flies some other form of life might be developed.

A very remarkable circumstance was the long time the flies continued to be about—fully three weeks, taken in connection with the profusion that was observable, showing there must have been a series of emergences, as it seems unlikely that they live more than a few days in their final stage. Though the mouth has a sucker and lips, this sucker is short. Unlike their relatives the gnats, they are not feeders upon blood, and I doubt whether they take honey from flowers; probably their only nutriment is the dew or moisture from the grasses and other plants amongst which they thread their way dexterously by the aid of their long legs. Entomologists agree that the Tipulæ seldom fly far from the place where they have been bred, and a part, if not the greater part, of the swarms we had in North Kent were natives of that county, no doubt; yet there was conclusive evidence that some of these flies had crossed the Thames from Essex, because they were on many days more numerous near the river than further inland, also at that time the prevailing wind was northerly.

Another fact was that a proportion of them seemed to be enfeebled or exhausted, hence they would fall an easy prey to birds; but no doubt many succeeded in depositing eggs to produce a new brood. The backwardness of the season was shown by the late appearance of these insects, for August is the month when they are usually noticeable, one of our popular names indeed—that of "harvestmen"—associates them with the harvest season. This year they began to be abundant about the middle of September, and continued in force after that month was out. Crane flies is a name given to Tipulæ in books, but I never heard it applied to them in conversation, that of "daddy longlegs" they share with a well-known spider of wandering habit. We have some thirty British species of this genus, but the flies recently so abundant belonged chiefly to the familiar *T. oleracea*, though there were also specimens of the spotted species, *T. maculosa*, and the marsh, *T. paludosa*. Undoubtedly the weather of the past season was very favourable to the larvæ or grubs, for they luxuriate in moist soil, and nothing short of actual immersion in water hurts them, while a dry spring and summer are prejudicial.

Without desiring to anticipate that these insects will be troublesome in the winter and spring, which is quite possible, judging from past experience, it is as well to gather up some facts that will be helpful to us in the event of the grubs being numerous. They are not always distinguished by gardeners from other subterranean grubs that are mischievous; as an instance, they are sometimes called wireworms, being taken for the larvæ of the Elater beetles, and if not wiry, they are certainly remarkably tough, but the wireworms have six legs, also they are more flattened than the fly grubs. These pass all their changes within the year, but the wireworms live three, or even four, years. Though principally known as feeders upon the roots of grasses, corn, and Clover, the Tipulæ attack many other plants; Peas, Lettuces, and Potatoes have suffered from them, nor do flowers escape, the Dahlia and other species are occasionally visited. Subterranean in habit, and avoiding light, at dusk they often come to the surface of the earth, feeding for variety upon the crowns or stems of plants. One of our friends indeed, puts in a plea on their behalf, and says they may now and then improve lawns by clearing off superfluous roots, but this must be quite unusual. In fields and market gardens this autumn the weather has favoured a prolific growth of weeds, and it is amongst these the mother flies find security in depositing their eggs, which are small and numerous (one female will lay between 200 and 300), mostly lodging them under the earth by help of the very flexible ovipositor.

There would be many more eggs laid than is now the case were it

not for the exertions of certain insect-eating birds, especially rooks and starlings, for they are not only diligent hunters for the grubs of *Tipulæ*, but they chase the flies, which, from their feeble flight, are an easy prey. As the rook, in particular, has been seen to swallow them at the rate of three or four a minute, it must be deemed a valuable friend. In anticipation of the autumn sowing, the flies lay upon land that has no crop just then, and if subsequently this is ploughed deeply, no doubt the eggs may be carried, most of them, to such a depth under, that when they hatch the young brood will be unable to obtain any food. Also, as Miss Ormerod suggests, a dressing of gas lime in its fresh state would positively prevent the flies laying eggs by its powerful smell, and exposure to the air makes it in time a safe manure, which can then be worked into the soil. Other odorous substances might be distributed in fluid with the same object, such as petroleum or carbolic acid mixed in water; but then these things may not only disgust the flies, it is possible they would keep off bird help.

A great deal depends on promptitude in action in dealing with this enemy, for, as it is with most larvæ, the young brood can be killed by applications to which the grubs are comparatively insensible when they have become of some size. It is not certain if the eggs hatch speedily; those of many flies do. Probably the grubs are out during October, and continue to feed through the winter, unless the frost is severe. Miss Ormerod gives two instances where crops of Turnips and Strawberries were infected owing to the use of farmyard manure, in which these grubs not unfrequently lurk. But there is much in favour of the application of suitable manure to young plants; by it their growth is hastened, and they are also strengthened to resist this enemy. Guano, with a little salt, has been found advantageous, and the various chemical manures. Salt is not, however, fatal to the grubs, nor does diluted carbolic acid, and the effect of the latter upon plants is sometimes injurious. There can be no objection to soluble phenyle, which, in the proportion of a quarter of a pint to four gallons of water (or it might in some cases be made a little stronger), is beneficial also to the soil. Rolling the ground has this advantage, when it can be done, that it greatly checks the movements of the grubs, and if it is done at night while they are on or near the surface, many will be killed. Hand-hoeing among plants that are attacked is an effective but costly remedy. Miss Ormerod, in her last entomological report, calls attention to some experiments made in killing *Tipulæ* by means of rape cake, fragments of it being scattered over the ground infected. In several instances they died by hundreds, in others they seemed to eat it and be none the worse. The larvæ may also be trapped by burying slices of Carrot or Potato, though not so successfully as are the wireworms.—ENTOMOLOGIST.



THE WEATHER IN LONDON.—Mild weather continues to prevail in the metropolis. Sunday last was damp and foggy, and though Monday was clearer it rained slightly towards the evening. Tuesday was fine and very mild, but much rain fell during the night. Wednesday opened fine though dull, and very warm for the time of year. Zonal Pelargoniums and similar summer bedding plants remain fresh in many suburban gardens, an unusual sight for the second week in December.

— THE WEATHER IN THE NORTH.—During the past fortnight the weather has for the most part been dull and wet, with the wind generally from the east. On three mornings there have been frosts of from 2°, to 5° on the 9th. The 7th was one of the gloomiest days we have had; the 8th was bright and frosty throughout; thaw followed on the afternoon of Sunday, and has continued till Tuesday morning, when the thermometer stood at 48°. In the garden pickings of Mignonette, East Lothian Stock, Chrysanthemums, Violas, and Wallflowers may still be had. Furze is reported to be in bloom in some districts.—B. D., *S. Perthshire*.

— THE GARDENERS' ROYAL BENEVOLENT INSTITUTION—A WOLVERHAMPTON AUXILIARY.—The Committee of the Wolverhampton Gardeners' Association and Chrysanthemum Society have decided to establish an auxiliary of the Gardeners' Royal Benevolent Institution, to be called "The Wolverhampton and Staffordshire Auxiliary" of the Institution. To inaugurate this they held a general meeting of gardeners. The Mayor (Alderman C. T. Mander, J.P.) presided over an attendance of about eighty, which included Messrs. H. J. Veitch and G. J. Ingram (Treasurer and Secretary of the Gardeners' Royal Benevolent Institution), G. A. Bishop, and J. H. Wheeler. We understand that the Mayor of Wolverhampton has started the subscription list with a donation of ten guineas, and Mr. G. A. Bishop intends holding a floral fair, from which he hopes to raise a sum of £200.

— ROYAL BOTANIC SOCIETY.—At a meeting of this Society, held on Saturday last at the Gardens, Regent's Park (Mr. Granville R. Ryder in the chair), a ripe fruit of *Carludovica palmata*, from a plant growing in the gardens, was shown. The plant, which is a native of Central America and bears a most striking resemblance to the Palm family, is noticeable as furnishing the "chip plat," from which Panama hats are made.

— FLOWERS IN LINCOLNSHIRE.—Owing to the mildness of the season *Primula vulgaris* and *Viola odorata* are in bloom in the garden here. I also observed *Primula veris* and *Spiræa Ulmaria* in bloom by the wayside a short time since.—H. CHARMAN, *Mablethorpe*.

— MR. CHARLES WARDEN.—We are informed that Sir F. P. Bathurst, Bart., Clarendon Park, Salisbury, has added the management of the home farm and woods to the duties of his head gardener, Mr. Charles Warden, who has ably filled that post during the last thirteen or fourteen years. We wish him success in his extended duties.

— THE "KEW BULLETIN."—We have received copies of Appendix III., 1894, of the "Kew Bulletin," which contains a list of staffs in botanical departments at home, in India, and the colonies; also Appendix I., 1895, containing a list of seeds of hardy herbaceous plants, trees and shrubs available for exchange with the regular correspondents of the Royal Gardens, Kew.

— OLEARIA HAASTI.—Mr. Herbert May, Markree Castle, Sligo, writes:—"My experience with *Olearia Haasti* in the West of Ireland is, it is a precocious shrub, and the wood being of soft sappy nature, it is liable to sudden death at any time during a spell of sharp frost unless well protected. We have plants of it in a very healthy condition, but they are planted where shelter is afforded by other taller-growing shrubs. We have had fine specimens disfigured by a partial collapse of some of the branches. It is well to have a few of the lower branches layered, thereby securing a young stock of dwarf plants."

— EURYBIA GUNNI.—The same correspondent observes:—"Eurybia Gunni is not to be depended on when planted in the shrubbery, but if afforded shelter near to a wall it will thrive and last for a number of years. It is a plant I take special care of by protecting it with Spruce branches, and I keep a stock of young plants under cover during the winter months, ready for planting out in the spring."

— LAWN TROUBLES.—Can any of your numerous readers give their experience in ridding Daisies from lawns? Our lawns are literally full of the roots. I have lately engaged two lads to dig them up with a garden trowel, but it seems endless work. After digging them up they are swept together and taken away. Also our lawns are very mossy and very thin with grass in places, almost bare under the trees. My employer and myself are anxious to get the lawns in good condition, and, therefore, any advice would be gladly received on the subject. Our lawns are about 1 acre in extent, the soil gravelly, and clay in places.—LAWNS.

— FOREST HILL AND CATFORD DISTRICT HORTICULTURAL SOCIETY.—From the preliminary Report of the first year of the Society we are glad to see that a success has been attained. The Show held on July 20th and 21st received high encomiums from competent judges; 70 exhibits in flowers and 110 in vegetables were staged. It was generally felt, and expressed, that for so short a time a notable success had been achieved, and that the Society should go forward to even greater results in succeeding years. We notice that there is a balance of upwards of £15 in hand—a credit to all concerned. A general meeting of the Society will be held on Monday, December 17th, at St. James' small hall, Stanstead Road, at 8.30 P.M., for the Committee to render their report and for the election of officers for the coming season.

— WOOD GREEN HORTICULTURAL SOCIETY.—At a meeting of this Society held at Wood Green on Tuesday evening last, Mr. R. Dean gave an excellent lecture on "The Florists' Tulip." As was generally anticipated, Mr. Dean dealt with his subject in an interesting manner, delivering a most instructive discourse. After referring to the history of the Tulip, he detailed the various forms, elucidating his remarks by the aid of coloured diagrams. Mr. Dean called attention to the florists' devotion to the Tulip in some northern districts, and deplored the fact that a greater number of younger men did not take up its cultivation. He could remember seeing beds of florists' Tulips in the south-eastern districts of London about thirty years ago, but these had all disappeared. A short discussion followed, and the usual vote of thanks was accorded Mr. Dean for his lecture.

— **ROYAL METEOROLOGICAL SOCIETY.**—At the ordinary meeting of the Society, to be held at 25, Great George Street, Westminster, on Wednesday, the 19th instant, at 7.30 P.M., the following papers will be read:—"Report of the International Committee on the Cloud Atlas," by Robert H. Scott, M.A., F.R.S. "Rainfall and Floods in the Catchment Basins of the Severn, Wye, and Usk, November, 1894;" by Henry Southall, F.R.Met.Soc. "Meteorological Observations at Mojanga, Madagascar, 1892-1894;" by S. C. Knott.

— **KILLING WEEDS BY ELECTRICITY.**—One of the "latest" from across the water is the method of killing weeds by electricity. It is stated that "not only has electricity been found serviceable for weed destruction, but the cost is much less than when it was done by hand labour. With electricity, five miles of weeds can be killed in an hour at a very small expense. A brush heavily charged with electricity runs along about 8 inches above the ground, and every weed with which it comes into contact, however big and strong, is immediately killed, and turns black as if frozen."

— **SLIGHT RAINFALL IN YORKSHIRE.**—Mr. J. Easter, Nostell Priory Gardens, writes:—"Not wishing to add to the number of your already numerous weather correspondents, I cannot refrain from sending an account of the rainfall here for the month of November, showing the contrast between some of the southern counties and the fall here in this part of Yorkshire, situated about six miles south-east of Wakefield. Total for the month, 0.97 inch only, showing an extraordinary dry and fine month, with a mean maximum of 50.17°, and a mean minimum of 39.6°."

— **WEATHER IN SCOTLAND.**—Mr. G. M'Dougall, Stirling, writes:—"The rainfall here for the last month was 2.759 inches, which fell on twenty-two days. Greatest fall in one day was 0.710 inch, which fell on the 13th. Mean maximum of the month, 50.0°; mean minimum, 37.6°. Highest maxima, 57.4°, was on the 2nd, and the highest minima, 49.8°, was on the same date. The lowest maxima, 42.3, was on the 26th, and the lowest minima, 27.0°, was on the 27th. Nights below 32°, six. Altogether a mild month, no frost occurring until the 24th. No November for the last five years has been so free of frost."

— **WEATHER IN NOVEMBER AT BROUGHTY FERRY.**—The past month may be considered a record month for this locality, first for its mildness and second for its absence of rains, fogs, and storms. The mean temperature of the month was 43.1°, being 2.5° above the average of the last twenty years, and being the warmest of the series except November, 1881, which averaged 1.2° higher, the mean night temperature of November being exactly the same as for October, both months averaging 37.6°. The rainfall was 1.18 inch, being 1.62 inch below the average of twenty years, and the lowest of the series, except 1889, when only 0.39 inch fell. The prevailing direction of the wind during the month has been westerly.—J. MACHAR.

— **OX-EYE DAISIES.**—Flowers stated to be 5 inches across do certainly seem to be for these single Daisies of most inordinate dimensions. I had hoped that the finest forms of latifolium or lacustre, which we now have in such great abundance, were large enough for anything. Still I have found that placing young plants in rather rich, strong soil will cause them to produce huge blooms. Where specially large flowers are desired, if side or outer growths be lifted with good roots, then replanted singly or to form good clumps in trebles in specially prepared soil, blooms will come almost of the size named. The only possible excuse for seeking to produce such large flowers seems to be that they may rival those of Miss Mellish and other large flowered forms of Helianthus. That the laciniated petalled forms, such as filiformis or laciniatum, of the maximum section, are of the prettiest of these giant Daisies there can be no doubt. The slit or serrated petals give to the flowers a certain elegance previously much lacking. Seeing that so many of these forms are of garden origin, it is a pity we cannot have for them some common appellations, for even maximum seems to be but a variety of leucanthemum, and then the full designation of Chrysanthemum leucanthemum maximum filiformis is distinctly a superfluous one. As all these Daisies seed freely they can be rapidly increased, and it is also for that reason not at all surprising if there should be occasionally variations in the flowers. None the less, it is well to preserve the best by increasing from the stools. This may be done freely enough, indeed it does not take long for these Daisies to become heavy burdens in gardens if not severely kept in check. My experience of them on strong soil is that under no circumstances should they be allowed to remain longer than two years without being divided and replanted.—A. D.

— **MR. ALFRED OUTRAM.**—We learn that the connection of Mr. Outram with the Holloway Nurseries will shortly terminate, after an association of twenty-two years. Mr. Outram is as well known as most men in the gardens of Great Britain, Ireland, and America. He is not only a man of business capacity but literary ability, as is very apparent in his extremely readable and high interesting little treatise describing the "Progress of Horticulture in the United States of America." He is an inventor, too, in a small way, namely, of "Outram's Orchid Flower Holder," which many persons have found useful for arranging Orchid flowers in rooms, instead of leaving them uncut so long as to cause the exhaustion of the plants. Mr. Outram resides at 7, Moor Park Road, Fulham, and we have not heard that he has entered into a new engagement. He is an admirable judge of plants, and has always been ready to lend a helping hand at flower shows, either in adjudicating or reporting. It may not be generally known that he is brother of that terror to criminals, the astute Detective Outram of the London Police. The only difference between the brothers professionally is that one is expert in hunting down rogues, and the other in hunting up orders for plants.

— **SCHIZOSTYLIS COCCINEA.**—This is a very useful late autumn flowering plant, having the habit of the Gladiolus, and producing bright crimson flowers. It is considered quite hardy, though it does not appear to be so here (York). Clumps were planted on the herbaceous borders, where the plants grew very well, but produced few flowers, and these were generally spoilt by the wet, cold weather. During the winter of 1891-92 nearly all the plants were killed, only sufficient bulbs being found in the spring to fill a 6-inch pot. It is now grown in the following manner. The plants are divided in small pieces in the spring, and planted on a border a foot asunder and 15 inches between the rows. These grow away well, making good plants by the autumn; they are then lifted, put into 6 and 8-inch pots, and stood in a cold frame, which is kept close for a few days until they recover from the check caused by lifting, when abundance of air is given. When the flowers commence to expand the plants are transferred to a cool house. Grown in this manner I find them very useful for house decoration as well as for cut flowers. As seed is produced very freely when grown in pots, the pods must be picked off, or the period of flowering will be shortened.—J. S. UPEX.

— **A CARNIVAL OF FLOWERS.**—We learn from the "American Florist" that Saratoga, New York, has had a "carnival of flowers," and the people are so pleased with it that it will undoubtedly be repeated annually in the future. The procession of decorated vehicles in the parade was larger than the wildest enthusiast had anticipated, and the decorations were lavishly elaborate. An enormous number of flowers was used, mainly outdoor kinds, such as Golden Rod, Gladiolus, Hydrangeas, Asters, and Sunflowers, though in the floats designs of Roses and Carnations were seen. One very effective decoration was of Asparagus and Mountain Ash berries. Another was of Pine branches, on which were fastened in great profusion bunches of Hydrangeas. One of the floats carried a representation of the High Rock spring as it appeared a century and a half ago; another was a floral boat manned by ten boys; still another represented a Pompeian garden; a Roman chariot carried Ceres with her sheaves, Pomona with her fruits, Flora with her blooms, Æsculapius with his herbs, Diana with her stag, and Pan with his pipes, and was drawn by four oxen.

— **THE ASCENT OF SAP.**—At a recent meeting of the Royal Society Mr. H. H. Dixon and Dr. J. Joly, F.R.S., presented a paper on "The Ascent of Sap." It was pointed out, says the "Times," that Strasburger's experiments have eliminated the direct action of living protoplasm from the problem of the ascent of sap, and have left only the tracheal tissue as an organised structure, and the transpiration-activity of the leaf wherein to seek an explanation of the phenomenon. The authors investigate the capability of the leaf to transpire against excessive atmospheric pressures. In these experiments the leaf was found able to bring forward its water menisci against the highest pressures attained and freely transpire. Whether the draught upon the sap established at the leaf during transpiration be regarded as purely capillary or not, these experiments lead the authors to believe that it alone is quite adequate to effect the elevation by direct tension of the sap in tall trees. Explanations of the lifting of the sap from other causes prove inadequate. A reconsideration of the principal experiments of previous observers and some new experiments of the authors lead to the view that the ascent is principally in the lumen and not in the wall.

— WE learn from "Nature" that Dr. S. NAWASCHIN has been appointed Professor of Botany and Director of the Botanic Garden at the University of Kiev; and Dr. K. Schilbersky, Professor of Botany and Vegetable Pathology at the Hungarian Agricultural Institute, Buda-Pesth.

— THE POMEGRANATE.—Perhaps it will interest Mr. W. H. Divers (page 519) to hear that the Pomegranate flowered here several times within the last few years. About three or four years ago it ripened fruit which stayed on the tree for nearly twelve months. The *Chimonanthus* has had fruit on it this season. They are both against the front of the house facing south.—D. H., *Brympton Gardens*.

— LARCH TREES.—It is reported that "two of the original five Larch trees said to be first introduced into this country are to be seen in the Duke of Athole's grounds, and near Dunkeld Cathedral. These, it is said, were planted in 1738, and when measured in 1888 were 102 feet 4 inches high; at 3 feet from the ground the circumference was 17 feet 2 inches; at 5 feet it was 15 feet 1 inch; at 17 feet it was 12 feet 10½ inches; at a height of 51 feet they measured 8 feet 8 inches round; while at 68 feet they were 6 feet 1 inch in girth."

— SEED POTATO BOXES.—Having to store for the winter a number of picked tubers of various sorts of Potatoes for seed, I have had a number of cheap stout shallow wooden boxes made in which to place them, and have adopted the Jersey method so far as to have strips of wood fixed across the top down the centre to use as handles. I have, too, purchased cheaply some good clean egg boxes, and together with some 6-inch three-quarter board for ends, specially purchased thick material, cannot cost more than from 2½d. to 3d. per box. Then allowing 3d. each for labour, and assuming that because the boxes are strong they will endure for six years, the actual cost per box spread over so many years would be 1d. per year. The inside measurement is 15 inches by 13 inches. The ends are of five-eighths thickness, side strips three-eighths, and bottom half an inch. The sides are open half an inch at the bottom, and 2 inches at the top, so that air can circulate freely. The handle is let into the ends, so that the tops being level the boxes may be stood one on the other as high as needed.—A. D.

— PUBLICATIONS OF MESSRS. BLACKIE & SONS.—We continue to receive from this firm numbers of that excellent work, "The Natural History of Plants." We would remind our readers that sixteen numbers make up the complete series, and the seventh has just appeared. It is probably the most exhaustive treatise on physiological botany which has been published in this country, and should figure in the library of everyone interested in plants. Oliver's "Systematic Botany" is another book issuing from the same press, which is to be recommended as a succinct exposition of plant classification, and a useful handbook for reference. The earlier portion enters minutely into the question of the fructification and reproduction of the Cryptogams, giving the latest knowledge on this obscure subject in a very lucid and palatable form. The character of the Gymnosperms, as forming the connecting link between the higher vascular Phanerogams and the flowerless plants, is also developed tersely and clearly, and the whole book will be found a serviceable compendium with which to refresh the mind.

— SEWAGE GROWN POTATOES.—Mr. Joseph Witherspoon, the well-known fruit grower, is a member of the Chester-le-Street Rural Sanitary Authority, and as such is charged with the management of the Authority's Sewage Farm at Chester-le-Street. He has this year been trying an interesting experiment in Potato growing on the farm, much against the advice of the Local Government Board officials, who predicted failure. This is how he proceeded:—In the early part of the year he set apart 1½ acre for Potatoes. The land was ridged up, and the sewage turned into the furrows; during February and March he had the ridges split, from time to time, and the sewage again turned into the new furrows thus formed. In due season the land was planted with three varieties of Potatoes—Clark's Main Crop, Sutton's Abundance, and Bruce. The sewage was turned off, and no more used there, the cultivation then proceeding on the usual lines. No other manure was used, and the crop has been lifted, and weighed out 19 tons, of which only 12 cwt. were small. This magnificent return, Mr. Witherspoon says, fully justifies his oft-repeated assertion, that if farmers only fully recognised the highly fertilising properties of town sewage, they would compete for it as keenly as they now search for highly concentrated artificial fertilisers. It is only fair to say that besides the extraordinary yield the crop was of most excellent quality, the demand for the Potatoes being far in excess of the supply.

— PIGEONS AND CATAPULTS.—I am much annoyed with wood pigeons eating my crops, and my employer wishes me to shoot them, but cannot bear the report of a gun. Can any of your numerous readers inform me as to the capabilities of the catapult gun? Does it discharge shot or bullets? Will it kill a pigeon at 30 yards distant? Where are these guns obtained?—CATAPULT.

— GARDENING IN PHILADELPHIA.—A transatlantic contemporary says:—"Scientific gardening is to be undertaken on an extensive scale by the University of Pennsylvania at Philadelphia. Work has been begun in laying out a botanical garden for the use of the biological and medical students, and for the general instruction of the public at large. The available space is 7 acres. It is to be hoped that a botanic garden worthy of the name will be thus established."

— AXMINSTER AND DISTRICT GARDENERS' SOCIETY.—On Monday evening in last week Mr. Crook, head gardener at Forde Abbey, Chard, delivered an excellent address on "Hardy Plants in the Garden," at the Parish Room, on the occasion of the monthly meeting of the Axminster and District Gardeners' Mutual Improvement Society. The Rev. J. R. Dummelow occupied the chair, and there was a large attendance. Afterwards a competition for vegetables took place.

— WOOLTON GARDENERS' MUTUAL IMPROVEMENT SOCIETY.—On Thursday in last week a meeting of the above Society was held in the Mechanics' Institute, Mr. R. Todd presiding. The questions asked were—(1) "How often should *Eucharis amazonica* be potted, and what compost should be used?" (2) "Is December too early to prune Gooseberries and small fruits generally?" The questions caused considerable discussion, the answer to the former being, Not too frequent potting, with compost good loamy soil of a retentive character, so as to avoid much watering, which was considered detrimental. To the second, the general opinion seemed to be, Thin out Gooseberries in September, avoid shortening young wood; other fruits prune as soon as convenient. The questions being disposed of, Mr. Hitchman, gardener to Arthur Earle, Esq., Childwall Lodge, gave an interesting paper on "Hardy Ferns," dealing with the habitat, propagation by spores, and general cultivation. He also gave a list of some of the most beautiful varieties. The usual votes of thanks terminated the proceedings.—R. P. R.

— GARDEN REFUSE.—During the autumn and early winter months garden refuse accumulates rapidly, and in some positions degenerates into a great nuisance. If it cannot be conveniently dug or trenched in the ground then something ought to be done towards expediting decay, thereby obviating a nuisance, and at the same time creating a heap of valuable manure. To every five cartloads of ten barrowloads each add one cartload of either caustic or gas lime, and mix all well up together. Then if one or more turnings are given during the early part of the winter all will be fit for wheeling or carting on to the ground some time when it is frosty in January or February. All sticks and stems that are come across should be thrown out. These with prunings and such like ought to be burnt slowly, and the residue from this great "smother" will be found of great service forked into the surface of beds, to be sown with Carrots, Onions, Beet, and such like.—W. I.

— TEA CULTIVATION IN INDIA.—In 1788 Sir Joseph Banks suggested to the Court of Directors of the East India Company that the effort should be made to cultivate Tea in India. Lord William Bentinck, on the eve of his departure for India, says the "Kew Bulletin," accordingly received instructions that he should give the subject his careful consideration. Some eight years previous to Sir Joseph Banks' suggestion, Colonel Kyd had actually raised China Tea in the Botanic Gardens of Calcutta. Lord Bentinck, on his arrival in India, lost no time, however, in taking action. A Tea Committee was founded, with Dr. Wallich as Secretary. In addressing his Council on the 24th of January, 1834, His Excellency made it clear that he was to leave nothing unturned that might help to attain the object aimed at—viz., the acclimatisation of the best Chinese plants. The Tea Committee do not appear to have informed Lord Bentinck that Major Bruce (about 1821), and subsequently Mr. Scott (in 1824), had found the Tea plant wild in Assam. Much expense and considerable delay was accordingly incurred in sending several expeditions to China to procure Chinamen and Tea seed; but while a Commissioner was actually in China (on behalf of the Tea Committee), Captains Charlton and Jenkins re-discovered the wild Assam plant. It is perhaps needless to traverse the somewhat beaten path of the subsequent historic events, the repeated failures but ultimate successful establishment of the Tea industry in India. One point may, however, be specially mentioned.

It was found (when very nearly too late) that the indigenous plant was far superior to the acclimatised. The first distinctly public, or commercial, sale of Indian Tea was made in the Calcutta market on the 25th May, 1841. The total area under Tea in India is 334,845 acres. The exports in 1891-92 from India were 120,000,000 lbs. At the present day it may be said that Ceylon is now a more formidable rival to India than China. In 1885-86 Ceylon exported not quite 8,000,000 lbs. of Tea. In 1891-92 Ceylon had increased its exports to nearly 68,000,000 lbs.

— CATILLAC PEARS.—When the story of the amount of fruit imported into this country for the year is told some reference should be made to the large number of Catillac Pears sent over here from France in the well-known wooden crates. How good is the sample, and how neatly yet cheaply packed in layers with some paper shavings between them. These fruits are sold at 2½d. per lb. in the grocers' shops, and as shown in these light, neat crates, how attractive they look. And yet we see this large importation going on when we have had one of the heaviest of home-grown Pear crops. But is it in consequence of the British public having of late become familiar with the delicious nature of this Pear when baked or stewed, and find that at home we have no means to cater for it? Surely there is no Pear grown so easily, and on the whole crops so regularly as does the hardy Catillac.—D.

— BRUNSVIGIA JOSEPHINÆ. — Writing about *Brunsvigia Josephinæ*, an English correspondent in the "Garden and Forest" says:—"If we could induce this plant to bloom every year it would take rank with the most select of South African bulbous plants. Under cultivation in this country, however, it rarely flowers; consequently it is rarely grown. In some parts of South Africa it is most abundant on the open sandy plains, its large heads of red flowers standing erect among the short scrub, and when withered rolling about in the wind like gigantic Dandelion heads. There is a plant of it in bloom in the Cape house at Kew. It has a bulb about 4 inches in diameter and a stout semi-terete scape a foot high bearing an umbel of fourteen flowers, each flower being borne on a stiff pedicel 9 inches long, the flower itself being 3 inches long, and in shape and colour suggesting the *Jacobæa Lily* (*Sprekelia*). Sometimes there are fifty or sixty flowers in an umbel, according to Baker. The whole inflorescence is very suggestive of an elaborate chandelier."

— THE MANURE HEAP.—For light soils well decayed stable manure and good farmyard manure is the best. If it has previously done service as a hotbed it had better be left in this solid state for some weeks longer, while if still comparatively fresh it should be thrown together into a heap to ferment and decay, an occasional turning preventing the centre becoming over-heated and dry, and expediting decay. Nor ought the manure intended for heavy soils to be left spread abroad for the rains to wash their virtues out of it. The proper course to pursue is to select a convenient site, and over this spread a layer 12 inches thick of loam or garden soil. On this to be stacked the manure solidly, wheeling or carting on to the heap doing good rather than otherwise, and when the heap is about 5 feet high spread another 12 inches or rather less of soil on the top. Thus treated the decay will be steady; there will be no loss of ammonia, as the soil will absorb this, while that underneath will soak up all the juices that reach it. Manure will keep good a long time when treated in that manner, and by mixing soil and manure together according as it is chopped down the bulk will be greatly increased.—A READER.

— THE POOR APPLE CROP.—I am surprised that there should seem to be room for discussing the reasons that led to the very poor Apple crop of the present year. The conditions favourable to the production of a very fine crop were exceptionally so, as we had well matured wood, stout plump buds, made all the stouter by the abundant autumn rains of the previous year, and, not least, a very fine bloom. There was not a shadow of reason to suppose that the Apple bloom was in any way deficient of pollen, and no one dreamt of making such a suggestion until after the severe May rains had washed out the pollen or the later frosts had destroyed what of immature fruits had been set, or at least largely so. Then, as is always the case, critics cast about to find a cause of any nature but the right one. If trees had been so very much crippled by the previous year's drought—and it is notorious they were not, for in spite of it wood growth was almost as good as ever on fruit trees—then Pears should have been a poor crop as well as Apples. There is no stability in such reasoning. Apples, oddly enough, though the latest to bloom, suffered most because the bloom was expanded at a

singularly ungenial and wet time. No pollen, especially as found in open, erect, and cup-shaped flowers like those of the Apple, could withstand such climatic conditions and yet be fertile. Comparisons between Vines and Apples do not run at all on all fours, for our treatment of both are so dissimilar. Again, a crop of Grapes is less dependent upon the wood growth of the previous year, which is, of course, all cut away in the pruning, but on the weather of the fruiting season. That is the Castle Coch experience, and just as last year gave a great crop the present season has given a very poor one.—A. D.

— CANNING FRUIT.—One of the principal industries amongst the poorer classes in San Francisco, says a writer in a northern contemporary, is the fruit canning. The season is but a short one, from May to October at most, but while it lasts they make it a remunerative one. There are no fixed working hours; it depends entirely on the amount of work to be done. Sometimes the work is all done by three in the afternoon; on other occasions, as happened a day or two ago, it has gone on till two o'clock in the morning. That occurred at one of the largest canning factories in San Francisco. A load of Apricots, 33,812 lbs. in all, came in early in the morning, and he saw the result of the day's work next morning in 29,000 cans of Apricots stored away and ready for exportation. The factory is close to the Italian quarter, and most of the people who work there are regular hands. They come back season after season. In the early morning, about five or six o'clock, they begin to cluster round the doors, so that when the fruit does arrive they may get first at the boxes. Sometimes as many as 27,000 packages, sacks, and boxes will arrive in a morning, and the rush to get first at them is very amusing. The women, though principally Italian, are of all nationalities, and they push, fight, and shove quite good naturedly for a front place. Being on piece work the women are remarkably active, and it is astonishing how much they can get through in a day. All the operations are conducted in a large stone-floored apartment, opening off the street. The boxes are brought direct there. Each woman seizes a certain quantity, carries it off to one of the long wooden tables, and in a moment stalks, stones, and peelings are flying round like hailstones. The mode of preparation depends, of course, on the fruit. Apricots are seldom peeled. Peaches are always, and afterwards thrown into clean water till they are ready to be canned. The cans, when filled are taken to the syruping machine—an ingenious contrivance—whereby forty-eight cans are filled at one time with the preserving liquid, the waste matter being drawn up from the tank into which it runs by means of a force pump, strained, and used again. From there they go to the capping machine, where the lids are soldered on, leaving only a tiny pin-hole in the centre for the evaporation of the steam. Afterwards they are plunged in a bath of boiling water, where they partially cook for a few minutes. The little holes are then closed completely, and the fruit receives its final cooking by dry steam in a retort. The cans are then taken to the warehouse, tapped and examined to see if there are any defects, then labelled ready for shipment.

DIFFICULTIES IN EXHIBITING — PROPOSED COURT OF APPEAL.

CANNOT you, in your powerful position, suggest a Court of Appeal to consider allegations of misjudging, say by proposing a half-guinea deposit, or something of that kind, until a matter in dispute can be authoritatively settled? "The Judge's award to be final" sounds very well; but how can one tell, for instance, the difference between *Chrysanthemum* blooms from crown buds of one variety and terminals of another in many cases?—GEO. CRABBE.

[The suggestion of a deposit appears a good one—both sides, of course, depositing. Without some such provision a "Court of Appeal," if formed, would be inundated with applications to settle differences of opinion on matters of personal rather than public interest. The suggestion is commended to the attention of the Royal Horticultural Society for consideration in connection with the proposed code of judging. If the new proposal is entertained we think conditions could be formulated for carrying out a project that appears to be needed—namely, an authoritative Court of Appeal for the adjustment of differences incident to exhibiting, and settling disputed points in connection therewith, the decision to be final. It should cover the whole scope of exhibiting, and by no means be limited to *Chrysanthemums*. The "Court," to command public confidence, should comprise Judges of wide experience (including specialists) in different branches of horticulture, and not less important would it be to have law and literature represented for interpreting and improving ambiguous phraseology in schedules. Possibly some of our readers may have ideas to communicate on the subject in question.]

IMPROVING TUBEROUS BEGONIAS.

THE tuberous Begonia is at present so conspicuously in favour, that a few remarks concerning its improvement and the methods by which it can be effected may be of interest to a large circle of cultivators. When we consider the great improvements, amounting almost to a complete transformation, which have already been worked, it does not seem an easy matter to proceed much further, but I am disposed to think that the rate of progress during the next ten years will be much greater than that achieved in the same period of time just past. Before going into its improvement in detail it will be as well to attempt to obtain a glance as to what its future is to be, and what form it will ultimately survive. Is it to be single or double, or both? If single, are the flowers to be round or oval? If double, is mere size to override form and compactness? A seemingly difficult set of questions to answer, but judging from tendencies at present dimly discernible, they are much easier of solution than on the surface would appear.

Glancing at the run of popular favour we cannot be very far from the mark if in the future we give to the doubles an advanced position gained at the expense of the singles. The changes which the individual flower will undergo is not so easily disposed of, but I think the ideal at present sought after will be realised, or something very near it. The ideal may be described as a plant of dwarf habit with moderate sized leaves, the flowers being produced well above the foliage, borne on stout footstalks in an upright manner, and the form of the flowers being either oval or circular, certainly more of the latter than the former. I think the present large size will be maintained, and perhaps slightly added to, the circular flower to be 5 inches in diameter, and the oval one $5\frac{1}{2}$ inches in length by 5 in breadth. Substance of petal, edge to be well defined, depth and richness of colouring in the darks, and delicate blending in the lights also being prime essentials. If only tuberous Begonias could be raised possessing flower stalks sufficiently strong to dispense with the aid of supports, what an advance would have been accomplished. At present it is only with a few of the scarlets that we have reached this desirable point, and only the future can show whether this characteristic will become general to all. Whatever may be the result, no chance to obtain this erect type must be disregarded.

Having reviewed our ideal we have now to consider how to attain to the same, and the methods best fitted to aid us. If properly fertilised few plants are more prolific than that under review, and few hybrids exist that can be raised so true from seed. This in itself explains in great part the success of the past, and forms a splendid incentive to future efforts. The one great cause of failure or only partial success is in attempting too much, or trying to jump in a single season a greater distance than old and experienced hands expect to reach in two or three. By all means then adopt the slow and sure process, and do everything thoroughly and well, which should include a record of all operations connected with the fertilising and seed-raising. In fertilising choose only the best-formed flowers for seed and pollen parents, and save only a limited quantity of seed, for far more good varieties may be expected from a single seed vessel saved from a really good variety than from 100 saved indiscriminately from second-rate ones.

One important point must always be borne in mind, and that is the apparently predominating influence of the pollen parent in everything except foliage. Fertilise the blooms as early in the day as possible, choosing pistillate flowers newly expanded, and by the aid of camel's-hair brush covering the surface of the stigma with the pollen, care being taken to clean the brush after every operation. If a very important cross is being effected it will be advisable to isolate the plant so as to insure it against insect intrusion for a period varying from twenty-four to forty-eight hours, by which time impregnation will have taken place. For the truth of this statement I have no proof beyond the falling or drooping of the petals and a slight curving of the flower stalk at the base of the seed vessel, the latter being only at times discernible.

Where, then, are we to obtain the pollen necessary for fertilisation? In the answer to this question lies the whole secret of double production as we understand it in regard to flowers. All that is needed is to obtain pollen from what is generally described as a petaloid anther—that is, an anther which is in transposition from its true state to that of a petal, for the double flowers of Begonias and other plants consists, in addition to the calyx and corolla, of petals resulting from such a change, which, when the metamorphosis is complete, cease to bear pollen, and are therefore barren. This is clearly not so well understood as it should be, and the majority of persons possessing this knowledge are apparently under the impression that it would be altogether a foolish proceeding on their part to enlighten their fellows. Petaloid anthers are generally found in greatest numbers in the flowers of worthless doubles—that is, those flowers in which the change from anther to petal is not complete.

After fertilising the pods must be carefully watched, for although in the case of the singles these will remain upon the plant and ripen, this very seldom happens when doubles are operated upon, as in the latter case the pollen is apparently very unfertile. The best means to adopt against the loss of the pods is to mark each one prominently at the time of pollenising. An ideal double is, in my opinion, one possessing all the points of a first-class single, such as habit and manner of flowering, with medium rather than large blooms, which should be compact in form, and finish in one common centre. If the number of pistillate flowers could be reduced it would add greatly to its decorative effect.

Having now shown how double varieties may be produced and the single ones improved, also what constitutes the highest form in each

my advice, culled from the hard field of practice, to all those who are only beginning is, Do not attempt too much; save two or three seed pods carefully; prove as many of the seedlings as possible, and should any of these be superior to the parents make them in turn your seed-producers, and so advance step by step until the ideal is reached. SASSENACH.

VIOLAS AND THEIR FRIENDS.

FEW if any hardy flowers can exceed the increasingly popular Violas in chasteness of habit, floriferousness in character, or charming diversity in colour; while to some, and especially in the sparkling gems of the Violetta group, we may add fragrance.

Violas have been chiefly flowers of the north, but are passing south-

wards in greater force year by year. They will be grown in a thousand-fold larger numbers in the London parks next season than they were ten years ago. They have found a cherished home in the Midlands, of which Birmingham appears to be growing into the position of floral centre. Professor Hillhouse lives there, as does Mr. W. B. Latham, also Mr. W. Dean, and there are many good florists in the district. When these join hands, with the north on one side and the south on the other, and representative Viola growers assemble together, they form a goodly company. This they did at the Viola Conference at Birmingham last year, and some of them were caught by the camera. We find the result in a "Report of the

Proceedings," and are privileged to introduce their features (fig. 87) to the whole wide world of horticulture.

This Conference Report contains not only a number of good looking men there "portraited," but a considerable amount of excellent and instructive matter. In addition to what may be termed the history of an idea, also a narrative of the proceedings, Mr. William Dean tells what he knows, and that is a great deal, about the best Violas for bedding. Mr. William Cuthbertson, who equally knows what he is speaking about, follows with leading varieties for exhibition. Mr. A. J. Rowberry, as he is well competent to do, comments on both; and Mr. H. A. Needs tells, in his terse way, how he grows Violas in the Woking sand, and gives the "brew" of the wine that sustains them. Mr. George Steel also narrates the origin and progress of the "miniatures," on which Mr. Dean discourses below and introduces the raisers.

Professor Hillhouse proposed that an exhibition of Violas should be held in the Birmingham Botanical Gardens next year, and not without effect, for as we are writing comes the schedule, in which ninety prizes are offered and two silver medals. The show opens on Wednesday, 29th of May, and a conference will be held on the second day.

We have pleasure in stating that the "Viola Conference Report," from which the portraits are taken, can be had from Messrs. Dobbie and Son, Rothesay, for 6d. It is well worth the money to all who are interested in the flowers in question, and we doubt that any such persons will be disappointed with the twenty well printed pages, even if they send an extra bawbee for postage.

MINIATURE VIOLAS.

THE miniature Violas known as the "Violetta" section are now becoming popular and form a distinct type, both in habit and flowers, the latter being small and well formed generally, with a strong perfume attached to most of the varieties. The habit of growth is compact, close to the ground, giving a profusion of flowers, and most suitable for small beds or for edgings of larger beds or borders. There is a peculiar charm in their beauty and fragrance, and we are now getting breaks of colour, which add still more to their usefulness, for at the Viola Conference in Birmingham some seedlings of blue shades of colour were shown, and since then flowers of other promising seedlings have been sent to me:

As the Violetta or miniature type received special notice at the Viola



FIG. 85.—MR. GEORGE STEEL.



FIG. 86.—DR. STUART.

Conference in Birmingham in August, and a resolution was unanimously passed, "That in the opinion of this Conference the term 'Violetta or Miniature' shall be now used in reference to all flowers of the Violetta type, and they must not exceed $1\frac{1}{2}$ inch in diameter, and that this Conference adopt Mr. Steel's suggestions as to the recognised properties of the Violetta or Miniature section." These rules as to the "properties" of this section will be found in the admirable report of the Conference just issued; but from it I take one item of Mr. Steel's views, and that is as to "habit," which should be dwarf and procumbent, the foliage small and bright, the leaves close together, the joints short, and the habit bushy, with flower stalks of such length as will bring all the flowers well together.

No one deserves greater acknowledgment in the introduction and improvement of this pretty type of the popular Viola than Mr. George Steel, of Etal, who has for some years devoted great attention to the

the plant was so small only a little stock at present exists of it. I very sincerely hope it may be seen at the next Viola Conference, and on that occasion a goodly number of beautiful new varieties with increased shades of colour will be forthcoming.

There are other raisers at work now, and this pretty section finds a host of admirers, for in addition to Mr. Steel's seedlings, fit to be sent out, Mr. A. J. Rowberry is at work, and has already gained distinction with his charming Olivetta, a bright blue lilac self, and Mr. George McLeod sent to the Conference some very charming seedlings, and others are also raising seedlings.

As the originators of this section, the names of Mr. George Steel and Dr. Stuart, whose portraits (figs. 85 and 86) are now published, must be coupled, and the former is to be credited for having brought the Violettas prominently into notice and raising so many new varieties.—WILLIAM DEAN.

Mr. H. W. ROBERTSON, Mr. W. H. GABB, Mr. W. B. LATHAM, Mr. JOHN FORBES, Mr. GEO. M'LEOD, Mr. H. A. NEEDS, Rev. A. D. MAYOU,
Woking. Birmingham. Birmingham. Hawick. Hon. Secy. L.P.S. Hon. Treas. N.A.G.A. Amington.



Mr. A. J. ROWBERRY, Prof. HILLHOUSE, F.L.S., Mr. WM. CUTHBERTSON, Mr. WILLIAM DEAN, Mr. WILLIAM SYDENHAM,
Hon. Assist. Secy. N.A.G.A. Birmingham. Rothesay (Chairman). Birmingham (Secretary). Tamworth.

FIG. 87.—VIOLA CONFERENCE—BIRMINGHAM, 1894.

Violetta section. His first variety was raised in 1887 as a chance seedling from Countess of Hopetoun, the well-known popular large-flowered white, and at that time Mr. Steel had not heard of the original Violetta raised by Dr. Stuart, of Chirnside; but Mr. Steel thought so little of this seedling that he was greatly inclined to throw it away, but retained it because it was so pure in colour, and comparatively rayless, and so fragrant. Seeds were saved from it, and a few plants raised, but only two of them produced rayless flowers, and one of these (Mrs. Joseph Oliver) was afterwards sent out.

In 1889 Mr. Steel had heard of Dr. Stuart's Violetta, and a plant or two kindly sent to him by the Doctor proved it to be quite distinct from Mr. Steel's original seedling, having a white ground colour with a large distinct yellow blotch or lip from the eye and the lower petal, and this is a characteristic in many of the white ground Violettas. The two were crossed in 1890, and produced some very charming seedlings, flowers of which he sent to me, and by your kindness a report of them was published in the *Journal of Horticulture*, amongst them Maggie Steele, Jeannie Turnbull, and Mrs. George Finlay. These were all rayless, by which is meant that no blotch or markings of any sort were to be found from the eye of the flower.

In 1891 and 1892 Mr. Steel tried the experiment of crossing his Violetta seedlings with pollen of the sweet-scented garden Violet, but in only one instance could he trace any parentage of the Violet; but as

THE TOMATO—FRUIT OR VEGETABLE?

I WROTE on page 493 that Mr. J. Douglas is said to have referred in his lecture that the Tomato may be shown both as a fruit or vegetable. This is a matter which deserves the attention of the Royal Horticultural Society as to whether the Tomato may be exhibited in a collection of fruit without fear of being disqualified. A decision based on its rightful inclusion or exclusion as a fruit will do much to solve a present doubt in the minds of our foremost exhibitors.

There are several kinds of Tomatoes catalogued as being suitable for dessert, but that does not clear them as regards the import of my note. I quote an instance that occurred with me in connection with the above at Wolverhampton Horticultural show three years ago. I was exhibiting a collection of "ten dishes" fruit, and being short of a presentable dish, a friend recommended me to include a dish of Tomatoes, which I did. I believe the variety was Perfection. I found I was likely to secure second honours, and retired self-complacent with that idea as probable, but on returning, to my chagrin and surprise, the word "disqualified" appeared on my exhibit. On confronting the judges on the matter I was ridiculed at the idea of submitting the Tomatoes as a dish of fruit. I shall therefore feel gratified to have a little light on this subject from some of your able coadjutors.—GEO. DYKE, *Stubton Hall Gardens*.



CHRYSANTHEMUM SHOWS IN 1895.

We are informed that the exhibition of the Hull and East Riding Chrysanthemum Society will be held on November 13th and 14th next year. Kingston and Surbiton Show takes place November 12th and 13th; Bournemouth on November 13th and 14th; and Sheffield on November 15th and 16th, 1895.

CHRYSANTHEMUM AUDIT—BEST TWENTY-FOUR JAPANESE VARIETIES.

I HAVE been scanning the audit of these which appeared in the *Journal of Horticulture* of January 25th last, and found it very interesting and instructive. Out of the 1893 varieties mentioned Robt. Owen stands No. 14 with twenty-nine votes out of a possible forty-two. Mdle. Marie Hoste No. 4, with forty votes, and Excelsior No. 21, with twenty votes. In comparison we have Louise, Duke of York, and Beauty of Exmouth, with only five votes each, standing Nos. 45, 46, and 49 respectively. Mdle. T. Rey has two votes less than Mdle. Marie Hoste. In the next, of course, there will be another one. These varieties would occupy a much different position. May I suggest that the next audit will include thirty-six and forty-eight varieties?—W. J. GODFREY, *Exmouth*.

[Mr. Molyneux invites selections of thirty-six exhibition varieties of Japanese Chrysanthemums, in which are to be specially marked twenty-four varieties and twelve varieties which each compiler thinks would make the best stands. Selections of the twelve best and most promising Japanese sorts are invited which have been seen for the first time this year. Mr. Molyneux also asks for twelve of the most useful Chrysanthemums (any section) for decorative purposes as plants, or for affording flowers in quantity for cutting.]

ESTIMATE OF NEW CHRYSANTHEMUMS.

In addition to those Japanese Chrysanthemums described on page 522 of the *Journal of Horticulture*, and in a previous issue, the following new varieties are worthy of notice.

Sir Edwin T. Smith.—Although yellow-flowered Chrysanthemums are becoming numerous there is still room for such as this variety. I do not know one that has nearly the richness of colouring this possesses. What Jardin des Plantes is in the incurved section this is among the Japanese. The florets are moderately broad, quite flat, making altogether a handsome flower.

Niveus.—This is one of the best white-flowered varieties in existence. Full sized blooms are not of extra width, but they possess much depth and solidity of florets. I know of no other variety that is pure in colouring as this. The florets are flat, lance shape, when unfolding they incurve, afterwards reflex. It is of rather tall growth.

Mrs. George Gordon.—This is a pale yellow variety. The florets are long, drooping, curling at the tips. A full massive bloom that every exhibitor should possess. As a late flowered variety it is valuable. By removing the crown bud and running on the shoots clusters of medium sized blooms are produced at the point of each shoot.

Miss Alice Broome.—This variety has broad semi-incurving florets somewhat after the style of Mrs. C. Wheeler, but not so compact. The colour is wine red on the surface, with a gold reverse.

R. Leadbetter.—This belongs to the incurved Japanese section, the pointed and whorled florets are orange yellow; full and rich.

Desdemona.—A reflexed type of Japanese. The florets are narrow and pointed, pink, paler in the centre.

John Lightfoot.—This flower has rosy peach colour of a pleasing style, large blooms.

R. Everard.—This is an excellent decorative variety, rich plum colour.

Eva Knowles.—A reflexed Japanese, bright terra-cotta colour. The tip of each floret curls, giving it a most novel appearance.

Mrs. Smith Ryland.—This is an incurved Japanese bloom, bright brassy amber.

John Machar.—This Japanese variety is named after the well-known Dundee cultivator, and is said to be an improvement upon W. H. Lincoln. Certainly there appears to be a deeper shade of orange suffusion.

Yellow Primrose League.—The exact counterpart of its parent in every respect but colour, which is pure yellow.

Mdle. A. de Galbert.—This variety is considered to be an improved Mdle. Marie Hoste.

Lilian Russell.—This is of American origin, and has incurved florets, which are silver lilac on the reverse side, the surface of a deeper shade; quite novel and pleasing in colour.

Madame Apprin.—A Japanese, with short flat florets, very deep in build, dull white in colour.

A. T. Ewing.—A refined Etoile de Lyon in its formation. The colour deep rose, edged and mottled with light rose, full and good.

Mrs. Joseph Thompson.—An incurved Japanese, the florets are pointed, the colour dull white.

Mr. C. Lippincot.—An American raised variety, belonging to the hirsute section. When expanding the colour is a greenish yellow, changing to rich yellow.

Countess of Drogheda.—Full-sized blooms from 7 inches to 8 inches wide. Florets lance shaped, half inch wide. Colour buff, with a suffusion and shade of purple at the base, which gradually fades; reverse pale gold.

Sarah Hill.—This is an American raised variety. The incurving florets are rich orange yellow inside, a shade paler on the reverse, pointed, and exceptionally wide at the base. The foliage of this Chrysanthemum is especially robust, single leaves measuring 8 inches irrespective of the stalk.

INCURVED VARIETIES.

New varieties are added to this section but slowly, though in time I expect to see them much more numerous introduced as the raising of these kinds from seed becomes better understood both in England and abroad. It is doubtful, though, if seedlings, except in a few instances, equal in point of merit those obtained by means of "sports." The following are well worthy of attention, and to exhibitors I would specially advise them, as any new and approved departure in point of shape or colour is certain to be favourably received.

Mrs. John Gardiner.—This belongs to the yellow-flowered section, of which we are rather short, therefore any addition possessing merit should commend itself to the favourable notice of exhibitors. The form and colour were so accurately described on page 522 of the *Journal of Horticulture* last week, that I need not here repeat it.

J. Agate.—This variety has been the subject of much comment both in the horticultural press and exhibition rooms owing to its first appearance in the Japanese section, which was due to the undeveloped condition in which it was then represented. In "build" the blooms much resemble the "Queen" family, although they are slightly taller, while the individual florets are slightly more pointed. The colour pure white is welcome, as we have none too many of this class.

Sir Titus.—This may be described briefly as pink, tipped dull white, the inside of the florets rosy mauve, but as this part of a true incurved bloom cannot be seen the description of that part is of little value. As a front row flower it should prove valuable. The florets incurve perfectly.

Mrs. J. Kearn.—This has narrow, pointed, and somewhat curly florets, creamy white; distinct, and promising.

Noel Pragnell.—This variety was sent out a few years since as a striped Empress of India, but it did not make much headway for a time; seldom could blooms be seen in a characteristic manner. This year it has been shown in really good condition, proving the distinctness of the variety.

Globe d'Or.—What the history of this variety is I know not, but it is a promising kind, growing but 4 feet high. The closely incurving, solid-looking florets, are deep bronze at the base, shading to yellow in the centre.

Mr. James Murray.—An excellent middle row flower, bright pink in colour; the broad, well-incurving florets are somewhat pointed at the tip.

C. H. Curtis.—From the appearance of this Chrysanthemum I assume it is an American-raised seedling possessing undoubtedly a little of the incurved Japanese blood, but in late-formed buds this is less perceptible. The colour, rich golden yellow, with a bronze suffusion about the base of the florets, which are extremely narrow at the point.

ANEMONE VARIETIES.

To this section approved kinds are but scantily added, therefore any addition deserving of encouragement is certain to find favour.

Hibernia.—Yellow suffused with bronze, the disc a shade deeper in colour; a full centred variety.

Owen's Perfection.—This is a massive flower, fully 7 inches in diameter, guard florets blush pink, with rose coloured centre, which is especially well filled.

Descartes.—Bright crimson red self, disc florets, tipped gold. Profuse guard florets and full centre. The above belong to the Japanese Anemone section.

Ruche Abundance.—A bright self red, belonging to the old, or show Anemone section.

M. Dupanloup.—This variety is a show Anemone. The curly pointed petals forming the guard are rose violet, with slightly golden tipped points. The disc same colour as the base of guard florets.

SINGLE VARIETIES.

Single flowered varieties are so useful in a decorative point of view that any approved addition to this section is sure to find favour, and especially when they are so well cultivated as exhibition flowers as seen at the leading shows nowadays.

Evan Cameron.—The long loose florets are pure white, the green disc much enhances the appearance of the flower.

Purity.—The long pure white florets incurve at the tips, giving a novel yet pleasing appearance to the flower, which is much enhanced by the green centre or disc. The reverse of florets pale lilac.

Ethel Suter.—A very large flower, colour soft yellow; a grand acquisition.

POMPON VARIETY.

Our Fred.—This is the only addition to the Pompon section that I have noted. The blooms are of full size, pale pink or deep blush in colour. It was raised and sent out by Mr. Agate, who pays special attention to the small flowered types of Chrysanthemums.—E. MOLYNEUX.

NATIONAL CHRYSANTHEMUM SOCIETY.

A MEETING of the General Committee of this Society was held on Monday last at Anderton's Hotel, Fleet Street; Mr. Brian Wynne occupying the chair. After reading correspondence and settling other routine business, the Secretary announced that the following awards were made at the Society's December show:—A gold medal to Mr. J. R. Chard; silver-gilt medals to Messrs. Henry Cannell & Sons, Mr. W. Wells, Mr. H. J. Jones, Mr. H. Perkins, and Messrs. B. S. Williams & Son; silver medals to Mr. Davis, Mr. J. H. Witty, and Mr. R. Owen; bronze medals to Mr. A. W. Young, Mr. W. Davey, and Mr. W. J. Godfrey. These awards were all confirmed. It was also announced that the prize money awarded at that show will probably be paid to the winners before Christmas. A financial statement showing the receipt of income for the year, amounting to £604 13s., was submitted.

The date of the annual meeting of the Society was fixed for the 25th February, 1895. Twelve new members and two Fellows were elected, making a total of 141 since the beginning of the year. The Swindon Amateur Chrysanthemum and Horticultural Society was admitted in affiliation.

FLORAL COMMITTEE MEETING.

A MEETING of the Floral Committee of the National Chrysanthemum Society took place yesterday (Wednesday) at the Royal Aquarium, Mr. Ballantine occupying the chair. There was only one exhibit of importance, and that came from Mr. R. Owen. No certificates or commendations were awarded, but there were several attractive flowers, including Mrs. Marian Bourne, a Japanese incurved, medium sized florets, colour silvery pink; Bellem, a large Japanese incurved, with broad ribbed florets, which are deeply grooved, colour white, tinted yellow; and Mr. H. de Fortainier, Japanese, colour white, tinted yellow, large blooms, with long florets. Mr. Owen was awarded a bronze medal for his collection.

HAIRY CHRYSANTHEMUMS.

At the floral meetings and exhibitions held by the trade there have been fewer of these novelties on view than last year, and those that have been seen are mostly two or three years old. Lady of the Lake is rather large, and of a charming shade of pale lavender. Hairy Wonder, recently figured in the *Journal of Horticulture*, is perhaps one of the best, colour cinnamon buff. Prima Donna is a closely incurving variety, rosy cinnamon buff; and Waverley, a rich golden yellow. Enfants des Gaules is large, with shiny golden yellow florets; Vaucanson has long narrow pointed florets, colour silvery pink, pale amaranth inside; and Mireille, seen to advantage last autumn, has also been in good form this year. It is a large round flower of a silvery blush tint.

AMERICAN CHRYSANTHEMUMS.

Those most frequently shown this season are W. H. Lincoln, Col. W. B. Smith, Mrs. E. W. Clark, Wm. Tricker, Niveus, Primrose League, Lord Brooke, Puritan, International, Eda Prass, and W. W. Coles. Some of the newer sorts do not appear to have found a place on the show boards, although they have been seen at the floral meetings and at nurseries. Eugène Dailedouze, Inter Ocean, and Challenge were expected to be exceptionally fine, but there has not been time enough yet for them to become generally known.

OLD JAPANESE VARIETIES STILL IN CULTIVATION.

In these days of rapid change it is quite refreshing to see the names of some of the old favourites still being included in the winning stands. I notice that Golden Dragon, Val d'Andorre, Boule d'Or, and Gloriosum were mentioned in some of the reports of first prize stands at recent shows. This is the more extraordinary because three of them are yellow flowers, and this colour has received some large accessions of late years.—P.

CHRYSANTHEMUMS OUT OF DOORS AT DALKEITH.

WHEN paying a visit on November 17th to these famous gardens, a few miles from Edinburgh, I was much surprised to find such a splendid display of the Desgrange type on a border in the open. At Swanmore, in Hampshire, not a presentable bloom of any one of the four varieties could be gathered after the 1st of November, but at Dalkeith, seventeen days later, a grand display was noticeable. I do not remember ever seeing finer plants in the open than those in question. They were wonderfully free in flowering, while the colours were especially pure, showing how well these early types of Chrysanthemums succeed in Scotland, and how useful they must be during the month of November when little else can be had from the open border.—E. M.

STOPPING CHRYSANTHEMUMS.

PLANTS of the incurved varieties, rooted in January and February and stopped May 22nd, showed their first buds, and these terminals, the first and second week in September. How is it they never showed crown buds? Others rooted on 11th February and not stopped showed their first buds, and these crowns, the last week in August. I have made a practice of stopping all incurved varieties on the 22nd May. Late Japanese, such as Boule d'Or, Etoile de Lyon, and Mrs. E. W. Clark I stop on 10th May; early ones, such as Avalanche, Sunflower, W. H. Lincoln, I stop June 3rd; and midseason varieties I stop on 22nd of May. Last year I had very good results, but this season I am all wrong with my incurved blooms. The Japanese are very well to time with one or two exceptions, and those are Boule d'Or, Mrs. E. W. Clark, and Mr. A. H. Neve, which I think should have been stopped

five weeks sooner. Would Mr. E. Molyneux kindly explain why my incurveds have done so badly, and the best time to stop plants to secure crown buds?—J. W. BEASLEY, *Selby*.

THE SIZE OF EXHIBITION BOARDS.

EVIDENTLY a misprint has crept into the closing paragraph of Mr. R. Filkin's note (page 523). What is meant, I presume, is that exhibitors shall have the option of showing Japanese blooms on larger boards. This is a suggestion I have all along advocated. To compel a person to stage blooms on a large stand when, perhaps, he cannot fill the orthodox size creditably, is too ludicrous to mention. Not only would it be an injustice to the exhibitor, but taking up space to serve no useful purpose. Allow exhibitors to choose their own sized stands, and I venture to say if an advantage was gained by an increase the matter would quickly find its level. Exhibitors soon note the advantage or otherwise of certain methods of staging.—E. MOLYNEUX.

DECORATIVE CHRYSANTHEMUMS.

I SHOULD like to ask if some of the readers of the *Journal* would give me a list of the best sorts for cutting for room decoration, both early and late; also which varieties succeed best for planting out and lifting. The most suitable colours are red, white, yellow, and bronze. Those I have found most useful are Wm. Holmes, Source d'Or, Mrs. Wm. Stevens, Madame Lacroix, Bouquet des Dames, Florence Davis, Ryecroft Glory, October Yellow, President Hyde, J. Thorpe, jun., W. H. Lincoln, Peter the Great, Gloire de Rocher, and Putney George. What good free flowering red could I have to follow Wm. Holmes? Also, what bronze to follow Source d'Or?

This year I planted out Source d'Or, Wm. Holmes, Bouquet des Dames, Florence Davis, Madame L. Leroy, Madame Lacroix, and Putney George. All were lifted with good balls and potted the second week in September. They were well syringed for about a week, so that no flagging was perceived. Source d'Or, Wm. Holmes, and Bouquet des Dames opened good blooms, the other varieties have remained almost stationary since they were lifted. I shall be glad if someone will give a list of some of the newer varieties which open their flowers well when lifted.—J. L. B.

FORM IN JAPANESE CHRYSANTHEMUMS.

THE question raised by Mr. Drover in his short note (page 522) relating to the award to E. Molyneux, as the best six flowers, one variety, at Kingston, is of interest so far as it leads up to the question of form in Japanese Chrysanthemums. Now the particular blooms of E. Molyneux referred to were not so good as that variety can be seen, still they were fair samples. But then were they better than some others in the class? The only reply to that seems to be it is all a matter of taste. One stand of flowers may be of its kind better than another, yet not be regarded as of true Japanese character. Then the point is, what is true Japanese character? Evidently the incurved forms such as Robert Owen and Lord Brooke do not belong to the original type, perfect as they may be. If we regard the true Japanese form with special reference, we shall still prefer Meg Merrilies or Fair Maid of Guernsey as presenting the quaint loose flower first introduced; but these, it is now universally admitted, are quite outside of present Japanese form. Is E. Molyneux with its long ribbon florets held to be the best medium, and so far correct type of which a Japanese flower should be, that the variety should in the case alluded to have been placed first? If that be so, then fine reflexed flowers such as Avalanche and Sunflower would have no chance, although it would perhaps be difficult to exclude Vivian Morel. It is easy to understand that judges confronted by loose growing, or solid reflexed, or more solid incurved flowers may unquestionably be guided by what they may esteem Japanese form. On the other hand now that all forms are included in the Japanese, it seems unfair to have any special tastes in the matter.—A. D.

DUKE OF YORK v. BEAUTY OF TEIGNMOUTH.

I AM afraid Mr. Hannaford will not derive much consolation from the Editor's footnote on page 523. Mr. Hannaford in his note virtually admits that one must see these so-called varieties growing together to find their distinctive points, which appears to be in the foliage only, and tacitly admits that when cut and staged together it is impossible to discover any distinction between the two. Seeing this is so, what could judges do but disqualify when exhibited together on the same stand? Mr. Molyneux and myself were perfectly unanimous on the point, and spared neither time nor trouble before arriving at a decision.—C. HERRIN, *Dropmore*.

I HAD not intended taking part in this discussion, but as my name was quoted last week (page 523) silence on my part might be misinterpreted. Disqualifying an exhibitor is a most obnoxious proceeding to myself, but in justice to other exhibitors I never shrink the responsibility when the necessity arises. For the benefit of those who do not know how judges arrive at the conclusion that duplicate instead of distinct blooms are before us I will expose the *modus operandi*.

After my colleagues and myself have exhausted all points of identification, and are thoroughly convinced that a mistake has crept in, I endeavour to ascertain from any person near if they can point out the slightest difference in the disputed blooms. If all fail to detect the slightest difference, I conclude that the blooms have had a lengthy tribunal, and our decision is a just one. Time is never taken into con-

sideration; justice to exhibitors is the great point borne in mind. In this particular case not one of the three judges nor the three "outsiders" could observe the slightest distinction between the bloom named Beauty of Teignmouth and Duke of York in several other stands in the show. Surely, now the difference could not have been so great as some would have us believe, or one of the six must have detected it. Does it seem possible that after such an exhaustive overhauling of the blooms that they were still distinct, and six men could not see it? To me it savours of the ridiculous. Writers and readers of this correspondence should know that we did not accept the Duke of York bloom in the disqualified stand as the comparing specimen, because, from that enthusiastic amateur Mr. G. Crabbe's own showing, it was not a typical one. By testing the supposed Beauty of Teignmouth with several other Duke of York blooms in the show, and finding them identical, could not be in favour of Mr. Crabbe's argument. If there was the slightest difference it must have been perceptible somewhere, because the blooms were grown under varying conditions.

Another paragraph in Mr. Crabbe's note (page 523) has a damaging effect upon his own argument. He says one variety is a month earlier than the other. Need I say more upon this point? Surely a clear distinction should have been apparent. Six men failed to find it. It may suit Mr. Crabbe's purpose of argument to describe the habit of growth and shape of the leaf so scientifically, but he should bear in mind that these points were not in dispute, nor were they present on the day. The question was confined to two blooms staged on November 9th, and not with the plants or with blooms seen since. From the evidence before us I never saw a case that called for disqualification more clearly than this.

Messrs. W. Hannaford & Son are quite right in saying the bloom named Beauty of Teignmouth was brighter in colour than the Duke of York in Mr. Foster's stand. This, as I have previously pointed out, was not a typical one. This is a point never in dispute.—E. MOLYNEUX.

DISQUALIFIED EXHIBITS.

I FEAR Mr. Filkins (page 522) has not read the regulations of the National Chrysanthemum Society, for Regulation 1 says that there is no limit as to size of board in any classes where Japanese blooms are exhibited. Surely this is plain enough. He also fails to see where the riddle comes in. I do not; however, I hope we may have a thoroughly friendly discussion, and that it will be the means of teaching committees a lesson, so that there may be no two meanings in the wording of schedules in future. The Kent County authorities are not the only ones who err in this matter.

As regard the Battersea disqualification, I naturally took the Secretary's post-card for my guide (although their regulations are more to the point), when he wrote, "You may exhibit under exactly the same conditions as prevail in the N.C.S." The time for reply was short, and he wrote without the Committee's knowledge; however, as this Society is young and the officials were all so extremely sorry for the misunderstanding, and were, as they said, willing to make an apology, I am sure I as gladly and willingly accept it, and wish them every success.—W. WELLS.

DISQUALIFICATION OF MR. WELLS AT BLACKHEATH.

MR. FILKINS (page 522) writes thus:—"Your correspondent, 'Lex,' in his letter on page 500 put (*sic*) a construction on my letter (page 450) to (*sic*) Mr. Wells that is misleading. According to 'Lex's' quotation I am made to say that 'Rule 8 of the Kent County Chrysanthemum schedule definitely states that the boards shall be 24 inches long and 18 wide;' but that is what I do not do."

I quote now, as I quoted before, *verbatim et literatim* from your correspondent's letter of the 15th November last (page 450). "I fail to see where the riddle comes in, for Regulation 8 of the Kent County Chrysanthemum Society definitely states that the boards shall be 24 inches long and 18 wide." (The *italics* are mine). Mr. Filkins, having written those words on the 15th of November last, now tells us that that is what he did not do. What does Mr. Filkins mean? Does he suggest that there are two editions of the *Journal of Horticulture* giving different versions of his letter? If not, will he indicate the difference between his original letter and my quotation of it? The only variation that I can see is that your correspondent attributes to me the word "rule," whereas he wrote "regulation," not a very important matter even were he correct, but he is not, for my quotation (page 500) of his letter says "regulation." So, Mr. Filkins, in this respect, misquotes my quotation.

As I have already pointed out, "Regulation 8" does not "definitely state" anything of the sort. It merely "requests" the exhibitor to conform to certain methods of staging his blooms, and the point is whether a request, in this connection, amounts to anything more than the indication of a preference, which, for the reasons already given, I do not think that it does. However, Mr. Filkins, not apparently being able to understand what he himself has written, it is not very surprising that he entirely fails to grasp the meaning of Mr. Wells.

Mr. Filkins now tells us that, "The point raised by Mr. Wells was, 'What is the metropolitan plan?'" The "point raised by Mr. Wells" was nothing so absurd, for "Regulation 8" gives him the information in the clearest terms; if, indeed, one can imagine Mr. Wells as needing it. Mr. Wells' "point" was exactly that stated above—*i.e.*, the effect of the word "requested." But let Mr. Wells speak for himself. Writing to the *Journal of Horticulture* November 8th, 1894 (page 427),

Mr. Wells says, "Exhibitors are requested to have their stands made in accordance with the metropolitan plan, &c. What does this mean?" And again, writing to the *Gardeners' Magazine*, December 1st, 1894 (page 727), he says, "Certainly I do not see by their *requesting* exhibitors to use boards a certain size they can compel it by such wording." (The *italics* are those of Mr. Wells). If Mr. Wells has failed to make clear the fact that he *does* raise the question of the effect of a "request" as distinguished from a "direction" I think that he had better abandon the attempt in despair, for clearly the English language will not serve him to convey his meaning.

But the point is not whether Mr. Filkins does or does not understand Mr. Wells; the latter, at any rate, has made the question which he wishes to raise clear enough to ordinary minds. This question has, however, further aspects than those presented by Mr. Wells' correspondence.

Since my last letter I have obtained a copy of the Kent County Chrysanthemum Society's schedule, and I find, at the foot of the "General Regulations for the Exhibition," the following words:—"N.B.—These regulations will be strictly adhered to, and any infringement will disqualify exhibitors." That the employment of the word "requested" in the eighth regulation, standing alone, would give the exhibitor an "option" I am quite clear. But now arises the further question, "What is the effect of the 'foot-note?' has it the effect of negating the idea of an 'option,' and of converting the 'request' into a 'direction,' the disregard of which will entail penal consequences—*i.e.*, disqualification?"

The answer to this question must depend upon a consideration of the character of the eleven paragraphs which go to make up the so-called "general regulations." Do these, in fact, constitute a series of stipulations and regulations directly affecting the conduct of the exhibitor, so that disqualification may naturally attach to their disregard? or, are they but a loose and general collection of "directions," "requests," and "suggestions" for the guidance of committee, judges, and others besides exhibitors under the heading of "general regulations?" In short, under these conditions, has the "foot-note" any other real meaning than this, that disqualification will certainly be applied *where disqualification is provided for*, and that there will be a strict enforcement, and not laxity, in the general application of the regulations? I think that an examination of the regulations will clearly show that the latter only is the correct interpretation of the "foot-note."

Certain of the regulations, such as 4 and 7, have nothing whatever to do with exhibitors, nor could disqualification well apply to No. 5. No. 1 stipulates that all exhibitors *shall* give "three clear days' notice of their intention to exhibit." This is a "direction," not a mere "request." May I ask, is it contended that non-compliance with this regulation brings with it, *ipso facto*, disqualification; and will the Secretary of the Society state that no entry received after the period indicated has ever been accepted by the Committee, or by those representing it, without public disqualification resulting? And, if not, in this case of specific direction, for it is, "shall communicate," where stands the case against Mr. Wells, who was merely "requested?"

Again, if disqualification is, *ipso facto*, to attach to non-compliance with the regulations, then the exhibitor arriving a little late, and staging his exhibit just after the appointed hour, stands "disqualified," and cannot take a prize. Can the Secretaries of the Society, past and present, state that such late staging has never taken place; or that, having taken place, it has been followed by disqualification? And again, if not, where stands the case against Mr. Wells? It therefore results that disqualification has, notwithstanding the foot-note, never been treated as attaching to the mere disregard of a regulation, *quâ regulation*, and that we must go to the particular regulation itself to see whether its nature is penal enough, and its terms clear and mandatory enough, to require and justify the employment of disqualification; and thus we get back exactly to our starting point, the original question of the effect of the "request." The foot-note, in fact, does not affect the case at all adversely to Mr. Wells. But there is another point. Regulation 6 provides that "the decision of the judges is final in regard to the prizes specified in the schedule." As I understand the present case, the judges awarded the prize to Mr. Wells, and the Committee subsequently disqualified the stand. But surely they are "estopped" by their own regulation from doing anything of the kind. Besides, where in the schedule—which is the contract with the exhibitor—is there any power reserved to the Committee to diminish the powers contracted to be given to the judges under Regulation 6?

The last point. If there is one rule of law more distinctly settled than another it is that in "penal" legislation the words of the statute shall be strictly construed, no expansion of their meaning, or even probable intention, is permitted. The penalty of "disqualification" is obviously "penal." Applying this rule of law to Regulation 8 it would appear that the regulation does not touch Mr. Wells' case at all, for whatever was meant by the drawers of the schedule, it applies only to "twelve bloom" and "six bloom" stands, and leaves the larger stands altogether unaffected. However, this last point is obviously merely a technical one, and it must be a satisfaction to Mr. Wells to know that, upon the merits of the case, as shown by a fair consideration of the treatment meted out to defaulters under the several regulations which I have dealt with, as well as upon the question of strict interpretation, the verdict must be in his favour.

The moral of the whole matter is that far too little care is used in the framing of schedules, and committees often forget that these documents really constitute formal contracts upon the faith of which

exhibitors are invited to compete, and upon the basis of which they naturally expect to receive the rewards which are held out to them.

It is to "point this moral" that I have gone so fully* into the matter, having regard to the principle rather than the particular case, in which Mr. Wells, I imagine, will probably not consider it necessary to go further.—LEX.

[*Not in the least too fully, considering the importance of the subject and the laxity which is apparent in the stipulations of so many schedules.]

NOTES FROM KINGSTON.

ALWAYS a fine show, the recent one at Kingston showed no falling off in respect of picturesqueness as seen from an elevated position. That comes of having at command a large floor area, thus enabling the general effect to have consideration in the arrangements, as well as the creation of individual effects in groups. All the same, there were features in the show that were somewhat monotonous, and may well be improved, altered, or removed altogether. Thus the miscellaneous plant groups added nothing to the interest of the exhibition. These in November are invariably too dull, and lack variety; in fact, they seem quite out of place at autumn shows, where the Chrysanthemum is so largely the central and chief feature.

Far better would it be to amalgamate these with the very formal and uninteresting Chrysanthemum groups, so that, given as large an area as the miscellaneous groups now have, foliage plants interspersed with Chrysanthemums would create distinctive and far more attractive effect than is now seen. Of course, groups of the kind referred to are not common to Kingston alone. They are formal and monotonous everywhere. A very special evil is that the general public who visit Chrysanthemum shows take no interest whatever in these groups. They have in them neither beauty or freshness, so that what is seen in one year is repeated *ad nauseum* every year. It is time that some greater effort was made both in Kingston and elsewhere to cater more for art and beauty than for mere competitive aspects, and without doubt the most pleasingly arranged group of Chrysanthemum plants combined with foliage plants occupying a given space, presents a class that may well call for something far superior in decorative effort to what is usually seen at exhibitions.

The conversion of two groups into one would thus leave at the disposal of the Committee some money now otherwise utilised, and some side space. Both these things I would like to see applied farther to art effects in the form of tables, somewhat after the style of the tables dressed with Chrysanthemum foliage at the Royal Aquarium show, and which proved there such a splendid and attractive feature. Really we have yet far too much regarded the Chrysanthemum as a mere exhibitor's flower, and have too little thought of it for its superb decorative excellencies. The ordinary cut flower classes at Kingston furnish quite enough of scope for the exhibitor, perhaps rather too much.—A. D.

VEGETABLE COOKERY.

THE cooking of vegetables is generally admitted to be no mean branch of the culinary art, yet the grower is at times more strongly impressed with the importance of it than those whose duty lays in that direction. Probably there is not a gardener in existence, be he of high or low degree, who has not had some experience of the unpleasant side of the subject. Too often the sins of the kitchen are visited on the garden, but we, being men of peace, are glad to purchase it at any price, so prefer rather to take a rebuke from the dining-room than to become embroiled in a dispute with the kitchen.

The evil, and few will deny that it is one, appears to arise from the system which relegates this part of the menu to the younger hands below stairs. To seek for a remedy is not easy, unless we look above, in the dining-room, from those who, keenly interested in their garden, know good vegetables when seen growing, but feel that something has gone wrong in their career between the vegetable basket and the dish. There are times when matters reach a crisis, and the gardener finds it imperative to make a stand in his own defence. Not any amount of logic is so good as that practical old proverb "seeing is believing," and if it is found that the Seakale repeatedly dished-up tough from the kitchen can be cooked to perfection in the gardener's cottage (where in this instance the trial came off), the illustration is practical and convincing.

I should regret if these remarks were interpreted as a direct attack on the kitchen department, for they are advanced on the line of defence as previously intimated. Outside of that important office, the kitchen, there are but few persons who have a better knowledge of the trying duties of a cook than the gardener, and certainly not any better acquainted with the desirability of harmony being sustained between the two departments; yet it is a fact to be regretted, that here, on this subject, friction often ensues. That there is something to be said on both sides is but a truism, and with some considerable experience of cooks and their complimentary messages (it is as well to take all messages from the kitchen as compliments) I am well aware of it. We can, and do allow, that with certain seasons, and under varying circumstances, vegetables are not always in that prime succulent condition conducive to best results. But, granted the best conditions, fresh, tender, juicy, easy to boil, it is the case in which they are easiest to spoil; a little time either side of the happy medium mars the credit of all concerned. They may be done, done to death, with form and colour obliterated,

unattractive, insipid, probably unwholesome, and though direct complaints are not forthcoming, it is often the indirect means of a demand for more variety than the season or resources of an establishment can supply. The gardener is not blamed when his Brussels Sprouts or Cauliflowers are dished up in a state of mash, but employers soon tire and seek for change in variety. In Potatoes the climax is reached. How seldom do they receive justice in the cooking, and how often are they everything they should not be.—E. K., *Dublin*.

LIVERPOOL NOTES.

BOUVARDIAS AT DOVE PARK.

THERE are very few winter flowering plants that are more brilliant, useful, or more admired than well cultivated Bouvardias. Anyone seeing the handsome specimens, double and single, in shades of white, pink, scarlet, and other tints grown by Mr. Carling, gardener to Mrs. Cope, Dove Park, Woolton, must admit that without a doubt he has mastered every detail necessary to their successful cultivation. A fine bank of them in full flower attracted my attention when visiting him at the beginning of the Chrysanthemum season.

Many people fail in rooting the cuttings. Where there is a difficulty in this respect division of the roots may be usefully resorted to. Cut the roots carefully, leaving a small shoot to each piece. Place in small pots, using a light compost, principally sand and leaf mould. Provide a genial temperature, and when growth is free cut back to induce more shoots. When the small pots are filled with roots transfer the plants to 5 and 6-inch pots, using a mixture of loam, leaf mould, broken crocks, and small charcoal, with abundance of sand. In this the roots run with much freedom.

When all danger of frost is over a cool frame is what the plants require during the summer to produce stout matured growth. Too many failures are caused by "coddling" the plants during the summer, the shoots being weakly and quite unable to produce good flowers. Weak liquid manure is given at intervals during the summer and until the flowers commence expanding.

BEGONIAS AND CANNAS AT ARDENHOLME.

Having in a former note referred to the Delphiniums at Ardenholme, I subsequently had the pleasure of accepting Mr. McMillan's kind invitation to see his charming garden when the Cannas and Begonias were in full beauty. Mr. McMillan is never so happy as when striking out of the beaten path, and his enthusiastic gardener, Mr. Robertson, applies himself with diligence to bring about the best results. To many in the immediate neighbourhood of Liverpool the idea of bedding out the Canna would be looked upon almost as a wild dream, but the powers at Ardenholme had no such thought, so every variety worth purchasing was secured. Two large oval beds cut out of the grass were selected in which to plant them. The old soil was removed to a depth of 2 feet, and good loam mixed with a little decayed manure substituted. In this the plants grew with great rapidity, affording splendid spikes of flowers. If such excellent results can be obtained in a summer like the past, what may be expected in one of brilliant sunshine. Cannas are essentially sun-loving plants, and apart from the gorgeous colouring of the flowers their foliage of various shades of green and crimson adds a charm to the flower garden.

Begonias have been simply grand, some 10,000 were grown in beds and borders. Charming they looked in their wealth of colour, no weather seemingly affecting them. As showing the rapidity with which a stock may be obtained, we were shown a bed containing some thousands a perfect blaze of colour, the plants being only six months old.

A GENEROUS GIFT.

Enclosed please find cutting from the "Liverpool Courier." Mr. Yates Thompson is the son of the late Mr. S. Thompson of Thingwall Hall, Broadgreen, and is winning golden opinions by reason of his munificent gifts, this latter being far reaching in its benefits to the working people of our great city, who enjoy the beautiful park, but in cases of severe storms have had no place of shelter. I wonder if Mr. Thompson saw the builder's advertisement in the *Journal of Horticulture*, as he takes it in every week.—R. P. R.

[The cutting in question refers to a most handsome offer on the part of Mr. Henry Yates Thompson, late proprietor of the "Pall Mall Gazette," to the Lord Mayor of Liverpool in the following letter:—

"In pursuance of our conversation yesterday I send herewith the plans of a public conservatory such as I would propose for erection in the Sefton Park. As trustee for many years of Prince's Park I have had the opportunity of observing the large and judicious expenditure which the city of Liverpool has incurred in recent years for the creation and adornment of its parks. I have noticed, however—and this remark applies equally to London and to most, if not all of our great cities and towns—that, while no pains have been spared to make attractive gardens, little has as yet been done in the way of conservatories, which in our climate are desirable as affording shelter to visitors during rain, and some show of plants and flowers during the winter months, when little or nothing is to be seen out of doors. In the design which I am submitting and which has been prepared by Messrs. Mackenzie & Moncur of Edinburgh, I have kept in view two main points:—

"(1) That ample space shall be given for the accommodation of visitors by a broad walk and numerous seats, the breadth of the walk (about 18 feet) affording facilities for the display of such special collections of flowers as may be in season from time to time.

"(2) That the building shall be what is known as a 'temperate house,' suitable, that is, for such plants and flowering trees as only require moderate heat during winter and none in summer—such plants in a world as are to be found in the much-admired 'temperate house' at Kew. This means as much economy in maintenance as is consistent with a first-rate conservatory.

"The building proposed to be erected consists entirely of steel, iron, and glass (the lower tier of windows being of plate glass) except the doors, which are of oak, and the basement wall, which would be of red Peterhead granite polished. With the approval of the city authorities I am prepared to erect the building and equip it with plants, on the understanding that it be open freely to the public, week days and Sundays, and that the city will undertake its proper maintenance. I should add that in selecting a suitable site and in various details of the building I have had the advantage of the experience of Mr. Fred. Smith, Chairman of the Parks Committee, and of Mr. Herbert, the Superintendent of the parks. The site selected is marked red on the enclosed plan, and is in the immediate neighbourhood of the most frequented portion of the park."

Alderman Bowring moved the following resolution, "That the offer of Mr. Henry Yates Thompson to erect in Sefton Park and equip with plants a public conservatory, for the benefit of the citizens, be accepted upon the conditions specified in his letter of the 4th of December, 1894, and that the best thanks of the Council be accorded to Mr. Yates Thompson for his generous and valuable gift." Alderman Bowring considered that the conservatory would be a great ornament to one of the most noble and beautiful parks in the kingdom. He was sure the public would appreciate the generosity of Mr. Yates Thompson and value his gift.

Alderman Radcliffe seconded the motion, and expressed the opinion that the public would be greatly indebted to Mr. Yates Thompson for his thoughtful gift.

Alderman F. Smith remarked that the gift was intrinsically valuable, as it would cost something between £7,000 and £10,000 to erect and equip the conservatory in the way contemplated by Mr. Yates Thompson, who deserved their warmest thanks for the wise, thoughtful, and generous way in which he had dealt with this matter. With regard to the place being opened on Sundays, Mr. Smith mentioned that on one Sunday recently the show of Chrysanthemums was visited in one hour by no fewer than 840 people.

The resolution was unanimously carried, and on the motion of Alderman Bowring, seconded by Mr. Miles, it was referred to the Parks, Gardens, and Improvement Committee.

We are confident that Mr. Yates Thompson's thoughtful generosity will be as highly appreciated by the public as by the members of the City Council of Liverpool. Mr. Alderman Smith's reference to the attractive force of Chrysanthemums, reminds us that upwards of 300,000 persons visited the collections of plants arranged in plain structures in five of the London parks this season. In the course of time we shall hope to see more imposing structures in prominent positions in these parks, now so well cared for, in harmony with the pleasant surroundings.]

GRAPE GROWING IN KENT.

I AM pleased to find "A Kentish Gardener" (page 516) repudiating the suggestion that good exhibition Grapes cannot be grown in Kent. Of course the suggestion was absurd. It does not at all follow that because Grapes were not shown in special force at the Crystal Palace in September from that, or indeed any other county, that such county must necessarily be backward in Grape culture. All who have fine Grapes do not exhibit them, and for southern counties September is rather late for many growers. If at any time at some future great fruit show a kind of county competition were established for, say, twelve bunches in six varieties, any grower in a county being allowed to contribute the finest bunch or bunches towards the collection he may have, we should then have the question of county Grape growing put in a very diverse light. I think that would make a most popular class.—D

"A KENTISH GARDENER" (page 516) says I am under a wrong impression on the above question, but gives no proof that such is actually the case. The inquiry I made was whether Kent as a county was favourable for the production of exhibition Grapes, a Kentish gardener of some eminence asserting—not to me personally, but to the party of which I was one of the number—that the county had no reputation as a producer of high-class Grapes. I merely asked the question of your readers so that they may substantiate or otherwise the statement made; but "A Kentish Gardener" seems to take it in quite a different light, judging from the nature of his reply. He says that after very careful observation he found that from Scotland came the best examples of no less than six varieties, taking the bunches singly, not the whole stand; and in giving the names of the varieties of this exhibit he mentions two sorts that were not in the collection at all—namely, Mrs. Pince and Gros Guillaume. Both varieties were staged in grand condition by Mr. James Day, another Scotch grower, but not by Mr. Kirk, the champion exhibitor. His stand of twelve bunches was a source of considerable attraction and comment, and, so far as I could learn, the Judges had not the least difficulty in deciding on the merits of this particular collection. It was generally admitted to be the finest collective exhibit ever seen.

"A Kentish Gardener" asserts that from his county were more perfect examples staged of the most popular Grapes than all the other English counties put together, and is open to furnish particulars if I dispute his statements. Trebbiano is one of the sorts which he claims as popular, but I venture to think it fails to lay claim to that distinction among a large class of English Grape growers. That Alicante, Trebbiano,

Buckland Sweetwater, and Muscat of Alexandria were staged in splendid form I am quite prepared to admit; but I do not find Kentish names in the reports of the Crystal Palace show who staged them in better form than all other English counties put together. I assume, whether rightly or wrongly, that Mr. Bury's exhibit, which included the varieties mentioned by your correspondent, is claimed as Kentish grown; but I was under the impression that Forest Hill was in the county of Middlesex. However, if Mr. Bury's collection came from Kent, I would venture to say that it does the county and the grower very great credit; and other readers of the Journal, beside myself, will be glad of the information offered by "A Kentish Gardener" that Kent does, and has produced Grapes equal to any other English county. That such is the case would naturally have been taken as a foregone conclusion, but as my informant says it is not so, I did not expect that the information asked for would give any offence whatever to anyone.—W. S.

ON reading the notes by "W. S." (page 493) under the above heading I was surprised. I think taking Kent as a whole it is not behind, although Grapes may not be well grown in some places, as there are various kinds of soil. I was born in Kent; have lived in various parts of the county all my life, and have had to deal with the different soils from clay to chalk and even rock stone. I have seen fine crops of Grapes at different places up to the present date for many years past. On the other hand, I know a few places where the reverse is the case, owing, from my own judgment, to bad management. I expect it is the same in most counties at times. I am now speaking of forcing both early and late varieties. Your correspondent's remark on the soil being some of the best in England is right as regards certain places. I know of several gardens, and also of some poor soils, where I have seen good Grapes.

I will now mention one or two cases of cool treatment, the first by an amateur, who grew his Vines in a small greenhouse, where plants were grown on a stage. A Black Hamburgh Vine was planted here, and from this I have seen the finest Grapes of the sort that were ever sent to table; also those from another Vine of the same kind outside on south wall proved nearly equal. Here was poor soil; no real border. This was near the south coast, so near that in rough winds the spray from the sea would damp everything. Pruning was done on the long rod system. This is about fifty years since.

My first place as gardener, a few years previous to the above date, was single handed. There were no glass houses, but after a time a greenhouse was built. Here I planted two Vines, a Hamburgh and Black Prince, pruned on the long rod system. There was no border, the lawn reaching to within 2 feet of the stem. I had splendid crops here for ten years, but the first season after leaving it there were no Grapes fit for the table owing to bad management.

I next moved to another part of the county, forty miles farther inland, as head gardener. It was a fine garden, good soil, a light sharp loam, but to my surprise not a Grape Vine on the premises. This I quickly remedied by planting some against south walls with excellent results, the only glass structure being a large cool house for everything all the year round. At one end of this house outside I planted a Black Hamburgh in March 1854. Not being a strong cane I cut it back to about 2 feet, sufficient to reach through the wall at the base, the space for planting being about 4 feet square. Intending it to fill the house, which was 24 by 14 feet, by degrees, I gave it time to strengthen, adding one rod yearly, and pruning on the long rod system. The Vines first fruited in October 1857, the bunches being fine. One rod was added each year till the house was filled, bringing more fruit every season. For about twelve years this Vine has carried 1 cwt. of fruit each year, good in bunch and berry, including this season, and is as healthy now as ever before. The upright stem to where the rods commence is 10 feet, girth from bottom to top 1 foot.

From this statement you will see it is not the county or soil altogether that is at fault. One cause I feel is quite certain, from what I have seen, is overcropping and forcing too hard without sufficient nourishment at the roots at proper time. Not long since I called on a gardener who had just settled in a fresh situation where he found a beautiful crop of Black Hamburgh Grapes fast colouring. The house was flooded with water, and this was often repeated, but not for red spider. I wondered if the berries would not half decay. I may, by your permission, give a few lines another time on Grapes I have grown in open air in Kent.—ONE OF THE OLD SCHOOL.

ROYAL HORTICULTURAL SOCIETY.

DECEMBER 11TH.

THE Committees of the Royal Horticultural Society met for the last time this year at the Drill Hall, James Street, Westminster, on the above-mentioned date. As is usual at this season the exhibits were not very numerous. Orchids were fairly well represented, but greenhouse and stove plants and flowers were only shown in small numbers, the same applying to fruit and vegetables.

FRUIT COMMITTEE.—Present: T. F. Rivers, Esq. (in the chair), with Rev. W. Wilks and Messrs. G. Bunyard, H. J. Pearson, J. H. Veitch, P. Veitch, G. W. Cummins, T. J. Saltmarsh, G. Norman, H. Balderson, F. Q. Lane, G. Hudson, C. Ross, W. Bates, A. J. Laing, A. Dean, C. Herrin, J. Smith, and J. Wright.

As will be seen, there was a good attendance of members at this the

last meeting of the year, but, as is usual at December meetings, their duties were the reverse of exacting. By far the most important exhibit for examination was a collection of 100 varieties of cooking Apples from Messrs. Bunyard & Co., Maidstone, all the fruits being in admirable condition, both in respect to size and colour, and it did not take many minutes to award a silver-gilt medal.

Mr. A. G. Nichols, Nuneham Park Gardens, sent specimens of "White Spine Winter Cucumber," an old variety resembling Telegraph, and cropping freely. It is useful, no doubt, but was not considered sufficiently distinct for receiving a certificate.

Mrs. Wingfield, Ampthill (Mr. Empson, gardener), sent twelve medium-sized bunches with good berries of Gros Colman and Golden Queen Grapes, and a vote of thanks was awarded.

Messrs. Cooper, Taber & Co., sent dishes of new American Potatoes, which were referred to Chiswick. Mr. C. Herrin, Dropmore, sent samples of Farmer's Seedling Apple—a large Pearmain shaped fruit, but no award was made.

C. D. Hambury, Esq., Belmont, Eastbourne (Mr. Porteous, gardener), sent several Melons, medium sized fruit without any netting; and also it must be said, without any flavour. This is only what might be expected at this dull period of the year, and one of the members jocularly remarked, "That they tasted more of the moon than the sun." This has, perhaps, been the worst Melon season on record in the experience of the Committee.

Messrs. B. S. Williams & Son sent a plant with ripe fruit of Warden Park Favourite Tomato, fruits corrugated and small, not unlike those of the old Orangefield, but the plants more free in growth. No award was made.

At the termination of business an unanimous vote of thanks was passed to the Chairman, Mr. Philip Crowley, for his unfailing courtesy in the chair during the year, coupled with an expression of regret that illness prevented his attendance at the last meeting, and Mr. Rivers was thanked for taking his place. The thanks of the Council were conveyed to the Committee for their services, and suitably acknowledged by Mr. Rivers. Thus an harmonious season harmoniously ended.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); the Rev. H. H. D'Ombrian; Messrs. C. T. Druery, J. H. Fitt, R. Dean, H. B. May, G. Stevens, W. C. Leach, R. Owen, C. J. Salter, C. F. Bause, G. Gordon, T. Godfrey, J. D. Pawle, E. Mawley, C. E. Shea, H. J. Jones, C. E. Pearson, J. Walker, G. Paul, and P. Barr.

The most prominent exhibit in the floral section was sent by Messrs. J. Laing & Sons, Forest Hill, S.E., and comprised a table of miscellaneous foliage and flowering plants. All the plants were healthy and well grown, amongst the most prominent being Bouvardias, Solanums, Cyclamens, Cypripediums, Ericas, Palms, Ferns, Crotons, Dracænas, and Poinsettias (silver Flora medal).

A very interesting exhibit of cones was staged by Mr. C. Herrin, Dropmore Gardens, Maidenhead. *Araucaria imbricata*, *Cedrus deodara*, *C. atlantica*, *Pinus Lambertiana*, and *Abies nobilis* were noticeable (silver Banksian medal).

Mr. R. Owen, Floral Nurseries, Maidenhead, staged a handsome collection of Chrysanthemums, comprising many new varieties. Colonel Bourne, Charles Young, Mrs. Smith Rylands, Bellem (award of merit, see below), Mrs. W. H. Lees, Milky White, King of Plumes (see below), Minerva, Miss Ellen Terry, Pearl of Maidenhead, Mrs. H. Perkins, Owen Thomas, Madame Levêque, and Julian Hillpert were particularly prominent. A silver Flora medal was recommended.

A vote of thanks was accorded to Mr. F. W. Moore, Royal Botanic Gardens, Glasnevin, for sprays of *Nerine Manselli*, *Iris stylosa alba*, and *Billbergia Windi*.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); Dr. M. T. Masters, Messrs. J. O'Brien, E. Hill, H. J. Chapman, H. Williams, W. H. White, H. Ballantine, H. M. Pollett, J. Douglas, W. Cobb, and A. H. Smee.

Messrs. F. Sander & Co., St. Albans, sent a small group of Orchids, including the popular *Dendrobium Schröderianum* in variety, *Catasetum Christyanum*, *Lælia furfuracea*, and some choice Cypripediums. Foremost amongst the latter were *C. × J. Bartels*, *C. radiosum superbum*, and *C. × Albert Truffaut*. T. Statter, Esq., Stand Hall, Manchester, secured an award of merit for *Lælia Euturpe*, which is described below. Cypripedium *Ariadne* and *Lælia Tressideriana* were also shown by the same exhibitor. Mr. E. Hill, gardener to Lord Rothschild, Tring Park, exhibited cut flowers of *Cattleya guttata Prinzi*, for which an award of merit was adjudged. This is described below. Mr. H. Ballantine, gardener to Baron Schröder, The Dell, Egham, staged a splendid spike of *Cymbidium Tracyanum* bearing twenty flowers. Mr. Barnes, gardener to the Duke of Westminster, exhibited blooms of *Cattleya labiata* fine in colour. Mr. Duncan, gardener to C. F. Lucas, Esq., Warnham Court, Horsham, had *Bulbophyllum mandibulare*, and a botanical certificate was awarded for it. Messrs. J. Veitch & Sons, Royal Exotic Nurseries, Chelsea, sent *Epidendrum Wallisio-ciliare*, which is the result of a cross between *E. Wallisi* and *E. ciliare*. The same firm had some striking hybrid Cypripediums, including *C. Mimosa*, *C. Sirius*, *C. Niöbe*, and *C. Zeno*.

Mr. T. W. Swinburne, Corndean Hall, Winchcombe, won an award of merit for Cypripedium *Swinburnei magnifica*, a strong flowering plant. Messrs. Hugh Low & Co., Clapton, had a small group of Cypripediums and other Orchids, including *Schomburghia rhinodora Kimballiana* (award of merit). Mr. P. Weathers, Silverhall Nursery, Isleworth, secured an award of merit for Cypripedium *× William Lloyd*, which is described below. Mr. E. Holbrook, gardener to

E. Ashworth, Esq., Wilmslow, Cheshire, gained an award of merit for Cypripediums *Swinburnei magnifica*. Messrs. B. S. Williams & Son, Upper Holloway, had a group of Cypripediums, *Odontoglossums*, and other Orchids, the whole making a good display.

Votes of thanks were presumably passed of the same nature as those above alluded to, but reporters say they "must not go near the Floral and Orchid Committee tables lest any of the remarks there made should reach their ears," but they "heard a noise that was unintelligible." Possibly this was an outburst of enthusiasm consequent on that interchange of courtesies of the nature suggested.

CERTIFICATES AND AWARDS OF MERIT.

Cattleya guttata Prinzi (E. Hill).—A fine variety of *C. guttata*. The sepals and petals are creamy yellow spotted violet, the lip being a bright magenta shade (award of merit).

Chrysanthemum King of Plumes (R. Owen).—This is a charming variety with narrow florets, very bright yellow colour (award of merit).

Chrysanthemum Bellem (R. Owen).—This is a good addition to the incurved Japanese. The blooms are deep, and the florets broad and stout. The colour is pale cream flushed rose on the lower florets, with a delicate primrose centre (award of merit).

Cypripedium Swinburnei magnifica (T. W. Swinburne and E. Ashworth).—This is a vigorous growing plant, bearing large flowers on tall spikes. The upper sepal is green, spotted brown and margined white. The petals are bronze green, also spotted brown, the pouch being a mixture of a green and brown (award of merit).

Cypripedium William Lloyd (P. Weathers).—This is a very distinct dark coloured hybrid, being the result of a cross between *C. bellatulum* and *C. Swanianum*. The upper sepal is deep purplish rose, darker veins, white tip. The petals are of a similar colour, but thickly spotted dark brown. The pouch is a very dark red (award of merit).

Lælia Euturpe (T. Statter).—This is a charming Orchid. The sepals and petals are white, tinted blush, as is the base of the lip, the tube being a rich purplish crimson (award of merit).

Schomburghia rhinodora Kimballiana (H. Low & Co.).—A charming Orchid, with bright magenta coloured flowers, borne on rather a tall spike (award of merit).



HARDY FRUIT GARDEN.

Pruning Apples and Pears.—*Pyramids and Bushes.*—It is advisable to commence the winter pruning as soon as possible after the leaves fall, and as time and weather afford opportunity. The first requisite in pruning is to note the state of the branches. If these are closer together than a foot saw out the crowded parts cleanly, smoothing the edge of the cut with a sharp knife. Trees are rendered more fruitful and are easier managed when the main branches never exceed the above distance apart. The advantages of ample room are most apparent in the summer when the foliage is present. The effects are permanently beneficial, as owing to the thin disposal of the branches the sun can reach the base of each, fully maturing every leaf. Not less important is the thin disposal of the spurs. Very often clumps of the latter are allowed to accumulate and the spurs to extend too far from the branch. Thinning out may be done in the former case, and shortening in the latter. This admits of weakly fruit buds which have hitherto received scant support being better nourished. The current year's shoots must in all cases be shortened to two or three buds from their originating point. These buds will, under favourable circumstances, eventually form fruiting spurs. They do so more readily when the growths have been summer pruned, so that the sap which otherwise would have been drawn away and wasted has been concentrated in their vicinity.

Standard Trees.—Freedom of growth within certain limits is the usual characteristic of this form of tree. The branches being allowed to freely extend without any shortening are mostly productive if attention is given to preventing the growth becoming crowded by crossing or interlacing, whereby the fruit buds are shaded by superfluous foliage. Abundance of spray is often produced in the interior, mainly on the larger branches, and this must be cut closely away now, but it is preferable rubbed off when young and soft in early summer. In the process of thinning, any shoots of medium strength it is necessary to cut out may be shortened to a few buds, when spurs will probably be formed, but those thick and strong in character must be closely taken off.

Cordon and Horizontally-trained trees.—If properly planted and trained at the correct distances apart cordons on walls and in the open need no thinning as regards the branches, but the spurs may from time to time require regulating. It is advisable not to encourage the extension of spurs too far from the wall or trellis. It is very essential that the young shoots issuing from among the spurs be pruned back to several leaves in summer in order to confine the sap in elaborating the lower buds on such shoots. At the same time benefit is received by the older buds, which are materially strengthened, probably just at the time when they are first assuming their bold, round fruit-promising character.

Allowing side shoots to extend unchecked on cordons is ruinous to the trees. Branches of horizontally trained or espalier trees require similar treatment. It frequently happens, however, that on walls they are trained too closely, and the fruitfulness of the trees suffers in consequence, the upper branches, especially if furnished with elongated spurs, shading those below them to an injurious extent. The result is that the equalisation of sap is destroyed, more vigour being imparted to the upper tiers of branches, while the lower are considerably weakened. A space of 12 or 15 inches between each tier is not too much to allow, the latter distance being preferable in aged trees, which, having larger clumps of spurs, need additional light and air, but reductions of growth must be effected gradually.

Plums and Cherries.—*Standard Trees.*—Young trees not fully furnished with the requisite number of branches must be cut back to firm well-ripened wood buds, to enable clean strong growth to extend for that purpose. When a sufficient number have been obtained the necessity for severe pruning ceases in standard trees, an occasional thinning-out being all that is necessary. A gross shoot here and there may require cutting out, but upon the whole the wood produced will be fruitful; it is therefore imperative that the trees have ample space for enabling air and light to reach them on all sides, these essentials ensuring the continuance of a fruitful condition, as well as tending largely to preserve the symmetry of the trees.

Wall Trees.—In growing Plums and Cherries against walls there are two forms of trees adopted—for low walls the horizontal or espalier form, and for high walls the fan form, the latter admitting of better replenishing the trees with new wood when old or decaying branches render such a course necessary. In the former case the fruit is borne entirely on spurs. This necessitates summer pruning, shoots thus shortened now requiring to be further cut back to a few buds at the base of each for forming fruit spurs for future bearing. The fan shape admits of this also, likewise the laying-in of a few annual shoots wherever room can be found. Morello Cherries are best grown on the fan-shaped system, with this important difference—that the whole of the growth may be made annually, this fruiting the following year, to be then cut out and its place taken with a fresh relay of young wood. This may be done now, and the shoots nailed-in at convenient opportunities. The Morello Cherry, however, is amenable to restricted training, as well as Plums and dessert Cherries, though, as a rule, such profitable crops are not obtained. On the fan system the young wood is trained-in at distances asunder, varying from 4 to 6 inches, and the shoots are not shortened.

FRUIT FORCING.

Peaches and Nectarines.—*Earliest Forced House.*—When the buds commence swelling and advancing for flowering the atmosphere must not be kept close and warm, as it is important the blossoms come on steadily and have time to develop a strong flower perfect in all its parts. It is an excellent practice to admit a little air constantly at the top of the house, and above 50° the ventilation should be increased correspondingly with the temperature, but not allowing a decline below 50° in the daytime, sufficient artificial heat being employed for that purpose. With sun an advance may be allowed to 65°, closing for the day before the temperature has receded to 55°. At night a temperature of 40° to 45° is ample, or even less in severe weather. When the anthers show in the flowers cease syringing the trees, but afford a moderate amount of atmospheric moisture by sprinkling the paths and borders in the morning and early afternoon. Avoid a moist, close atmosphere, with a high temperature at night. Make sure that there is no deficiency of moisture in the inside borders. If necessary, supply water or liquid manure at the mean temperature of the house. If there be a superabundance of blossom remove that on the under side or back of the trellis by drawing the hand contrary to the growth. It will materially assist the swelling and strengthen the remaining flowers.

Second Forced House.—This is the structure containing trees started at the New Year, and from which a supply of fruit is to be gathered in May and early in June. Fruit can be had earlier where the varieties consist of Alexandra, Waterloo, and other very early Peaches, but these have not the quality, nor even the appearance, of such varieties as Hale's Early, Stirling Castle, Royal George, and Dymond Peaches, while Early Rivers, Lord Napier, and Stanwick Elrue leave nothing to be desired as regards early Nectarines. The house should be closed now, fire heat being only employed to exclude frost, the trees being sprinkled in the morning and afternoon, allowing them to become fairly dry before night. Keeping the trees constantly dripping with moisture, especially at night, has an enfeebling tendency, and promotes wood bud rather than blossom bud development. The temperature should not be allowed to exceed 50° without full ventilation. Thoroughly moisten the inside borders down to the drainage; protect the outside ones with dry leaves or bracken and a little long litter on the top.

Succession Houses.—Push forward the routine work, bringing matters to a close as speedily as possible in respect of pruning the trees, dressing them, and cleansing the house. If the houses have fixed roof-lights ventilate to the fullest extent in all but very severe weather. When moveable it is much the best plan to remove them and expose the trees to the elements for the winter. The frosts make an end of brown scale, and the trees are not alternately excited and retarded as they are under fixed roofs. Even the latest and unheated houses should be treated in that way.

Figs.—*Earliest Forced Trees in Pots.*—Where a house of this much-neglected fruit was started in November with fermenting materials in the pits the trees are now showing signs of growth by the swelling of

the terminal buds. The roots also that were cut back are sending forth fresh feeders through the compost placed about the pots, this desirable state of things being effected under the influence of the genial heat of the fermenting materials. These should now be examined, and if the heat does not exceed 75° they may be trodden down round the pedestals and bases of the pots preparatory to the introduction of fresh material, which should be properly worked and warmed before being taken in. Take care that the heat about the pots does not exceed 70° to 75°. The heat and moisture given off by the fermenting material will greatly facilitate forcing operations by modifying and reducing the amount of fire heat. On cold nights the temperature should fall to 50°, and 55° by artificial means will be sufficient in the daytime, with a rise of 10° from sun heat. Syringe the trees and walls with tepid water on fine mornings and again in the afternoon from 1 to 2 P.M.; but with the moisture arising from fermenting materials there will not be the need of this in dull weather, nor must the moisture be excessive or it will promote growth at the expense of the fruit. Keep the glass clean and free from condensed moisture by ventilating on all favourable occasions.

Where a start has not been made, and it is desired to have ripe Figs in late April or early in May, the trees should be introduced and started forthwith. Low lean-to or three-quarter span-roof houses facing the south are the best. Bottom heat is not indispensable, but it is a great aid to forcing operations, the trees being accommodated with brick pedestals, and the pits filled with fermenting materials, but the heat at the base of the pots must not exceed 70° at the start. It is also advisable to have a few trees of such varieties as Early Violet and St. John's to afford a few early dishes, and rely on White Marseilles and Brown Turkey for the main supplies. The temperature should be similar to that before advised.

Succession Houses.—Proceed with the pruning, losing no time in getting the work finished. Cut back or entirely remove all old spurs, and thin out or remove the least promising shoots that have reached the extremity of the trellis to make room for fresh growths and full development of wood and foliage. The Fig delights in heat, moisture, and good living, with abundance of light and a free circulation of air. Thorough cleanliness is essential to success, therefore spare no pains in cleansing the trees, woodwork, and walls. If brown scale has been troublesome use a mixture of softsoap and petroleum, dissolving 1 lb. of softsoap in a gallon of boiling water, and add a wineglassful of petroleum on removing from the fire, and work in briskly. Apply while hot (130°) with a brush, using the implement at an angle of 45°, to the branch, so that the bristles may get under the scale and dislodge it; then the eggs as well as parent insect comes to grief. Merely drawing the brush over the growths as in painting is the way not to make the most of the dressing, but by pushing the brush forward or downward on the shoot or branch and at the angle named the scale cannot escape.

Cherry House.—The trees having been pruned and dressed the house can now be closed for producing Cherries at the close of April or early in May. The treatment should be such as will not excite growth prematurely, therefore only allow a slow progression. A temperature of 40° to 45° at night and 50° by day will need to be maintained by artificial means. When the external conditions, however, are favourable a few degrees higher may safely be permitted, but anything calculated to bring the trees on too quickly must be carefully guarded against, as undue excitement at the commencement is likely to prove injurious to the crops. Ventilate at 50° just a little at the apex to insure a change of atmosphere, freely at 55°, allowing an advance to 65° or 70° with sun, and closing at 55°. Maintain a moderate amount of atmospheric moisture by syringing occasionally, but in all cases allow the trees to become dry before night. It is highly important that the borders be thoroughly moist, as when the trees are excited into growth fresh roots will speedily follow, and to encourage them moisture (but not soddenness) is absolutely essential. Keep a sharp look out for aphides, and fumigate upon the appearance of the first insect.

Vines.—*Earliest Forced Planted-out Vines.*—The house containing Vines from which ripe Grapes are expected in May should be closed by the middle of the month, especially if the Vines are young, vigorous, and not been subjected to early forcing before, as they do not break so freely as old ones that have been forced for a number of years. With a view of economising fire heat, and to produce a congenial atmosphere, a good bed or ridge of fermenting materials, consisting of two parts leaves and one of stable litter, may be placed upon the border, and turned at short intervals, additions being made as the heat declines. Young canes ought to be suspended in a horizontal position, but old rods may be tied up to the wires. Syringe the Vines two or three times a day with water slightly in advance of the temperature of the house, but it is well to allow them to become dry at least once in the twenty-four hours, especially at night. Keep the temperature at the start at 50° to 55° at night, and 65° on fine days, the temperature by artificial means in the day being 55° until the Vines begin to move. See that inside borders are properly moistened.

Strawberries in Pots.—Introduce a number of the earliest plants—those with well-developed crowns, and having been rested some time. These should be of the earliest varieties, such as John Ruskin, La Grosse Sucrée, and Vicomtesse Hericart de Thury. They ought to be given a position well up to the glass in a light, airy, well heated house facing the south. The old dead leaves only should be removed, the surface of the soil be freed from moss and other matter, the drainage seen to and if need be rectified, washing the pots quite clean, and giving a top-dressing of some approved fertiliser, about half a teaspoonful if a powerful one, or a full measure if not highly concentrated. This may

be supplemented if there be space in the pots with a little fresh rich soil. Make a close scrutiny for aphides, and if there be the least trace of them fumigate the house on two or three consecutive evenings, and keep a sharp look out for the pests afterwards, taking prompt measures to annihilate them on their appearance. A temperature of 50° by artificial means is quite ample to begin with, ventilating freely at 55° , and not allowing an advance to or above 65° without full ventilation. Sprinkle the plants in the morning and early afternoon of bright days, omitting it in dull; but a genial atmosphere should be maintained by damping the floor and walls occasionally. Water will only be required at the roots to keep the soil moist, a very wet condition being quite as inimical as allowing the plants to suffer through want of water.

PLANT HOUSES.

Carnations.—Plants in pots that have produced abundance of flower buds should be kept in a cool airy structure if a few flowers only at a time are required. While the present genial weather continues they will open sufficiently fast, unless a large supply is needed at one particular time. Under these circumstances Miss Jolliffe and other similar kinds may be placed in gentle warmth, in which they will soon expand their delicate pink flowers. When heat is used the flowers are much paler in colour. A few plants introduced at intervals will continue to produce a good supply of blooms for buttonholes and sprays. After the plants have done flowering and cuttings are required from them they should be hardened again to cool airy quarters. The Margaret type can be pushed on to suit individual requirements, because when the plants have flowered they can be thrown away. Young plants of Miss Jolliffe or other winter-flowering varieties should not be allowed to become root-bound, but as soon as they are ready for potting be placed in pots of a larger size. Well established plants of Uriah Pike, Mrs. Reynolds Hole, and others for spring flowering, now in $2\frac{1}{2}$ -inch pots, should be placed at once into 5-inch pots, and stood in a frame or pit close to the glass, where they will continue to grow slowly. Water Carnations with care, for on no account ought they to be overwatered. Those that have filled their pots with roots may be given clear soot water every time they need supplies.

Cyclamens.—If these are in a backward condition, and a few plants are needed in flower, they may be introduced into a temperature of 55° . If placed fairly close to the glass they will soon produce their useful flowers. Plants not required in bloom should occupy a cool, airy position; they are best standing on some moisture-holding base, providing care is taken that they do not damp. Young plants in small pots should be kept close to the glass, where they will continue to grow slowly. Care is needed that they do not become dry, or that their foliage is drawn up weakly. If seed has not been sown no time should be lost. The seed may be sown in pans, lightly covered with fine soil, gently watered, and then covered with a square of glass and placed where the temperature ranges from 60° to 65° . When the seedlings are up the pan containing them should be placed on a shelf fairly close to the glass until they are large enough for transplanting singly into either small pots or other pans; the last is best, as they are less liable to become dry.

Freestias.—Those potted early will now be showing their flower stems, and may, if needed in bloom as soon as possible, be placed on a shelf close to the glass where the temperature ranges about 55° . Unless the flowers are required in quantity a dozen pots will be ample in flower at one time. When these are fairly well advanced other plants can be introduced. Keep the main stock of these plants on shelves close to the glass in a cool, airy structure.

Primula obconica.—This is not only useful for decoration in pots, but the flowers are serviceable in a cut condition for small glasses. Where these have been kept perfectly cool the plants will be producing their trusses, and may, if needed, be advanced more rapidly by placing them for a time in an intermediate temperature. These plants quickly come into flower, and may be introduced according to requirements.

Coronilla glauca.—This is a useful plant in a 5 or 6-inch pot, and is very effective when covered with its small trusses of yellow flowers. Plants that have been grown outside during the summer will be well ripened, and will flower profusely. The plants bear gentle forcing without injury, and can be brought into flower in a very short time.

Epacris.—If these are not yielding flowers sufficiently fast in the greenhouse a few of the forwardest may be gently forced; but too much heat must not be employed to bring them in flower. When the plants are in bloom they should not be stood in conservatories on a dry base or else they will be seriously injured.

Erica hyemalis.—As soon as the earliest plants go out of bloom cut them over and remove any fading flowers that are left. Place the plants in the greenhouse until they have started into growth, when they may be repotted if necessary. This plant does not bear even gentle forcing; when this is practised the flowers are small and colourless.

Erica candidissima.—Plants that were cut back late in the season, and have now fully 1 inch of young growth upon them should if in the ordinary trade size be placed into 7-inch pots. If carefully watered they will be useful for another year.

Ivy-leaved Pelargoniums.—The flowers of these are very useful, and many of them are more delicate in colour than Zonals. Plants that have been grown outside and stored in a cool house will quickly unfold their flowers. Some of the delicate pink kinds are charming for table decoration. If the plants have filled their pots with roots give them a little chemical manure on the surface, and this may be repeated at intervals of about a fortnight.

Lilacs.—Plants that are well set with buds and have been standing outside may be introduced into brisk heat. If possible plunge the pots where the bottom heat will range from 80° to 85° , and if the temperature of the house averages about 70° the plants will soon produce their flowers. When they are fairly well advanced, remove to cooler quarters. If the flowers open in a lower and more airy temperature they last much longer when cut, and are more fragrant.

Lily of the Valley.—Single crowns in pots, pans, or boxes may be placed into a brisk heat. The propagating frame, where abundance of bottom heat can be given and the crowns excluded from light, is an excellent place to start them.

THE BEE-KEEPER.

APIARIAN NOTES.

THE LANARKSHIRE STORIFYING HIVE.

(Continued from page 528.)

A BOARD for boring and grooving is required, and to make this take a piece of wood about 2 by 6 inches broad, nail in front of it another piece 4 inches long by half inch thick, then take a pattern bar, lay it close to it, and close behind another similar piece. This now forms the gauge for the length of the bar, and every bar must fit into this space lengthways; at the left and right sides the pieces are nailed close to the pattern bar, now ready to be grooved accurately. Before grooving they should be bored. In the front and at the right side of grooving board drive in a nail without a head, then behind it fix a cleat of half-inch wood, and into this screw a button to come over the nail. This holds the bar down when withdrawing the bit, while the nail acts as a gauge, so that when the bit passes through the bar it goes right into the hole, which is accurately cut. To make the ends of the frame square, put a piece of wood a little short of the exact length between them, taking the under corners off so that glue does not adhere. When driving in the ends dip the tenon in glue and hold this squared board hard to them, after which turn the hollow side of the frame towards you, and at the right hand side in the centre of the end piece, but near the lower end of the bar, make an awl hole for the tacket.

The two upper divisions of the hive are hinged at the back with $1\frac{1}{2}$ back-flap hinges, the knuckle or joint being kept down to the lower box, otherwise the screws would be apt to damage the hive. About 3 inches from the front clamps or hooks and eyes of some sort are used to keep them down. I use brass clamps, then to make all secure immediately behind these clamps a piece of galvanised hooping with two holes in each end passes from 3 or more inches down the stand, and to the same distance up the super protector. This when in transit makes it impossible for the divisions to move or the bees to escape. Two stout handles are fixed to the middle divisions for carrying them. A wire holds the flight boards rigid, and as folded, fig. 88, shows it, the hooks



FIG. 88.

entering the little staples in the side of the hive. The under division is clamped to the stand with brass or galvanised pieces about 5 inches long by $1\frac{1}{4}$ inch broad, two nails into the hive and two into stand making it secure.

The stand is an important part of the hive. It is the same size as the other parts except the ends, which are flush with the sides for the purpose of allowing the feet to be fixed at the extreme angles to give stability. The only thing beyond the two clamps in the centre of the sides fixed to it is the plate indicating number and weight of the hive. They are made from brass or zinc, and fixed underneath the flight board close to the foot. The metal is cut to the size of glass to be used. After the metal has had an incision three-eighths of an inch from the top it is laid on, and held in the left hand, while with the right one the sides are bent over. Then the top is turned down, which, when properly made is watertight; the glass being cleaned, and the name written on paper, both are put into the little frame. The latter, being deeper than the glass, is pinched to prevent it falling out.

The sides are 6 inches deep, and the feet beneath them $2\frac{1}{2}$ inches. They should be red pine or larch, and reach to the top of the stand. Mine are $2\frac{1}{2}$ inches broad by $1\frac{1}{4}$ inch thick, and are nailed

firmly to the sides. The whole of the stand, feet excepted, is made from used wood, the feet and the perforated zinc being the only outlay, and which amounts to 1s.

Fig. 89 is a sectional drawing, showing the button behind, and

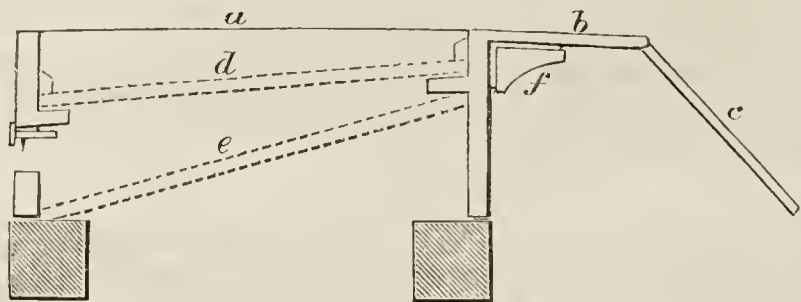


FIG. 89.

the lower dotted lines the fillet which holds up the floor, and allows it to rest when ventilated; *a* is the perforated zinc, *b* the flight board, and *c* the ladder; *d* the bottom or false floor, *e* the fillet explained (the crossed parts the feet), and *f* bracket or hinge to support flight boards.—A LANARKSHIRE BEE-KEEPER.

(To be continued.)

STRAW HIVES.

STRAW hives or skeps are still used in many districts, the majority of them being much too small. The usual size is from 10 inches to 12 inches in diameter, and the hive dome-shaped. The bees from such hives will constantly swarm for want of room, and by the time they have settled down to work the honey flow is over. An old stock after throwing off a swarm and often a couple of casts, and having but little storage room, will barely gather sufficient stores to winter on.

Having bought a stock in a straw skep early in the spring, I once experimented with a hive of this description. The weather was favourable, and by the second week in May the bees commenced to hang out at the entrance of the hive. I then turned the hive up and drove part of the bees into an empty skep until I saw the queen go up. I next set them on the stand where they had previously been, and placed a piece of queen-excluder zinc over the hole on the top of the hive. The old stock I put on the top, making all secure so that the bees had to go into the entrance of the bottom hive. The worker bees passed through the queen-excluder zinc, the queen remaining in the bottom hive, the brood in due course being all hatched out. In the meantime the bees filled the bottom hive with comb and brood, and in about three weeks I again drove the bees from the bottom hive until I saw the queen ascend. This hive was put on the original stand with a piece of queen-excluder zinc over the hole, the two hives now being put on the top. Honey was now coming in freely during the favourable weather, and in ten days this hive was full of comb, brood, and honey. I then drove the bees from bottom hive as before, and took the first skep from the top and placed it at the bottom, putting a piece of queen-excluder zinc over the hole, the bees and queen been placed in the bottom hive as previously done. The other two were placed on the top, and by the middle of July the brood was all hatched out, and the two hives full of honey. I eventually drove the bees from the two top skeps, and was rewarded with the most beautiful white combs of honey that I had ever seen obtained from straw skeps.

However good under certain conditions straw skeps may be they are not to be compared with the frame hive, as the latter has so many advantages. Still, people who have kept bees for many years in straw skeps are very slow in trying anything that is new or different to what they have been used to, and prefer the hive they have used all their lives. I know many of that class, and if asked the question as to the result of the honey season will at once say they have had a certain number of swarms, but had not taken any honey, and thought two or three stocks had not sufficient to winter on, but should leave them to take their chance. If the bees had been in moveable frame hives, and worked on rational lines, they would have provided a surplus of honey that might have gone towards paying the rent of the cottage. Old-fashioned bee-keepers imagine there is some mystery in the manipulating of bees, and although one explains the whole working of the modern system of bee-keeping, they still remain very undecided in the matter. One bee-keeper within a few miles of where I am writing, who has kept bees for half a century, and has at the present time upwards of fifty stocks, started a few years ago with some frame hives, but for the want of attention at the right time he looks on them as a failure, and still thinks the straw skep is the best for his purpose. To such I would advise the use of large flat-topped straw skeps, from 15 inches to 20 inches in diameter. A crate of sections can

be worked on the top of skeps of this size. Some of the best sections I have ever seen were worked on the top of a straw skep in this way.

The late Mr. Pettigrew was a great authority with regard to straw skeps. I met him a few years before his death, and I had not at that time seen a frame hive, but asked his advice on many things connected with bee-keeping, all of which he freely gave. He was a firm believer in the future of the straw hive, and thought the frame hive would never make headway, an opinion, I believe, he altered in his later years. Since that time modern bee-keeping has made great strides, and in favourable seasons tons of honey are now gathered which would otherwise be wasted.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

W. Baylor Hartland, Patrick Street, Cork.—*Hartland's Little Book of Seeds, Plants, and Potatoes.*

J. Carter & Co., High Holborn, London.—*Seed Catalogue.*

W. Clibran & Son, Oldfield Nurseries, Altrincham.—*Chrysanthemums.*

English Fruit and Rose Company, Kings Acre Nurseries, Hereford.—*Fruit Trees, Roses and Shrubs.*

Hogg & Wood, Coldstream, N.B.—*Forest and Fruit Trees, Roses and Shrubs.*



All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Taking Scions of Fruit Trees (G., Wales).—The best time for taking all the kinds you mention is while all are quite dormant in the buds, which cannot safely be deferred after January. The safest plan is to cut the requisite number of scions now, and insert them in damp sandy soil firmly on the north side of a wall, where they will keep plump and dormant in the buds until the stocks are swelling theirs, and the sap is sufficiently active for working them in the open ground.

Flowers and Seeds (A Young Gardener).—The essential parts of a flower are the stamens and pistil, and without these seed cannot be produced. The term "flower" includes both calyx and corolla, which are not essential to seed production, though they are present in a very large number of flowers, and serve both as protection to the more delicate essential organs, and as a means of attraction to insects. Seed, however, is often produced without calyx or corolla being present, and some might, therefore, erroneously think there was no flower. Some flowers, termed cleistogamous, also produce seed without expanding, as in some of the *Viola* family, and when these pods are observed it might be thought they had been produced without flowers. Without ovules to be fertilised by pollen, through the medium of stigma and style, or without their aid (as in the *Conifer* family), it is impossible to produce seed.

Planting Vines from Tubs (Garddwr).—The two Vines that were transferred in the spring from pots to 18-inch tubs will not take well to the border by merely placing them in holes the width and depth of the balls, for the roots will have a more or less coiled formation, and not ramify freely into the fresh soil. Of course, it would give the least check, and perhaps better results next year and the following; but it would tell on the Vines in time, as the roots would retain their original formation, not supplying nutriment so rapidly as horizontal roots, which are often put forth by such spiral-rooted Vines from the collar, being an effort on the part of Vines to supply themselves in the directest manner with food. The better plan would be to wait until the Vines commence growing, and when they have shoots an inch long carefully remove the soil from the roots; disentangle them, and spread them out evenly and as straight as practicable in the top foot of the border. With care in performing this, and following with a moderate supply of tepid water so as to settle the soil about the roots, the Vines would take to the soil at once, and little, if any, check be given to the growth. It is the best plan, so as to give them a chance of doing well in years to come and indefinitely. The Vines should be closely pruned long before they are planted.

Shrubs and Conifers in Flower Beds (F. C. M.).—Neat little plants of Golden and Silver Hollies are very effective in the centres of beds filled with dwarf flowering plants and for dotting amongst the same. They are also suitable for massing, and with them may be associated gold and silver variegated Box, Aucubas, Mahonia aquifolia, Myrtle-leaved Portugal Laurel, variegated Tree Ivy, and Euonymuses in variety, and also such dwarf flowering shrubs as Ligustrum japonicum, Andromeda floribunda, Rhododendron, herbaceous Ericas, and Kalmia latifolia. Well berried plants of Pernettyas, Skimmia japonica, and Cotoneaster microphylla may be similarly employed. The foregoing, and any good sized Conifers available are suitable for the larger beds, and can be arranged either in mixture according to their respective heights in masses, or in panels with dividing lines of one species. For smaller beds nothing equals a good selection of Conifers, these being attractive from the first. Neat, well coloured and properly prepared plants can be had from the leading nurserymen, and if taken good care of they will be serviceable in the beds for several seasons, in fact many of them would be nearly as effective in the flower beds during the summer as throughout the winter. Some of the best for the purpose are Cupressus Lawsoniana erecta viridis, lutea, and nana glauca; Cupressus Nutkaensis; Cryptomeria elegans; Juniperus tamariscifolia; Retinosporas ericoides, obtusa aurea, nana, plumosa argentea, squarrosa, and plumosa aurea; Taxus baccata elegantissima, and Thuiopsis dolabrata.

Propagating Aralias (A Beginner).—The stock upon which Aralia Veitchi is grafted is A. reticulata, which is freely increased from cuttings. Plants that have grown tall should be cut in lengths of about 2 inches, and inserted singly in small pots. January is a good time to cut the stems, which soon form roots in sandy soil if they can be placed in a close propagating frame, where they can enjoy moderately brisk bottom heat. We have inserted pieces of Aralia reticulata rather longer, and when well rooted have applied the grafts of A. Veitchi. But we prefer to allow the stocks to be well established, and have grown some few inches in length. These are then cut nearly close to the base, and the scions of Aralia Veitchi placed on to them. Side shoots from a large plant from which the top has been removed soon become united to the moderately soft wood of the young stocks. By this means few grafts can be applied at once, and therefore cut the stem of A. Veitchi in lengths of nearly 2 inches, and join them to stocks with firmer wood. Side grafting is the best to adopt, and they can be worked as near the soil as possible, so that after the stock and scion have united and the plants are placed in 5-inch pots the union will be practically buried in the soil, so that the young plant of A. Veitchi will be furnished from the base. The scions should be tied on in the usual way, and then kept practically air-tight by the aid of grafting wax. As the stocks are grafted they should be returned to the propagating frame, and kept close shaded and moist until they are united and have commenced growth, when they must be gradually hardened.

Double Digging (Amateur).—The following explicit note will exactly answer your question: This is also known as bastard trenching, and is the safest and best method of gradually increasing the depth and fertility of soils. It is a most desirable process in the case of newly broken-up ground, and also with garden soils that have not been deeply dug for three or more years previously. When the surface is thin and the subsoil of a poor character, then ought none of the latter to be brought to the surface till it has undergone some previous preparation. Ground that has long been under spade culture, and in particular any that has become either manure-sick or the other extreme—devoid of important manurial elements, should also be bastard trenched, only in this case the shovellings ought to be brought to the surface and eventually well mixed with the stale or inert soil of the latter. Commence at one end of a clear break of ground by marking out a 2 feet or 30 inch width across this. Then dig the top spit, leaving the "shovellings" or loose soil in the trench in the case of all but quite newly broken-up ground, and wheel this back to the opposite end. After this break up the bottom spit in the trench as deeply as possible with a fork. If there is any garden refuse other than that of a woody nature to get rid of, or if manure can be spared, fork some of such materials into the bottom spit, and if it is intended to eventually completely reverse the positions of the two spits, then clayey soils will be improved by the addition of mortar rubbish, ashes, sand, road trimmings, half-decayed tanners' bark, and such like. The bottom spit being thus prepared, mark out another width and throw the top soil of this on to the bottom spit in first trench, and follow with the shovellings if desirable, and so on till the whole of the break is trenched and the last trench filled with the top soil wheeled back to that end.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or

not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (H. F. C.).—The Pear is Winter Nelis; the Apple, Lane's Prince Albert. (T. D.).—1, French Crab; 2, Bramley's Seedling, a most excellent culinary variety.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (H. V. F.).—1, A good form of Cypripedium insigne; 2, C. barbatum; 3, Oncidium tigrinum. (C. P.).—1, Aralia Veitchi; 2, Adiantum formosum. (F. D.).—Cblorophytum elatum argenteo-lineare. (Amateur).—Saintpaulia ionantha, a dwarf-growing plant, introduced from South Africa.

COVENT GARDEN MARKET.—DECEMBER 12TH.

BUSINESS very quiet, with heavy supplies of Grapes to hand. Bulk of outdoor fruit cleared.

FRUIT.							
	s.	d.	s.	d.		s.	d.
Apples, per half sieve ..	1	6	to	4	Lemons, case ..	10	0
" Nova Scotia, per					Peaches, per doz. ..	0	0
barrel ..	10	0	15	0	Plums, half sieve ..	0	0
Grapes, per lb. ..	0	6	1	6	St. Michael Pines, each	2	0
Cobs per 100 lbs. ..	21	0	23	0	Strawberries per lb. ..	0	0

VEGETABLES.							
	s.	d.	s.	d.		s.	d.
Beans, Kidney, per lb. ..	0	6	to	0	Mustard and Cress, punnet	0	2
Beet, Red, dozen ..	1	0	0	0	Onions, bushel ..	3	6
Carrots, bunch ..	0	3	0	4	Parsley, dozen bunches ..	2	0
Cauliflowers, dozen ..	1	6	3	0	Parsnips, dozen ..	1	0
Celery, bundle ..	1	0	1	3	Potatoes, per cwt. ..	2	0
Coleworts, dozen bunches	2	0	4	0	Salsafy, bundle ..	1	0
Cucumbers, dozen ..	2	0	6	0	Seakale, per basket ..	1	3
Endive, dozen ..	1	3	1	6	Scorzoneria, bundle ..	1	6
Herbs, bunch ..	0	3	0	0	Shallots, per lb. ..	0	3
Leeks, bunch ..	0	2	0	0	Spinach, bushel ..	1	6
Lettuce, dozen ..	0	9	1	0	Tomatoes, per lb. ..	0	2
Mushrooms, punnet ..	0	9	1	0	Turnips, bunch ..	0	3

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	6	0	to	8	Poinsettia, dozen blooms ..	3	0	to	6
Azalea, dozen sprays ..	0	6	1	3	Pyrethrum, dozen bunches	2	0	4	0
Asparagus Fern, per bunch	1	0	2	0	Roses (indoor), dozen ..	0	6	1	0
Bouvardias, bunch ..	0	6	1	0	" Tea, white, dozen ..	0	6	2	0
Carnations, 12 blooms ..	1	6	3	0	" Yellow, dozen ..	2	0	3	0
Chrysanthemums, doz. bchs.	4	0	12	0	" Safrano (English), doz.	1	0	2	0
" doz. blooms ..	1	0	4	0	" Maréchal Niel, doz. ..	3	0	6	0
Eucharis, dozen ..	3	6	4	6	" (French), yellow, doz.				
Gardenias, per dozen ..	2	0	4	0	blooms ..	1	6	2	0
Geranium, scarlet, doz.					" (French), Red, dozen				
bunches ..	4	0	6	0	blooms ..	2	0	2	6
Lilac (French) per bunch	5	0	6	0	Smilax, per bunch ..	3	0	4	0
Lilium longiflorum, per					Stephanotis, dozen sprays	4	0	6	0
dozen ..	6	0	9	0	Tuberose, 12 blooms ..	0	4	0	6
Marguerites, 12 bunches ..	1	6	3	0	Violets (English), dozen				
Maidenhair Fern, dozen					bunches ..	1	6	2	6
bunches ..	4	0	6	0	Violets (French), Parme,				
Mignonette, 12 bunches ..	2	6	4	0	per bunch ..	4	0	5	0
Orchids, per dozen blooms	1	6	12	0	Violets (French), Czar, per				
Pelargoniums, 12 bunches	6	0	9	0	bunch ..	1	9	2	0
Primula (double), dozen					Violets (French), Victoria,				
sprays ..	0	6	1	0	dozen bunches ..	1	6	2	6

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	to	12	Ferns, in variety, dozen ..	4	0	to	18
Aspidistra, per dozen ..	18	0	36	0	(small) per hundred	4	0	6	0
Aspidistra, specimen ant	5	0	10	6	Ficus elastica, each ..	1	0	7	0
Chrysanthemums, 12					Foliage plants, var., each	2	0	10	0
doz. ..	4	0	8	0	Lycopodiums, per dozen ..	3	0	4	0
" large, p. doz.	9	0	18	0	Marguerite Daisy, dozen ..	6	0	12	0
Cyclamen, per doze ..	9	0	12	0	Myrtles, dozen ..	6	0	9	0
Dracena, various, dozen ..	12	0	30	0	Palms, in var., each ..	1	0	15	0
Dracena viridis, dozen ..	9	0	18	0	(specimens) ..	21	0	63	0
Erica, various, per dozen ..	9	0	18	0	Poinsettia, per dozen ..	10	0	15	0
Euonymus, var., dozen ..	6	0	18	0	Primulas, per dozen ..	4	0	6	0
Evergreens, in var., per					Solanums, per dozen ..	10	0	12	0
dozen ..	6	0	24	0					



WINTERING DAIRY COWS.—4.

ATTENTION has repeatedly been called in these articles to the high average milk yield of the cows on the two home farms of the Duke of Westminster in Cheshire, the herd of about forty

cows at the Grange Farm being specially remarkable for its average of 677 gallons per cow per annum for seven years. In 1893 an interesting and instructive account of the cows and their management was given in the Journal of the Royal Agricultural Society by the Hon. Cecil T. Parker, the Duke's agent. We now give some of the details of management and feeding, as we regard the milk yield as a standard of excellence for every home farmer, or rather for every farmer, for as Mr. Parker so wisely says, "If farmers would exercise care in selecting and breeding from good milkers, and in eliminating the poor ones, the returns would be more satisfactory, for it costs as much to keep a bad cow as to maintain a good one."

"The cows are all shorthorn cross-breds, very like the ordinary Cheshire dairy cows, but containing more shorthorn blood than the latter. It is arranged for the cows to begin calving in November, and to finish by about May 20th. Most of them drop their calves in February, March, and April, but as it is necessary to supply large quantities of milk, cream, and butter during the winter months, a higher proportion of the cows calve down in November, December, and January than is the case in the majority of herds."

It will, of course, be understood that both herds are kept specially for home farm requirements, and the management of the calving is applicable to every home farm whence a similar supply of dairy produce must be forthcoming for the household.

"During the winter and early spring months the cows which have calved are fed with hay, and 4 to 7 lbs. per day of ground Oats. Silage, Swedish Turnips, pulped and mixed with hay chaff, and Mangolds are also used, but in varying quantities to different cows, and some have none. Turnips and silage, unless used very sparingly, give a flavour to the milk and cream, and it is found necessary to keep these two foods away from the cows, the milk or cream of which is directly consumed. When, however, the milk is made into butter the flavour is very little noticed, provided the Turnips and silage are used in moderation and not given till after milking. At the time the cows are not in milk during the winter they have a larger quantity of pulped Turnips and as much silage as they care to eat, but the meal is discontinued. Hay is given twice each day. The crushed Oats are used in various quantities according to the size of the cows and the amount of milk they may be giving, and the quantity also varies according as the quality of the hay is good or indifferent. We occasionally use Maize meal, Bean meal, and bran, but crushed Oats form the staple purchased food. This feeding is continued up to the time the cows go to grass, which is generally between the 1st and 12th of May. After this they are fed morning and evening with cotton cake or meal for ten to fourteen days, and then all artificial feeding is discontinued until the autumn, when the cows commence to calve again."

We thus learn that the winter dietary of these famous herds consists practically of hay and crushed Oats, with a cautious addition of silage and roots. The individual requirements of the cows are evidently carefully studied, and due heed is given to the production of sweet, wholesome milk, and palatable butter. To apply this valuable lesson to practice is surely easy enough. Perhaps the most striking thing about Mr. Parker's system of management is the combination of efficiency with simplicity. The ducal herds, though affording a milk yield of nearly twice the general average, have no heavy cake bills, no costly or extravagant outlay of any sort. Even the implied purchase of crushed Oats may be an advantage under present prices, though we are bound to hold that for farmers generally the home production of Oats is desirable for the sake of the straw as well as the corn. No doubt careful breeding has much influence upon the milk yield, and when, as in this instance, it is found in such judicious combination, with equally sensible feeding, the result is entirely satisfactory.

WORK ON THE HOME FARM.

Old Clover layers or leys had so much herbage on them late in autumn that they were not broken up so early as usual. Where sheep have been folded upon them to clear up the herbage, the land will require little if any manure for Oats next spring. If it is not rich in fertility apart from the folding it may answer well to drill in with the seed 1 cwt. nitrate of soda and 2 cwt. mineral superphosphate. The decision about this must rest with the farmer, who knows or ought to know the condition and requirements of his land better than anyone else. But we can safely advise even him to aim at full crops, and to remember that they cannot be had without full fertility of soil, and the sowing of really good seed. Take advantage of open weather to push on all such ploughing, but do not suffer heavy land to be disturbed while it is sodden by heavy rain.

Look to the swine as being still a source of profit. Make no rash reduction in the number of sows because bacon hogs have fallen off in value. Even with a reduction of 2d. a pound we consider the advantage is still with the farmer who does not grow the corn, but takes full advantage of the low price of feeding stuffs. We may in connection with the feeding of swine and all other stock give a word of caution about the purchase of food. See that each kind of corn purchased—whether Wheat, Barley, or Oats, is pure. Avoid mixtures, and costly compound foods, about which we say the greater the merit claimed for them the greater the suspicion with which we regard them.

Go carefully through the swine stock, and draught out all sows becoming so large and heavy as to be liable to lie upon their progeny. We consider it bad practice to keep them for this risk, and also for the cost of extra food, which they consume. One of our first lessons in swine management was the fattening of a sow with an exceptionally large frame. That sow realised £10, and we have never forgotten the lesson. Bring on plenty of young sows, breed early, and fatten them as soon as they become faulty in any respect.

OUR LETTER BOX.

Roots for Live Stock (A. G. G.).—The comparative value of Carrots, Parsnips, and Potatoes as nutritive food will be clear to you in the following enumeration of the nourishing constituents in 100 parts of each:—

	Albuminoides		Fats		Carbohydrates	
Carrots	1.4	0.2	11.0			
Parsnips	1.3	0.3	10.9			
Potatoes	2.2	0.3	20.3			

For pigs we prefer Potatoes, for horses Carrots and Parsnips. If, as you appear to show, Parsnips are about double the price of Carrots, avoid purchasing them, as it is certain that for horses the balance is decidedly in favour of Carrots. You have here a valuable example of the practical value of analysis.

SEED STANDS AT THE SMITHFIELD CLUB SHOW.—We are informed that Messrs. Sutton & Sons, Reading, and Messrs. E. Webb & Sons, Wordsley, Stourbridge, have splendid stands of seeds and roots at the Smithfield Club Cattle show, held in the Agricultural Hall, Islington, this week. The officials did not send us a reporter's ticket, hence we are unable to refer more particularly to these and other stands, which, no doubt, are arranged by various firms.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1894. December.		Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday	2	30.441	34.2	32.7	N.E.	40.7	44.8	30.6	45.6	26.9	—
Monday	3	30.102	41.9	40.1	E.	41.1	46.7	33.4	63.8	35.0	—
Tuesday	4	29.757	33.9	33.9	N.E.	41.0	39.9	33.1	40.1	28.1	—
Wednesday	5	29.849	39.2	38.5	N.	40.6	43.1	31.9	48.2	27.1	—
Thursday	6	30.038	33.3	33.3	W.	41.0	43.4	31.1	43.9	30.2	0.016
Friday	7	29.883	41.8	41.8	S.W.	40.6	48.4	32.9	52.0	29.3	0.191
Saturday	8	29.861	41.2	40.1	N.	41.9	47.1	39.3	64.2	35.4	—
		29.990	37.9	37.2		41.0	44.8	33.2	51.1	30.3	0.207

REMARKS.

- 2nd.—Fine and calm: the sun generally obscured by the accumulation of smoke.
 3rd.—Bright sunshine almost throughout.
 4th.—Slight fog all day; the sun generally visible.
 5th.—Overcast all day.
 6th.—Overcast day; slight fog early and in afternoon.
 7th.—Drizzly and foggy till about 10 A.M.; bright sunshine at midday; rain from 2.30 P.M. to midnight.
 8th.—Cloudy early, and spots of rain at 9 A.M.; bright sunshine from 10 A.M. to 2 P.M., and cloudy later.

Dull, damp, and colder, but no severe frost.—G. J. SYMONS.



CHRISTMAS is celebrated by all civilized nations by acts of hospitality and feelings of rejoicing. The dreary blackness of a foggy winter's day seems sometimes to make a feeble attempt to rob the season of its brightness; at others the pure whiteness of the fleecy snow shrouds the whole surface of the landscape with that unique beauty which we in Britain seem instinctively to look for at Christmas time. The elements, however, may often play us false in this direction without affecting in the least degree the festive spirit which shows itself in joyous mirth within so many homes of England, but, alas! not in all.

Those persons who are blessed with a good share of wealth gather within their stately halls a numerous company of guests, and by the aid of flowers and plants required on such occasions for various forms of decoration the prosperity of horticulture is largely advanced. The most suitable flowers at command for the purpose do not vary greatly in succeeding years, hence it requires a considerable amount of ingenuity on the part of the decorator to invent some methods of arrangement which will produce an effect not less beautiful, but as dissimilar as possible from the styles of previous years. It is not an easy matter to make startling changes in this direction, especially if called on to do so at a very short notice. At Christmas time, however, so many gardeners have to decorate dinner-tables for a series of parties, that it behoves them to have some scheme in readiness. With the object of endeavouring to help those who may require assistance in this direction these lines are penned.

Holly is so unusually well berried this year that a strong feature might be made with that and Mistletoe on the festive evening without the aid of a single flower. A couple of plants of *Cocos Weddelliana* and three of *Pandanus Veitchi* will be the only other materials necessary. Use the largest *Pandanus* for the centre, raising it just high enough for the arching habit of the leaves to be seen to advantage. Along the centre of the table 3 or 4 feet distant from this place the *Cocos*; these should have rather long stems, so the fronds will rise above the heads of the guests when seated, and thus not obstruct the view across the table. Two smaller *Pandanus* should next be placed near the ends of the table. If only three plants are required, let a *Cocos* form the centre, with a *Pandanus* on each side. Then proceed to trace the outline of the available space of the tables with green Holly leaves in the form of a series of flowing curves, not necessarily regular ones. The points of the leaves should protrude here and there to avoid stiffness. Spaces should be traced out for the dessert dishes when it is the custom to place such on the table. Little bundles of green-leaved Holly with plenty of berries, variegated Holly, and Mistletoe, may next be made into the form of sheaves. From three to five good pieces will be quite enough for each bundle, as they ought to look as light as possible. A band for each is easily formed by wiring a few small tops together. These should be twisted and fastened after the time-honoured method employed for hand-bound sheaves of corn. When a dozen or so of these bundles have been prepared they may be dotted about the table as the taste of the decorator may dictate, but, of course, having them sufficiently wide apart to avoid an appearance of overcrowding. The sheaves of green-leaved Holly and those of Mistletoe ought to be surrounded with a broad band of variegated Holly, and the

whole of the remaining space on the table covered with the shoots of well berried green-leaved varieties.

On another occasion a delightful effect may be obtained by the exclusive use of Christmas Roses, foliage, and Ferns. In this case it will be a great advantage to have scarlet silk placed along the centre of the table. Around the edge of this small tops of *Rhododendron ponticum* form an effective tracing if dotted at intervals of 4 or 5 inches with Hellebore flowers. A few graceful green-leaved Palms, placed in china vases, gold or silver bowls, or cups, are well adapted for placing along the centre of the table between the candlesticks. Low glass or china bowls are convenient receptacles for placing the remainder of the flowers in, associating a few Fern fronds and *Rhododendron* tops with them. These latter so nearly resemble Hellebore leaves as to strongly recommend them for the purpose. If suitable bowls are not at command the flowers look extremely well when arranged on small mounds of moss, with the foliage previously mentioned intermixed with them.

The bright scarlet bracts of Poinsettias are greatly prized by table decorators, and this is no matter for surprise, seeing how showy and unique in appearance they are. When these are employed I prefer to have a bowl for the centre; if this is half filled with wet sand, and the top of the receptacle covered with wire, it is an easy matter to fix the flowers in position—an important point to consider when using anything so "top heavy" as Poinsettias. If a few pieces of Box are inserted through this wire top before the work of arranging the other materials begins, it enables the whole to be lightly done without showing the base of the stems. Any fronds of *Nephrolepis tuberosa* and pieces of *Cyperus alternifolius* are suitable for mixing with the Poinsettias, and one of the many varieties of *Adiantums* supply fronds of the right character for finishing around the edges of the bowl. Lumps of pliable clay, placed in plates or on pieces of cardboard, prove extremely useful for holding the bracts in position where isolated ones are wanted for dotting about the table, and when it is desirable to form a low bank of them around the base of a candlestick the same method of fixing answers admirably, but, of course, the base should be covered with moss or other kind of greenery, and the surface made light with Ferns or similar material. Groups and bowls arranged in this way, and a few additional bracts laid quite flat on the cloth with a fringe of Fern, form a combination of arrangements which for bold, brilliant colouring and uncommon form are not easily beaten.

In marked contrast to the above, yet not less beautiful, is a table adorned solely with bronze and bronzy-yellow flowers, coloured leaves of *Berberis aquifolium*, small graceful Crotons, and a few Fern fronds. Trumpet-shaped vases with three projecting arms are admirably adapted for placing along the centre of the table when these materials are employed. When vases of this type are used lightness in arrangement is easily secured. Where this useful *Berberis* abounds it is generally possible to obtain a few very slender, highly coloured tops. These ought to be reserved for the vases, and the larger and well developed leaves employed for tracing. If a few pieces of Box are first placed in the glasses the *Berberis* tops can then be lightly arranged, and flowers of the right shades of colour intermixed with them. Chrysanthemums of the Japanese and single types supply flowers of the right character for this purpose, and with special treatment these may be had in bloom at Christmas. Fronds of *Adiantum cuneatum*, and of some light form of *Pteris serrulata*, together with a few dried grasses, are excellent to use for giving the necessary finishing touches, and if some long trailers of *Smilax* are at hand, nothing is better for hanging over the sides of the glasses, and trailing for a considerable length along the cloth. If space will permit a few low glasses may with advantage be filled with the same materials, and disposed in suitable places. The whole of the glasses, candlesticks, and other ornaments, should then be

connected with a tracing of well coloured Berberis leaves, and dotted at irregular intervals with flowers, a few Fern fronds being also employed. The little patches of white cloth showing between the tracing will prevent anything approaching heaviness in the appearance of the design as a whole.

After a series of parties it is always a good plan to have, if possible, something entirely distinct to finish with. Such a feature may be secured by using pink and white Primulas in conjunction with long sprays of Epacris of similar colours. In this instance employ Smilax freely. Trail this upon the cloth in an informal way, without any apparently studied design; place upon it little groups of Primula pips here and there. Let miniature glasses with from three to five sprays of Epacris rise from the greenery at points where taste may suggest, in all instances covering the glasses with Smilax. It may in some cases be advisable to use a few trumpet-shaped glasses as well; but these ought to be of very slim build, so as to enable the decorator to secure a triumph of characteristic lightness in arrangement, and a fresh pleasing combination of delicate tints in colouring.

—D. H. W.

THE FLORISTS' TULIP.

[By JAMES W. BENTLEY, Hon. Secretary to the Royal National Tulip Society.]

CHAPTER IV.

(Continued from page 514.)

THERE is often much difficulty in obtaining such soil as I have described, and to many cultivators "the top spit of a fat old pasture" is practically unattainable. Fortunately there is no need to despair even if this be the case, as any heavy garden soil will grow the Tulip for one year at least. Soil that has been manured the year before and cropped with Potatoes, Turnips, or other vegetables is suitable, and in most gardens can be readily obtained. It is undoubtedly better to change the soil, or a portion of it, every year, yet I have seen a fine bed of Tulips that had been grown in the same soil for eight years. It was ordinary heavy garden mould, about 2 feet deep, and the grower (who was that fine old judge and florist, the late Mr. Thos. Leech of Hooley Hill, Lancashire) had for years buried his garden weeds, as soon as the bulbs were lifted, deep in his bed. These decaying, had year by year given to the soil an enrichment of vegetable manure, which had evidently suited the bulbs and plants, for both were fine and healthy. If the same soil is to be used again, it is an advantage to give the bed a light dressing of lime during the summer; this, when the bed is turned over, will become thoroughly mixed with the soil, and prove helpful.

I must in fairness mention that some growers do not share my aversion to nitrogenous manures, but use them freely. I believe, however, that what manure is used is of the "well rotted" or rendered harmless kind. I am not prepared to say that manure is altogether out of place in the culture of the Tulip, and have no doubt that, carefully used and in the right condition, it is of some benefit to some growers. At the same time it must be used with great caution, and the beginner had better avoid it. But "there were brave men before Agamemnon," and the Tulip growers of the past have left us much valuable information embalmed in the pages of the old floricultural journals. I extract the following from an article in the "Floricultural Cabinet" for 1850 by a grower who writes under the *nom de plume* of "Dahl":—

"Experiments with Tulips are rather dangerous, and I would not advise a beginner to try them. If he has a few hundred bulbs more than he wants, and does not value them, then let him experiment to his heart's delight, and not repine if he loses them all. I knew an extensive grower in the vicinity of London some thirty years ago who thought if he well supplied them with dung he should do better; the consequence was he nearly lost all. I knew an amateur about twelve years since who had more money than wit and a small smattering of chemistry, and every year he must needs make experiments, and to my knowledge he lost £100 worth for several years, till at last he got tired, and was satisfied to proceed in the usual routine. I have tried several myself, but will only relate what has proved useful.

"Some years since I had the earth removed to the depth of 14 inches from my Tulip bed, in order to mix a little fresh mould with that taken out; at the same time I had a man to dig a hole in the garden. When he had got down about 3 feet he came and told me that six years before he had put some nightsoil in the same place; he had just come to it, and it was rare stuff, and would advise me to let him put it aside, as it was rare manure for anything. A thought struck me that if it was good for everything it was good for Tulips. It was a dangerous thought,

at least I thought so at the time, but I was determined to try it. I had 4 inches of it laid at the bottom of the bed, and incorporated with it some sifted old mortar rubbish, had the mould put upon it, and planted my bulbs, and at the next blooming season I had the finest bloom I had ever had before, or have had since, and the reason I have never tried it again is, I have never had the good old stuff to do it with. Since I have resided in Manchester, where good compost for Tulips is difficult to procure, I have been forced to make experiments or procure mould from a distance. I have freely used liquid manure. After the bulbs are taken up I lay the bed up in ridges, and every morning for two months the liquid manure is poured over the bed from the rose of a waterpot. Its beneficial effects are far more extensive than I ever anticipated; indeed, I should use it every year if I was surrounded with mould the most congenial for their cultivation, feeling assured that it is conducive to their well doing.

"I have heard some cultivators affirm that the mould of the Tulip bed should be changed every year, saying that Tulips could never be grown well if it was neglected, and when I first began growing Tulips I adhered to this rule; but after, found the change was for the worse, which confirmed the old adage 'Out of the frying pan into the fire.' I was told some time since by an old, extensive, and good cultivator in the west of England that he had not changed the mould of his Tulip beds for twenty years. His garden ground was what was usually termed stiff; and every year after his bulbs were taken up he covered his beds with a coating of fresh cowdung, which in the course of the summer was well incorporated with his stiff soil, and from my own knowledge he never had to find fault with his blooms."

This, from the pen of gossip old "Dahl," is well worth preserving, and may be especially helpful to those who are forced to use the same soil year after year. Its moral, I think, is that nitrogenous manures must be of some age and have lost all their heating power when used, and they must be well incorporated with the soil some time before the bulbs are planted; at the same time the vegetable manure mentioned before, as being used by Mr. Leech, is probably of quite as much value and is well worth a trial.

The bulbs being planted, it is necessary to arrange the best means of protecting it. Surrounding the beds with galvanised wire netting about 2 feet high will keep off cats, and it should be protected in this manner immediately. Some growers after planting leave the beds exposed to all the weather until the foliage is out of the ground. I do not approve of this plan, as although frost will not hurt the bulbs even if the bed be frozen hard a foot deep, wet is prejudicial both to the quality of the future bloom and to the health of the bulbs, and is better kept off. In my opinion too much wet in the winter and spring is often the cause of coarse characterless blooms. The bulbs appear to get gorged and glutted with moisture, and in this condition naturally produce blooms in which brilliancy and clearness of marking are replaced by a dull, undecided flushing. Porous soil and good drainage are mitigating circumstances certainly; but there can be no advantage in subjecting the Tulip, which is exotic in its origin, to the deluge of rain which often constitutes our English winter. Besides the injury to the quality of the flowers caused by too much moisture in the soil, there is often injury to the bulbs of a very serious nature. In the columns of the "Midland Florist" for 1857 there was a discussion about the great loss of bulbs that many growers, notably Mr. Hepworth, had sustained, and one article bears so notably on this part of the subject that I must make an extract from it. It is by Mr. John Cunninghame, a well known florist bailing from the other side of the Tweed.

"No doubt bulbous roots, especially Tulips, when planted under such unfavourable circumstances as detailed, are subject to dropsy. Any person who has studied the culture of plants must be aware that when the atmosphere is surcharged with moisture, or too much water is applied to the roots of plants, it produces an excess of their juices, which resembles the dropsy of animals. This dropsy occurs chiefly in bulbous and tuberous plants, such as the Ranunculus, which is often found much swollen after rain, and this I most tenaciously hold was the cause of the death of Mr. Hepworth's bulbs. Planted in soaking muddy soil, heavy rains after planting, no protection afforded until the roots had taken possession of the soil, not even during the whole winter, the consequence was the heavy rains battered the soil, and made it as close as a plastered wall, the frost congealed the water round the bulbs, no air could penetrate, and of course neither seeds nor bulbs will germinate or make roots in such a state."

Mr. Cunninghame kept the winter rain off his beds by erecting a framework, roofed with thin yellow oiled waterproof cloth, and he goes on to say that the plan answered admirably. The old London growers did not particularly protect their beds from rain. The following from the pen of the famous Mr. Groom of Clapham Rise, which was published in the "Florist" for March, 1848, gives an idea of the protective means employed in his day.

"The operations for this month (March) are entirely of a protective character, but are, nevertheless, quite as important to insure a fine bed

of flowers as any part of the previous management. Where the Tulip bed has not been already hooped over it should be done without loss of time, and the simplest plan is to get some round iron rods, 12 feet long by half an inch in diameter, and have them bent in the annexed form (fig. 90). They should be painted, and as soon as dry placed over the bed 3 feet apart, pressing them down equally, having a hoop at each end of the bed. When this is done pantile laths should be tied inside the hoops the whole length of the bed at the ridge and the two shoulders. It is also desirable, if there is any chance of being annoyed by cats, to have a net fastened round the sides of the bed, which can be tied to the pantile laths at the shoulders. The next thing is to get the mats or cloths ready for covering the beds with in bad weather. . . . The hoops and coverings being ready, the next thing is to keep a good watch on the weather, as it requires the greatest care to protect the bed from frost and hailstones; indeed it is desirable to keep the rain even from the bed whenever there is the least chance of frost at night, as half the injury Tulips receive arises from water lodging in the cups formed by the leaves during their early growth, which, becoming frozen, expands, as well as the frozen earth around their stems, and the consequence is that the pressure ruptures the vessels of the leaves, and mortification takes place frequently to an extent sufficient to destroy the plant."

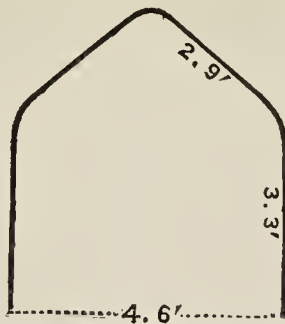


FIG. 90.—PROTECTION FOR A TULIP BED.

It can, I think, be readily understood from the above what an immense amount of watchful labour must have been necessary to ensure a fine bed of bloom when such protective means were employed. The grower must have been a slave to his Tulips. What covering and uncovering when at home! and what anxiety when away as to hailstorms, rains, and frosts! Well might the number of cultivators diminish as the present era of amusement and superficial smartness dawned. And yet with every care and attention Tulips grown with this method of protection were often in sorry plight, as witness a wail from another fine old-time grower—Mr. J. Hunt of High Wycombe—in the April number of the same volume of the "Florist."

"Tulips.—The present wet season is very unfavourable to a fine bloom. The great influx of rain, with the almost constant covering of the bed to prevent their being saturated with water, is very prejudicial, a constant supply of pure fresh air being a *sine qua non* to a healthful state of both the bulb and foliage and to a perfect development of the bloom. The beds in this neighbourhood present a very different appearance from what they have done in past seasons; the foliage is of a sickly pale green, the stems weak and drawn by the frequent covering and the absence of the rays of the sun. The most skilful judgment and unremitting attention have been required from the enthusiastic cultivator; and after all the pains taken we fear the present adverse season will prevent him witnessing the consummation so ardently desired—a fine bloom."

Some Tulips are still grown and protected in similar fashion now, and probably there is here and there an old fashioned grower who would maintain strongly that no other way would do at all. Still, I think that I may fairly lay claim to having established my point that excessive wet is most injurious to the Tulip, and that the means of protection formerly employed were clumsy, troublesome, and defective.

The best manner of protecting Tulips is, in my opinion, one which is described by Mr. J. Douglas in his work "Hardy Florist Flowers," and it is the plan that, with some modifications, I adopt. I have two beds, each 50 feet long, placed parallel to each other, with a walk 3 feet wide between them. On each side of the walk posts, close to the edging board of the bed, are driven into the ground until they stand about 4½ feet above it; along the outer sides of the beds similar posts are also placed about 3½ feet high. Along the tops of each line of posts stout rails are nailed, and a kind of framework is produced upon which glass lights, about 5 feet long by 3 feet 6 inches wide, are placed.

(To be continued.)



CYPRIPEDIUM × WILLIAM LLOYD.

THIS very distinct hybrid Cypripedium is the result of a cross between *C. belatulum* and *C. Swanianum*. The flower is large, that shown in the illustration (fig. 91) being slightly reduced, and

of an unusually rich colour. A purplish rose shade characterises the upper sepal, which is also marked with darker veins, and has a white tip. The petals are of a similar colour spotted with dark purple, the lip being a deep purplish red. This fine Cypripedium was exhibited by Mr. P. Weathers, Silverhall Nursery, Isleworth, at the Drill Hall, Westminster, on the 11th inst., when the Orchid Committee of the Royal Horticultural Society adjudged it an award of merit.

DENDROBIUM PARISHI.

THE flowers of this species somewhat resemble those of *D. nobile*, but are usually deeper in colour. In habit it is quite distinct from any other Dendrobium; the blunt pseudo-bulbs have a peculiar, rather clumsy, appearance, and grow over the side of the pot or basket with the points downwards. The plant is deciduous, and the pseudo-bulbs, when well ripened, are covered with very white sheaths. The blossoms appear in small panicles from the nodes early in spring, and are usually fully developed in May. After these fade the new growth appears, when the plants must be placed in a brisk moist heat in a light sunny position. A.



FIG. 91.—CYPRIPEDIUM × WILLIAM LLOYD.

thorough rest must be given after the leaves have fallen, no water being required until the plants are seen to be on the move in spring. *D. Parishii* was introduced from Moulmein about 1860, and is named after its discoverer, the Rev. C. Parish, a distinguished and successful collector of Orchids.—H. R. R.

ORCHIDS AT THE FIRS, WARWICK.

ANYONE visiting this place cannot help being astonished at its magnificent collection of Orchids. Major Mason, who is a keen enthusiast, has taken a great interest in them for a number of years, adding by degrees many of the choice varieties now in cultivation. The collection now exceeds 9000 plants, which includes some fine rare specimens, and even at this dull season of the year abundance of bloom can be seen in every house. In the Cattleya house there are something like 2000 plants, which Mr. Beale told me had been a splendid sight, amongst others being *C. labiata* and *C. aurea*. At the north end of the same house, and hanging from the roof, is a most meritorious collection of Vandas, which, in my opinion, would be hard to surpass, for they are in excellent health.

Amongst the Orchids in flower I noticed the yellow Cypripedium Sanderae, Cymbidium Winnianum, Vanda Hookeri, and some Odontoglossums. Other plants worthy of note are Lælias of

sorts, some of them producing as many as fourteen spikes. All the Orchids are ably grown and cared for by Mr. Beale, the head gardener.—GEO. BURROWS.

CARNIVOROUS PLANTS IN THE ORCHID HOUSE.

CONSIDERING how readily carnivorous plants adapt themselves to the same cultural treatment as Orchids, one need not apologise for advancing their claims to be thus grown—*en famille*. Apart from the charm and interest the various *Nepenthes* add to a tropical house, their utility as insect trappers is worthy of consideration, especially in those cases where aerial Orchid roots abound, forming a tempting *bonne bouche* to the maulauding cockroach. It may be remarked by some that the power of a *Nepenthes* in this direction is very limited, as it may appear more by accident than design that the victim meets his doom. This was my idea when in charge of an East Indian house containing some well-pitched plants of *N. Rafflesiana* dispersed amongst the Orchids. Here, with the offensive insect in strong force, an occasional catch was noted, but in this instance fell short of expectation.

Recent observations and different results obtained with a few plants of *N. Mastersiana* have prompted these few remarks; also an inquiry as to whether some varieties more than others do not possess an attractive force—odour or what not—acting as a lure. It would not, I think, be a difficult question to answer with those having a collection of varieties and noting results, taking for granted that sufficient of the small game abound. Whatever it may be with other kinds, *N. Mastersiana* is certainly worthy of mention, and leads me to suspect that the secretive fluid in the pitchers is more than usually grateful to the olfactory organs of a cockroach; anyway, they go in, and they come not out. Nor is it that we are overrun with the beasties—in fact, seldom see them until safely trapped in the pitchers. In forming a collection of high temperature Orchids, the merits of the *Nepenthes* family in general, and those members of it in particular possessed of superior powers (if such is the case), should not be overlooked. *Nepenthes The Rajah*, head and noblest of the tribe, refuses to live under other than the cool treatment, but by its rarity will fall into the hands of but few gardeners of this generation. This is to be regretted, for a natural pitcher holding a quart of water would surely be novel, perhaps good to have.

From an utility point of view the claims of carnivorous plants suited to the temperature of a cool Orchid house cannot be so strongly advanced; yet, in this section are to be found some of the most beautiful and interesting of the genus. *Dionæa muscipula* stands out pre-eminently in its rat-trap like formation and wonderful automatic mechanism. This, with the beautiful New Holland *Cephalotus follicularis*, enjoy the protection afforded by a tilted bell-glass. The hardy *Sarracenias*—Sidesaddle plants of the North American bogs—are, too, worthy of a place among the *Odontoglossums*, all but rivalling the Orchids in their quaintness of bloom. *Droseras*, the refined and elegant Sundews, should be included, and if observed through a magnifying lens the way they secure their prey by folding in the glandular hairs to the struggling fly, is, to say the least, interesting. Persons well acquainted with them seldom tire in observing the ways of these wonders of the vegetable kingdom. Some useful, many beautiful, all curious, are conclusions to be adduced from our point of view. From a cockroach point of view, doubtless matters are slightly different.—E. K., *Dublin*.

CARNATION DISEASES.

"T. S., *Henbury Hill*," states (page 420), "I have for some time past had an idea that if we could add something to the soil or water that the plants could take up without injury, say some compound containing sulphur (dissolved bone or sulphate of iron, for example), the juices of the plant might be rendered obnoxious to the mycelium" of the fungi. This is a very important and far-reaching subject, nothing less than embracing the whole of vegetable pathology, and is the exact ground taken up by your able correspondents, "D., *Deal*," Messrs. W. Bardney, H. Dunkin, and other cultivators. That these know how to grow Carnations without the diseases your correspondent alludes to is manifest from their writings, but in presence of the parasites they tacitly admit defeat. Nevertheless they cling to their preconceived ideas that parasites are a consequence and not cause. With this I am not going to differ, for the reason that both in nature and in culture plants vary considerably in their immunity from attacks by parasitic fungi; but I wish it to be distinctly understood that no system of culture whatever can render vegetable, any more than animal life, disease-proof, for all are liable to parasitism, to which they must sooner or later succumb. True, it is a question of food, all being dependent on one another for subsistence and continuance, hence

the "stamping out" system is the most drastic and certain of all remedies. If, however, diseases cannot be exorcised by cultural management, they are, to a certain extent, precluded by a careful and nourishing regimen, combined with thorough cleanliness and attendance to the essential conditions of health. More proper food, suitable environment, and cultural treatment according with the habits assigned by Nature to the plant, are the fundamental principles upon which preventive and curative measures are (or should be) based.

The Carnation is a native of the South of Europe, and is to summer what the Violet is to winter—a producer of air-laden fragrance. Both are seen at their best on the hills over which sweep the Mediterranean and other sea breezes. That air is salt. Look at home. Violets thrive nowhere so well as near the sea—in sunny Devon; on the highest cliffs in Britain (Bowlby heights, North Yorkshire) Carnations do the same. Nevertheless, under certain cultural conditions both become liable to spot. "D., *Deal*," tells us (page 421) why they "damp" in structures near the sea, hence Carnations are found healthier in murky Sheffield than in stuffy plant houses within reach of salt air. The one gets chlorine both from the air and water, for there is always abundance of it in town rain water, while the other might as well be in the Midlands for any benefit derived from the sea breezes. To get chlorine into the plant it must pass the epidermis. This it may do in two ways—1, absorption by the leaves or soft parts of the plants; 2, suction by the roots. Scientists tell us that leaves cannot absorb moisture—water or vapour, but that is a point of no consequence to our present investigation, for we obtain it one way or the other, either on the epidermis from the air or into the plant by the absorption of the rain water. That on the plant—outside, mark—must be obtained from the air, which it is not when the house is kept close, for instead of being condensed on the leaves it is caught on the outside of the glass, and is of no use as a protective coat to the plant. Of course, it will pass into the rain water tank, and so enter the plant to the extent of about two or three grains per gallon of such water absorbed. That is one reason why plants are healthier when watered with rain water than with well water.

The chlorine passes into the plant somehow. It either enters by the part above or below ground (epidermis). It does not enter by the stomata, and it is questionable if any enter the plant by leaf or young growth absorption. All the same, we get it as a deposit on the epidermis, along with abundance of sooty and other matter deposit in towns, and near the sea it acts on the plant so as to harden the epidermal cells, both usually having a double layer of air-cells. This I found the case with plants grown in the town of Bradford and in the sea air of Cleveland, both in Yorkshire. In a close atmosphere the epidermal cells are frequently filled with water. This water means other elements—growth to the plant, food for the fungus. That is all it wants with the plant.

Now this chlorine is not of itself hateful to the *funguses* living on Carnations, for they must be able to appropriate potash, soda, magnesia, lime, phosphoric acid, silica, iron, and chlorine, otherwise they could not exist. But the *funguses* cannot convert those bodies from inorganic into organic matter, therefore if a spore alights on a surface coated with chlorine or any of the elements named it must perish. The fungus must have this done for it by the plant—the potash, soda, lime, magnesia, iron, manganese, alumina, phosphoric acid, sulphuric acid, silica, sodium chloride, and potassium chloride organised. Thus the fungus can do nothing without the previous or present action of the plant, for it is such a dainty feeder that it must have its food well prepared—the fatter and richer the better. Poverty—the weakly, sickly, and lean—has no effect on the fungal appetite; but see the relish Carnation fungi have for succulent, thriving plants. *Souvenir de la Malmaison* are more esteemed than the species (*Dianthus caryophyllus*), and this point brings us to the gist of the matter—the struggle for existence.

The fungi and their hosts (Carnations) live on exactly the same substances. The fungal analysis is:—Potash, 38.97; soda, 12.12; magnesia, 4.58; lime, 1.43; phosphoric acid, 13.24; sulphuric acid, 0.02; silica, 9.13; iron, 2.00; and chloride of soda, 3.36. Mark how large the per-centages of potash and phosphoric acid are as compared with the sulphuric acid (sulphur) and calcic element or lime, also the large amount of soda, silica, and magnesia in contrast with those of iron, likewise the appropriative capacity of the fungus for chlorine. Understand these elements are obtained from the Carnation plant, therefore they must have been extracted from the soil, for they are all mineral substances, inorganic, and only assimilable by non-parasitic organisms. What becomes then of the hygienic doctrine? Feed a plant, and it is only more nutritious food for fungi; cleanse the epidermis, and it only admits the parasites, suckers, or mycelium more freely. But other things happen under proper feeding and sanitary conditions. The cell walls become thicker, the epidermal cells have stouter

cuticles, and are filled with air, so as to act promptly in case of favouring atmospheric conditions by way of evaporation and elaboration, and quite as effectively in the opposite direction in case of unfavourable circumstances arising, for the cold contracts the cells and forces the juices more from the surface, completely closing the stomata. Something else also occurs—the concentration of forces, for the higher the elaboration the stouter the tissues—the cell walls and the epidermis, while the more watery the juices the thinner are the internal and external cell membranes, that is, the leaves are flabby and the growths succulent. This means cuticular cells laden with organised (more or less) matter—food for fungi, gaping stomata, and faint resistance of parasites. These always come from without, never from within the plant. What morbid condition of the plant will produce the spore of a fungus? A living organism.

Let us look at the constituents of the Carnation in its several stages of growth. This we are enabled to do through the painstaking and ill-appreciated labour of the scientist, which I think is worthy of the fullest recognition by cultivators. The analysis represent the ash (mineral) components of the Clove Carnation (*Dianthus caryophyllus*), and our indebtedness and thanks are due for the same to M. Rudolph Andreasch, Graz.

MINERAL CONSTITUENTS OF THE CARNATION-ASH ANALYSIS (Andreasch.)

Elements.	Root. Per cent.	Stem. Per cent.	Leaves. Per cent.	Flower. Per cent.
Pure ash	5.64	5.26	4.44	5.59
Potash	23.33	23.00	35.51	49.41
Soda	0.85			
Lime	45.26	45.16	27.69	5.85
Magnesia	4.43	5.48	8.27	3.68
Oxide of iron	3.83	7.95	6.42	7.19
Oxide of manganese			Good traces.	Good traces.
Alumina	2.56	Traces.		
Phosphoric acid	11.22	10.25	10.91	14.84
Sulphuric acid	2.59	6.43	4.59	4.04
Silica	5.34	6.31	3.71	4.25
Sodium chloride	0.59	0.44	0.71	2.35
Potassium chloride		0.65	2.16	8.39
	100.00	100.00	100.00	100.00

The analyses of the roots and stems were taken about the middle of March, just when the new leaves were put forth, the roots being one-tenth to three-tenths inch in diameter and the stems 5 to 6 inches high, and the leaves and flowers at the beginning of June.

The data show what the plant contains at the commencement of growth, and may be taken as a fair index of the constituents of the soil or of those abstracted and needed by the plant. Potash, lime, magnesia, iron, alumina, phosphoric acid, sulphuric acid, and silica figure conspicuously, while the chlorides of sodium and potassium indicate the importance of chlorine, which is seen in the comparatively large amounts of silica and lime for an herbaceous plant. Chlorine, of course, has nothing to do with the formation of lime, but it has everything to perform in the rendering silica soluble and available for the plant. It is not a plant food, but plants must have it for their stability, and they usually place it in the epidermal tissues. It is a hard substance, flint and no fungal germ can pierce a thin wall of it without first emitting a solvent substance, and then it is only the roots (haustoria) of the fungi that can do that. But the germ tubes of certain fungi possess a sort of haustoria-like penetration of the cells, their contact with the cuticle having a solvent action, which so weakens the external cell walls as to allow them to pierce those and so gain access to the internal tissues without the trouble of searching for and entering by the stomata. What is it but the smell of food that attracts the germ tube of a fungus spore to a stomata?

Remember, the cuticle—the bark—is the plant's armour, and that it is mainly composed of silica, lime, and iron. For that reason plants are seldom attacked by bacteria, and wild far less than cultivated by parasitic fungi, while the effects are less pronounced on the former than on the latter. The Potato fungus is a poor thing on the Woody Nightshade (*Solanum Dulcamara*); it produces epidemics in Potatoes. The rust on wild Mallows makes little havoc, but it sweeps Hollyhock off wholesale, and Wheat mildew has little effect on Couch Grass, but it lessens the value of the Wheat crop £1 10s. to £2 per acre annually. It is much the same with Carnation fungi. They gain a hold on certain plants, and to these they cling with astounding tenacity. This generally happens where the plants are or have been produced in the greatest number and in the highest excellence, for wherever the food be thither will the organisms living thereon be gathered together.

Later on in its growth the Carnation needs chlorine more of potassic than of sodic. At least, so says the analysis, but that may be because the plant analysed was supplied with potassium salt, for

these substances are to a certain extent interchangeable, and it is manifest that to obtain due supplies of this element it must be applied to the soil in advance of its requirement by the plant. Potash is double in the leaves to that in the stem and roots, but there is a strange falling off in the per-centage of lime in both leaves and flowers as compared with that in the other parts of the plant. Magnesia comes out prominently as an ingredient of the leaves, also iron and silica. Phosphoric acid is less pronounced in the flower than might be expected, but that is a characteristic of the seed rather than the petals, and there is a diminution in both the leaves and flowers as compared with the stem.

Looked at from every point there is a need for large supplies of potash, lime, magnesia, iron, phosphorus, sulphur, silica, and chlorine by the plants. Any good, strong, calcareous loam would supply all the potash, lime, magnesia, iron, phosphoric acid, and sulphuric acid needed by the Carnation. This, of course, would depend on the feeding, for no cognisance is taken of the element nitrogen, and that means proportionate increase of all the other substances. That is where the error (if one be committed) in Carnation culture comes in. It is the unadvisable practice of making plants grow without providing material for the building up of their structures solidly and healthfully, that invites attacks of fungi and renders their work easier and more malignant. There is not enough lime, magnesia, iron, and silica in the stems and leaves. It is all potash—a watery element, phosphate, sulphate—a pushing substance, and ammonia or nitric acid, the plants are crammed with, little or no regard being had to the other constituents of their structures. This is a mistake; for though it is certain that most soils contain ample supplies of the minor constituents of plants for ordinary purposes, and that it is only necessary to supply nitrogen, potash, lime, and phosphoric acid in order to secure profitable agricultural crops, there must needs be a great lack of the minor plant foods under the high culture of the horticulturist. Therefore, instead of such stimulating food as superphosphate and nitrate, corresponding proportions of the other elements should be provided.

Thus our chief formulas comprise only superphosphate, nitrate of potash and sulphate of lime—that is, ammonia, phosphoric acid, nitric acid, potash, sulphur, and lime. These are grand elements, and absolutely essential; but that is no reason why the plant should be left to supply itself as best it can from the limited amount of soil in a pot with magnesia, iron, and chlorine. Perhaps there may be sufficient of the two first, but where is the chlorine to come from? Cultivators meet that difficulty and supply salt, about half a small teaspoonful about every ten days or a fortnight during the active growth of the plant, especially when it is throwing up the flowering parts, and thus chlorine is got into the leaves and flowers. Without that the plants give a large per-centage of "deaf" pods, not in all, but in many cases, and not a few wonder why. The salt is only finely powdered, sprinkled on the soil, and worked in. The chlorine, of course, renders the sand in the soil soluble, or some of it, and it gets into the plant and is placed in the epidermal tissues—a barrier against fungi. So is it with the lime in the phosphate and the iron taken from the soil. Whether it is worth while to use the following formulæ growers must determine for themselves, for the soil will supply a portion of them, and an excess may do no good, but possibly harm.

	ozs. or lbs.
Bone superphosphate	8 parts
Nitrate of potash	6 "
Sulphate of lime	4 "
Sulphate of magnesia	1½ "
Chloride of soda	1½ "
Sulphate of iron	1 "

Mix and apply about half a teaspoonful to a 6-inch pot every ten days and wash in. Larger plants may be given a proportionately larger quantity, the ingredients being made as fine as possible and sprinkled evenly on the soil in the pot, but not quite close to the stem. In using the salt keep it from the stem, and do not give it too often nor in large quantities.—G. ABBEY.

A BOTHY MYSTERY.

"To be, or not to be." Rather more than a score of Christmases have come and gone since this question was raised by three in a bothy. It was finally settled that it might at least be attempted. We could but try, and failing, the secret should remain buried in three bosoms, whilst the organic remains could be hidden elsewhere. One, comparatively fresh from home, had fairly good ideas on the matter, but three heads were better than one, so due counsel was taken together. Such literature as our neat little bothy contained threw no light on the matter, not even the *Journal of Horticulture* had ought to say on the subject, so it was more by good luck than sound theory or practice our—Christmas pudding turned out a success.

Laugh not, ye gardeners of England, who sit at home at ease (on

Christmas Day). Hark back to your bothy days and say if minus this time-honoured institution could Christmas be Christmas still? We thought not, and I venture to say that in many a bothy such thoughts are common at the festive season, and more than one sigh goes up for the big pot at home.

Now, it is more than probable that this may be noticed by some situated as we were, feeling as we did, and moreover possessed of similar hazy ideas on the subject. Those I should like to help. Not daring to go into details, and presupposing the essential elements necessary to construction are known to all, I will just say, Go in for equal quantities and you will not go far wrong, making such additions as fancy may dictate, or the village shop be able to supply. But, remember, I beseech you that there is one thing indispensable, the omission of which, by an Italian chef, resulted in an English ambassador's plum pudding being served up in a soup tureen. That one thing is the cloth. Do not forget it. As for a boiler, neither saddles nor tubulars will serve your purpose so well as the old-fashioned pot. Stoke well for eight or ten hours, and may your labours be rewarded, as ours were, by a merry Christmas.

P.S.—It has crossed my mind that an expert, in the shape of some bothy lad's mother, may see this, criticise and condemn my formula as likely to result in a "Killmright" compound. To her I will say, Madam, with all deference to your superior knowledge, you have yet to learn the capabilities of a bothy appetite and digestion.—THE XMAS COOK.

THE TOMATO—FRUIT OR VEGETABLE?

WHY not add to the above, "or both?" I am constantly having the question submitted to me by secretaries of local societies, and my answer is invariably to the following effect—viz., a Tomato is without any question a fruit. That is a fact which admits of no gainsaying. Therefore (unless by the express words of the schedule it is excepted) it may always be shown in any "collection of fruit." How many points the judges would give it when so shown is a different matter, but it is impossible that anyone can be fairly "disqualified" by showing this particular fruit in a collection of fruit.

It is a little more difficult to say what a vegetable *strictly* is, but of this we may be sure, that in our gardening language fruits may be vegetables, e.g., Cucumbers, Capsicums, Aubergines, and Marrows, and therefore Tomatoes, though often eaten at dessert, may also quite properly be shown in a collection of vegetables.

Whether fruits which are only used green as vegetables could be properly shown as "fruits" is a different question. If schedules ran "collection of dessert fruits" it would certainly exclude them, though it would still leave Tomatoes in; but schedules are, I am sorry to say, generally somewhat indefinite. This, however, is certain, Tomato is a fruit, is often eaten at dessert and often at dinner as a vegetable. It may, therefore, be shown as either.—W. WILKS.

[The Tomato is, of course, strictly speaking, a fruit, and similarly, strictly speaking, so is a Cucumber, and even a Kidney Bean pod, and when we eat any of them we eat "fruits;" but those which are eaten in a cooked state, or sliced and used in salads, are eaten as vegetables, and as such therefore they are shown in vegetable classes.

As it will not be disputed that nine out of every ten Tomatoes are eaten in one or other of those forms the custom has become established to admit them in collections of exhibited vegetables without any objections being raised, and as they are so rarely regarded as dessert fruits and eaten as such the custom has also become established only to admit them as eligible for exhibiting in collections of fruit by special stipulations in schedules.

In the absence of any established law, or the provision of a rule formulated by an authoritative body and generally accepted, "custom" becomes the determining factor, and therefore it is very much safer, for the purpose of avoiding disqualification in fruit classes, to exclude Tomatoes from them than to include them, because if included (in the absence of any stipulation specially admitting them), and judges disqualify, there is no existing means of upsetting the verdict, and in a court of equity it would be sustained by the weight of established custom. On the other hand, no one would think of disqualifying a collection of vegetables for containing a dish of Tomatoes.

The existing presumption is that Tomatoes must be relegated to vegetable classes, because, though "fruits" (as Cucumbers, Pumpkins and Kidney Bean pods are, and even Peas "strictly" speaking) they are in the main used as vegetables. Mr. Wilks would change the presumption, and it is a fair and legitimate subject for consideration, but until it is changed judges at shows can do as has been done in the past—disqualify if Tomatoes form part of a collection of fruit in the absence of special stipulations rendering them admissible.

If Tomatoes are improving into dessert fruits, and being to any considerable extent used as such, they will have a claim to be admitted into fruit classes. As we have advised intending exhibitors on many occasions not to run the risk of disqualification by showing Tomatoes in fruit classes, we feel it a duty to point out in these remarks the basis of our advice. It is not because we have any preferences in the matter, or the least desire to appear in conflict with any proposed change, but because we are convinced of the prudence of acting in accordance with

what comes next to law—"customary usage" as a safeguard against disqualification in this reference.

A very old judge used to settle the matter in this way—"a 'fruit' that is dressed with pepper, salt, or vinegar for use, is used as a vegetable, and should be exhibited as such; a fruit that is served with sugar or syrup, if not sweet enough without, is not used as a vegetable, and its proper place is in the fruit classes." Is this appeal to the palate out of date?

The whole question is particularly worthy of serious consideration by the proposed committee of the Royal Horticultural Society. It is only by the combined efforts of a strong body of experts, scientific and practical, legal and literary, that a decision can be arrived at on this and other matters that will have sufficient weight for general acceptance by managers of shows and exhibitors of garden produce.]

JOTTINGS ON APHIDES.

FOR six months of the year, or rather more, the farmer and the gardener are comparatively free from the annoyance of insects. It is a matter of common observation that from October to April very few are to be seen on the wing or crawling about. Certainly, out of doors during the winter season there is little to afford them food in the shape of leaves, flowers, or fruit, so that they have good reasons for disappearing from view. Aphides are no exception to the general rule; most of them die with the fading leaves of autumn, and, as is the habit of many other insects, the last brood of the year deposits eggs to produce aphides in the spring.

It has been known, however, for a long time that living aphides were to be found during the winter. Some in a torpid state, waiting warmer weather to prompt them to egg-laying, others not only active, but feeding in warm or sheltered situations. Recently, entomologists have reason to think, that the number of aphides alive in the colder months is larger than was supposed, but our observations are interfered with by their propensity for hiding, also by the habit some species have of migrating from one plant, or tree, to another quite different. Still, though the Aphis group is popularly called the "fly" to distinguish it from the Coccus or scale, flying is occasional only, and the most serious damage is done by those aphides that are wingless and viviparous.

Few gardeners make acquaintance with the winged males of the Coccus, the female, with her shield-like body, being chiefly known. Before referring more particularly to hibernating aphides, I will say a few words upon those now hidden in the egg state, because the eggs are often laid upon the bark of trees, hence the thorough cleansing carried out by some fruit growers during the autumn or winter months removes, with many other insects, aphis eggs deposited on twigs or branches, perhaps also on the trunks, if laid there, the young insects must have some difficulty in reaching the leaves.

The Apple species (A. Mali) is a good example of one that lays eggs upon bark; these are black, and large for the size of the insects. Rapid as is the increase of aphides, it is observable that the females, when they lay eggs, deposit only a few; these, however, soon produce numerous and wingless broods. Another curious fact is that the eggs of aphides increase in size after they are laid owing to an elasticity of the shells. Frequently they resemble in colour the substance upon which they rest, and being flat they are not easily detected by the eye.

One of the Hop aphides (Phorodon Humuli) comes to the bine in the summer, living previously on the Sloe and fruit trees; probably when the Hop dies off, an autumn-winged brood migrates back to the early food—at least, they return somehow. Some entomologists conjecture that many eggs of aphides are deposited on leaves, and subsequently carried through the air by the autumn gales to new localities; if so, a proportion of these must perish. Another well-marked instance of migration is seen in Siphonophora granaria, which sucks the sap of the leaves of young cereals, and subsequently attacks the ears after the cutting of the crops, travels to various grasses, mostly the softer meadow species, upon which it winters. There is no doubt that a proportion of aphis eggs are deposited in the earth, probably upon or near the surface, and the young are conveniently situated for reaching seedlings. It may be advisable, therefore, to scrape off the surface soil in autumn wherever shrubs or plants have been much infested during the summer. By this means the increase of such a species as the Bean aphis, "black collier," or "dolphin" (A. fabæ) might be checked, and also by the thorough clearance of weeds about fields.

Then we have also new information concerning the habits of certain spring-laying aphides which might be called "queen mothers," and fulfil an office similar to that of the queen wasps which hibernate to found colonies in the next season. These queens of aphis race get into hollow stems of plants, amongst Docks and Nettles, or they secrete themselves in evergreens, such as Holly and Ivy. Nooks and corners under glass afford shelter to others of them, in fact conservatories are comfortable winter quarters to aphides, and they are frequently active, their presence being sometimes overlooked. Speaking generally, it may be asserted that they are insects liking moist places, unvisited by rough draughts of air; and as sudden changes of temperature do not suit them, any regulated warmth is agreeable, both in summer and winter. They have their favourites among our greenhouse plants; thus the Cineraria is much infested by Aphis opima, and its effect is very prejudicial, for the dropping of the leaves, and the rapid decay arising from the insect's attack, indicate that the plant suffers a more serious injury than the mere loss of sap, and is affected by some poisonous secretion. Though not apparently partial out of doors to plants of a strong odour, yet

indoors aphides often select the highly scented species, perhaps because they are more succulent. It is so with the Pelargoniums, where the old Nutmeg, the Lemon, the Oak-leaf, and the Ivy-leaved varieties are notably attacked. Several plants almost escape them, for instance they rarely touch any Iris nor one of the Gentians.

The author of the "Letters of Rusticus" recorded, in his jocose style, his astonishment at discovering aphides securely lodged within an Apple. He cut open Codlin after Codlin, and found troops of them garrisoning the pips, but much disconcerted when daylight was admitted. With a similar surprise a gardener occasionally digs up at the root of some plant scores or even hundreds of them, not uncommonly attended by a party of ants, between which and aphides exist a singular friendship, though it is possible the stronger insect may not always be satisfied with aphid milk, but may kill and devour its feebler companions. A familiar example of an underground aphid is furnished by that of the Lettuce aphid (*A. lactuæ*), a species like the green fly of the Plum, but smaller, and which damages many plants unsuspected. They have, like others, a time of emergence in the winged state. From cold and damp most subterranean aphides are defended by a peculiar substance resembling silk, which is exuded from special glandular organs. Two or three species strip themselves of this coating in order to protect their eggs. Sometimes this lacks the fibrous character, and takes the form of meal, which gives the insect a hoary appearance. Another fact is, that the bodies of many of them are largely stored with a fatty matter which they develop from their food, which no doubt helps to keep them warm in the winter. So abundant is this oil that it occasionally falls in drops from their bodies, and it may be noticed in the Elm aphid during July. This is quite distinct from the honeydew, a sugary secretion, which has been proved to come from them, though it was once supposed to be exuded by the leaves they infest.—ENTOMOLOGIST.



CHRISTMAS WEEK.—The *Journal of Horticulture* will be published on Friday morning next week instead of on the usual day—Thursday. Communications for insertion should reach this office not later than Saturday this week, or Friday where practicable.

— **THE WEATHER IN LONDON.**—The weather has been very changeable in the metropolis during the past week, cold and mild days alternating. Much rain, too, has fallen since publishing our last issue. Sunday was dull, rain falling in the morning, though it proved fine later in the day. Monday also opened tolerably fine, but on Tuesday it rained heavily, and it was likewise wet on Wednesday morning, though it became clear as the day advanced.

— **THE WEATHER IN THE NORTH.**—The weather for the last week has been very unsettled, with a good deal of rain, and high wind from the south-west during two nights. There have been also slight frosts on a few mornings. In the end of last week the north hills were again white with snow. A shower fell on the low grounds on the morning of Monday, but thaw followed, and in the evening the thermometer stood at 43°. Tuesday morning was dull and showery, with a falling barometer.—B. D., *S. Perthshire*.

— **THE ROYAL GARDENERS' ORPHAN FUND.**—At the recent monthly meeting of the Committee of this fund the Secretary announced the purchase of an additional £500 worth of stock. The special receipts included the following:—The Reigate Chrysanthemum Society, £10; the Rugby Chrysanthemum Society (per Mr. W. Bryant, Secretary), £5; the Croydon Chrysanthemum Society (per Mr. W. B. Beckett), £3 3s. 6d.; and the Market Harborough Horticultural Society (per Mr. Green, Secretary), £2 2s. The annual meeting and election will be held on Friday, February 8th, when six children will be elected on the fund.

— **DEATH OF MR. PETER CAMPBELL.**—This gentleman, whose name is well known to growers of the Auricula, died at his residence, Graham's Road, Falkirk, early in the morning of Sunday last. He was the raiser of, with others, Admiral Napier, Lord Palmerston, Confidence, Robert Burns, Duke of Argyle, Lord of Lorne, Onward, and Pizarro Auriculas, most of which still keep their place in collections in the country. He had considerably passed the "allotted span," and had for many years, from failing health and other causes, discontinued the cultivation of the flower.—A NORTHERN AMATEUR.

— **HORTICULTURAL CLUB.**—At the usual monthly dinner and conversazione, which took place at their rooms in the Hotel Windsor, the chair was occupied by the Vice-President, Mr. Harry J. Veitch. Amongst those present were Sir Alex. Arbuthnot, Messrs. G. Bunyard, A. Moss, James H. Veitch, D. T. Fish, Peter Veitch, B. Ironside, C. Pearson, and Harrison Weir. The discussion was on the odour of Roses, and was opened in an exhaustive paper by Mr. D. T. Fish. Many of the members present afterwards joined in the discussion, and a hearty vote of thanks was given to Mr. Fish for his able paper.

— **CATAPULT GUNS FOR GARDENERS.**—Having tried one of these I can scarcely recommend your correspondent "Catapult" (page 540) to do the same. If we are to have anything in this way, which I hope to see some day, it will have to be by means of a strong spring enclosed in a gun barrel. Who will supply the want at a small cost?—A GARDENER.

— **OLEARIA DENTATA.**—In your issue of the 6th inst., page 519, Mr. Divers stated that the above shrub was flowering at Belvoir Castle for the first time. Such cannot be the case, as the late Mr. W. Ingram pointed it out to me when in full flower in 1890, and it flowered again the following year. I was led to write this note as I thought many persons may be deterred planting this free-flowering shrub.—H. W. D.

— **KITCHEN GARDEN WALKS.**—"Kentish Man" (page 534) has not mentioned what I consider is the best edging obtainable—viz., concrete strips 2 inches thick by 7 or 8 inches deep, made in 2 feet or 2 feet 6 inch lengths. They are practically indestructible, and always present a neat appearance, and besides, the corners can be made to any radius, thus preserving the proper outline at a slightly advanced cost. They look very well in position, being very light in colour.—C. FOXON.

— **BEEES AND COLCHICUMS.**—I hope it is not too late to ask your readers who grow the Meadow Saffrons if they have frequently observed dead bees in these flowers. Not being a bee-keeper myself I might forget to mention it at the proper season, and I may perhaps be allowed to do so now. Last autumn I frequently found dead bees in the flowers of all the species and varieties I grow, with the exception of the double forms. When I first observed this I thought the bees might have become chilled; but on examining the autumn Crocuses in flower at the same time, and also largely frequented by these industrious insects, I found no dead ones. So far as I understand the active poison in the Colchicum is veratria, and that in human beings large doses have the effect of narcotic poisons. Is it possible that the bees become stupefied while collecting honey or pollen from the Colchicums?—S. ARNOTT.

— **BRASSICAS.**—Market growers are having a bad time of it with all the Brassica family. There is such a glut of it, and the continued soft open weather conduces to its rapid development. Hence we see Savoy big and bursting, Coleworts the same, Cauliflowers holding out much longer than usual because of the absence of frost. Although that is all round a matter for congratulation, still their existence serves to keep other produce low-priced. As for Brussels Sprouts they can hardly be kept pace with, the sprouts swell and turn in so fast; and even Scotch Kales are almost bolting. Nothing can be done to remedy all this trouble; it is not the product of human agency, although there are those foolish people who ascribed it all to foreign competition. We must bear with it. Should a spell of hard frost come the havoc wrought will be tremendous, because everything is so succulent. Then the lament will be all the other way. Better things should continue as they are than that such general destruction should ensue.—D.

— **WELL COOKED POTATOES.**—"E. K." (page 547) is rather hard on the cooks in relation to vegetables. The fault lies perhaps far more in the general ignorance as to proper methods of cooking, of which those who set up to be cook's mistresses are as much to blame as anyone, simply because the young lady of the age regards golf, tennis, and dress as the chief aims of life, rather than the acquiring of a knowledge of domestic duties. But there are some vegetables which if not good or matured no cooking can make perfect. That is particularly the case with Potatoes, the bulk of the tubers being in these days the product of plants that have lost their leafage unduly early through the attacks of the disease, hence tubers never can be in such case matured. Recently I had cooked samples of Sirius and Maincrop Potato, grown under the Bouillie Bordelaise dressings, so that the leafage was some three or four weeks longer retained, and the flesh in each case was starchy, flaky, mealy, and first rate. When we denounce the cooking of Potatoes these facts should be borne in mind.—A. D.

— GARDENING APPOINTMENT.—Mr. Herbert Hall, for the last three and a half years general foreman at Rooksnest Gardens, Godstone, has been engaged as gardener to General L. T. Marshall, Broadwater House, Godalming.

— MR. COLVILLE BROWNE.—It is understood that this gentleman, who has been for a comparatively short time Principal of the Swanley Horticultural College, will shortly be at liberty to engage in congenial employment elsewhere.

— SHIRLEY GARDENERS' AND AMATEURS' MUTUAL IMPROVEMENT ASSOCIATION.—The monthly meeting was held at Shirley, Southampton, on Monday, the 17th inst., Mr. B. Ladhams, F.R.H.S., presiding over a fair attendance of the members. A paper was contributed by Mr. Jesse Jones, The Gardens, Terrace House, Southampton, on the "Cultivation of the Eucharis," illustrated by some photographs of a group and a specimen taken from plants under his care. The soil, potting, temperature, watering, and stimulants were each considered, and too frequent potting condemned, his specimen not having been repotted for seven years. Directions were also given for the treatment of bulbs which had become diseased. The Eucharis mite, Mr. Jones believes, is not a first cause of damage to the bulbs, but a result of bad treatment and neglect, and decaying bulbs. A number of questions were put to Mr. Jones and satisfactorily answered, and a very hearty vote of thanks was accorded to him for his exhaustive paper.

— LIVERPOOL HORTICULTURAL ASSOCIATION.—The members of this Association held their second monthly meeting in the William Brown Street Museum, under the presidency of Mr. T. White, there being a large attendance. The subject was "Filmy Ferns," the lecturer being Mr. R. Todd, gardener to Holbrook Gaskell, Esq., Woolton Wood. The charms of these plants were fully treated upon, native habitat, soil, temperature, which he said should be as cool as possible during the summer, and not too cool during the winter. Elaborately fitted-up cases in which to grow them he condemned, but he instanced some excellent results of success attained by the late Dr. Cooper Foster with these plants in a back yard in London. Keen observation and the avoidance of a close atmosphere were the leading points he impressed if success must follow. A considerable amount of discussion followed, those taking part being Messrs. White, H. Ranger, T. Foster, F. Ker, J. Devanny, and J. Stoney. To all the points raised Mr. Todd replied. A fine collection of fronds were brought by the lecturer, and afterwards much appreciated by all present. At the close Mr. R. Pinnington proposed that a letter be drawn up by the Secretary and Chairman, to be sent to H. Yates Thompson, Esq., thanking him in the name of the Association for his valuable gift of the handsome conservatory, which he is about to erect in Sefton Park. This was seconded by Mr. T. Foster, and carried unanimously.—R. P. R.

— THE NATIONAL AMATEUR GARDENERS' ASSOCIATION.—The members of this flourishing Association held their fourth annual dinner at the Guildhall Tavern, E.C., on the 12th inst. Mr. T. W. Sanders presided, and he was supported by a large company, upwards of a hundred ladies and gentlemen sitting down to the tables. As usual, the arrangements were admirably carried out by the indefatigable Honorary Secretary, Mr. D. B. Crane, who has done much towards making the Association a success. In proposing the toast of "The National Amateur Gardeners' Association," Mr. Sanders reviewed the work accomplished during the past year. He said there were some 400 members on the books, and seven affiliated societies, including one in Launceston, Tasmania, and a branch at Liverpool. The meetings had been a success, the same applying to the exhibitions. An excellent syllabus for the ensuing year had been prepared, and, on the whole, circumstances augured well for the future. Other toasts followed, the speakers including Messrs. G. W. Cook, L. Brown, J. R. Jackson, A. J. Rowberry, W. Graveson, D. B. Crane, R. Dean, and B. Wynne, the two last named responding to the toasts of "Kindred Societies" and "The Press" respectively. During the evening the presentation of medals and prizes won during the year took place. Mr. W. Dipper was presented with the "Sach" challenge cup and four special prizes, including a silver medal given by Messrs. J. Laing & Sons. Mr. A. J. Rowberry had gained six silver medals and several other prizes. The other recipients of prizes and medals included Mrs. D. B. Crane and Mrs. H. W. Percy. Music and songs were admirably rendered by Messrs. D. B. Crane, A. J. Rowberry, Dal. Ramsay (comedian), and A. Taylor, with Masters H. Sanders and H. Comfort (violinists), enabling those present to spend an enjoyable evening.

— ROYAL CALEDONIAN HORTICULTURAL SOCIETY.—We are informed that the dates of the shows of this Society to be held at Edinburgh in 1895 are fixed as follows:—Spring show, 3rd and 4th April; autumn show, 11th and 12th September.

— A FLORAL EMPORIUM IN PICCADILLY.—Messrs. B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, have opened a West End establishment at 169, Piccadilly, W., which is fitted up in a most elegant style and brilliantly lighted with electric light. The new establishment has been provided to meet the requirements of the increasing floral and decorative trade of the firm. We are informed that a grand display of Orchids will soon be on view in Piccadilly.

— THE HESSLE GARDENERS' MUTUAL IMPROVEMENT SOCIETY.—At a meeting of the above Society, held December 11th, a paper was read on "Manures: their Use and Abuse," by Mr. M. Murchison, gardener to F. B. Grotian, Esq., West Hill. Commencing with farm-yard manures, Mr. Murchison advised their being so covered as to prevent the escape of nitrogen. He does not, he said, use animal manure for pot culture, but rather to apply stimulants in the form of liquid. Passing on to chemical manures, he gave a description of those in general use by horticulturists and their composition. He advised those who are in a position to do so to obtain the chemicals and mix their own manure to suit the requirements of the soil under their charge. It should be our aim, he said, to apply that manure of which the soil is deficient.—F. L. T.

— ROYAL GARDENERS' ORPHAN FUND—CONCERT AT ALTRINCHAM.—The annual concert, organised by the Altrincham Gardeners' Improvement Society, in aid of the Royal Gardeners' Orphan Fund, was held at the Literary Institute, Altrincham, on Wednesday evening, the 5th inst. For such an eminently charitable purpose it was only to be expected that the public would signify their sympathy in a practical manner, and the result was that the large hall was packed to its utmost capacity. Several ladies and gentlemen well known in the musical world, and the splendid band of the Altrincham Orchestral Society, kindly came to the assistance of the Committee, and their efforts met with hearty approval. From a musical point of view the concert was a grand success, and financially it exceeded all expectations, as after paying all expenses there was a balance of £50 10s., which sum has been forwarded to the Hon. Secretary, Mr. A. F. Barron. This is our third annual concert. Two years ago we raised £20, last year £35, and this year the handsome sum named above. The Committee worked hard to achieve this splendid result, and they are highly gratified with the success which has attended their endeavours. If other Gardeners' Improvement Societies organised entertainments on similar lines the funds of this most deserving charity would be considerably enlarged.—CHARLES HEWITT, *Hon. Sec. and Treasurer*. [Bravo, Altrincham! a splendid result for a charity that is worthy of all that can be done for it by Gardeners' Improvement as well as General Horticultural Societies anywhere and everywhere.]

— PRESENTATION TO MR. THOMAS LOCKIE.—On Tuesday evening, December 11th, about thirty friends of Mr. Lockie, Oakley Court Gardens, entertained him at a farewell dinner at the Swan Hotel, Clewer, Windsor. The chair was taken by Mr. Harry Turner, of the Royal Nurseries, Slough. Mr. Turner, on behalf of the Committee and the subscribers (who numbered about 100), presented Mr. Lockie with a handsome gold English lever watch and chain with seal attached, and a gold and diamond brooch for Mrs. Lockie, and stated that he was very pleased to make the presentation to their old and valued friend, who was leaving Oakley Court, where he had worked successfully for upwards of twenty-two years, for his new home near Huntingdon. Mr. Lockie's name, he said, was first brought prominently before the public about thirty years ago by the introduction of the Blue Gown Cucumber, when he was at Court Gardens, Great Marlow, and since then his name had become known all over the world by the production of that celebrated Cucumber Lockie's Perfection. He felt satisfied that all present would agree with him when he said that Mr. Lockie stood forward prominently as a successful gardener, and that he had always been a good, honest and faithful servant to his employers. The watch (accompanied by an address on vellum) bore the monogram of Mr. Lockie and the following inscription:—"Presented to Mr. Lockie by his friends on leaving Windsor, December, 1894." Mr. Lockie thanked one and all for their kindness, and stated that he was a man of action and not of words, and added that he was more at home in a Cucumber house than in making a speech.

— **VARIEGATED MISTLETOE.**—Mr. J. Grieve contributes the following note to the "Transactions of the Botanical Society of Edinburgh:"—"There is at present growing on a healthy Thorn, in the Dean Cemetery of this city, a form of the common Mistletoe sufficiently striking to merit attention being called to it. As will be seen from the specimen exhibited, the leaves are beautifully variegated, such a departure from the normal type being very unusual. Indeed, I do not know of any other example of the Mistletoe 'sporting' in this manner, and I have ventured to place it before the Society in order to learn if any of the members have met with such 'sports' in this parasitic plant. The specimen exhibited is some ten or twelve years old, but no record of it has hitherto been made." Mr. Dunn remarked that he had seen variegated specimens of Mistletoe, but only on unhealthy hosts.

— **ALBERTA MAGNA.**—Writing to the "Garden and Forest" an English correspondent says, "This plant was distributed in 1891, but it had been in cultivation at Kew several years before that time, and there is now a plant in the winter garden 7 feet high, besides smaller specimens in pots. One of these recently flowered for the first time in cultivation. The genus belongs to the order Rubiaceæ, and while *A. magna* is a native of Natal, the only other species known is a native of Madagascar. The leaves of *A. magna*, which promises to grow into a small tree, are not unlike those of the Cherry Laurel, and the flowers, which are in crowded terminal panicles, are tubular, an inch long, and coloured bright crimson. When fully grown the plants will, no doubt, produce larger heads than those at Kew, and as the flowers are succeeded by winged fruits of a bright red colour, the plant has a double attraction. From its behaviour at Kew it is possible that it will bear a few degrees of frost. It is evergreen, and pleasing to look at even out of flower."

— **A BRITISH TREE FERN.**—There are a few of our native species of Ferns which, having an upright caudex, assume, in miniature, the habit of their antipodal relations. It is seldom, however, that one meets with a specimen of sufficient height to arrest attention. Calling, a few days since, at the gardens of T. Proctor-Baker, Esq., Broomwell, Brislington, Mr. Archer, the gardener in charge, showed me a plant of *Lastrea pseudo-mas* (of Wollaston) better known as *L. filix-mas* var. *paleacea*. On measuring it, I found its height, from the soil to the top of crown, to be 2 feet 6 inches, and the girth, taken about 4 inches below the crown, 2 feet. It has been in its present position for twenty-five years, and had for some years previously been grown in a pot. How many years since the spore that produced this plant first showed its tiny prothallus? If I may judge from a rather long experience in raising Ferns from spores, I say not less than one hundred, and very probably it is more. What do others say?—T. S., *Henbury Hill*.

— **FLOWERS IN DECEMBER IN DUBLIN.**—Mr. F. W. Moore, the efficient Curator of the Botanic Gardens, Glasnevin, has given a representative of the "Dublin Evening Telegraph" some particulars of this abnormal condition of things, which came under his own keen and experienced observation. He stated that he had never known the Elm trees to retain their leaves so long as they have done this year, and added that many other kinds of the forest displayed no anxiety to shed their leaves. He further declared that so far as his knowledge went he had never before known Dahlias and Tropæolums to be in full flower on the 1st of December as they were in the gardens. But this is not all. Roses and Carnations are in a similar condition. To show how much milder the past three months have been than those in the corresponding period of last year, it is only necessary to state that in the Botanic Gardens during the first mentioned thirteen weeks the quantity of coal used in connection with the conservatories and hothouses was not two-thirds of that consumed in the latter quarter.

— **ANIMAL MANURES.**—I could not follow "A Reader" (page 541) in his advice that spreading manure on to ground is wasteful because the rains will wash their virtues out of them. Is not that absolutely contrary to received theory in relation to mulching, which is based absolutely on the belief that virtues of manure are washed into the soil by rains, and thus feeds plant or tree roots? Again, chemists strongly advise that it is better to spread fresh animal manures on to soil at once rather than to stack them to ferment and waste, because then the manurial properties are washed into the soil, and utilised for present or future crops. The great waste found in methods of storing animal manures arises from fermentation, by which ammonia is so freely liberated and wasted. Thus old hotbed manure has had its ammoniacal properties wasted in the fermentation that generated heat, and is far

below fresh manure in the existence of plant foods. I have long held that next to burying fresh manure into the soil at once, the best thing to do with it is to spread it on to the soil as a mulch.—A. D.

— **RAINFALL DURING NOVEMBER.**—As showing the great difference that exists in one county as compared with another, I instance this part, south of Hants, with the note by Mr. J. Easter, Nostell Priory, Yorkshire, giving his experience on page 539. Here 5·68 inches of rain fell during the month of November. With the exception of 0·17 inch recorded on the 20th, the whole of the amount fell during the first sixteen days; 1·04 inch the 11th, and 1·27 inch on the 14th, were the greatest amounts registered during any twenty-four hours. Up to the present time, December 14th, the rainfall recorded here for the present year is 34·45 inches, which is 4·45 inches above the average for the year. On two occasions only, 1882 and 1891, during the last twelve years we have registered more here. In the first named year the record was 36·10 inches, and during the latter year the total was 38·52 inches. Last year we registered 22·08 inches, or an increase of over 12 inches up to the present date, and the year not yet at an end.—E. MOLYNEUX, *Swanmore*.

— **THE ASCENT OF SAP.**—The note on this subject on page 539 reminds me of a treatise I read a short time since entitled, "Does Sap Flow from the Roots?" The author, by clever reasoning, made it appear that the old-fashioned notion that sap really does come from the roots was altogether in error. To those persons who have had any experience with timber it will appear absurd to assume that sap comes from any other part. The writer in question, however, asserted that the sap is supplied to the tree by the aid of its leaves, sufficient being stored up in the autumn to carry on Nature's functions until more is procured in the spring after the bursting of the tree into leaf. Happening to mention this to a tree cutter of over forty years' experience, he laughed, and said, "Ask he how it is that an Oak tree in the spring will bark easy half way up, and above that the top branches will not 'run' at all?" This is an undoubted fact, that at times, according to the state of the growth, or the rise in the sap, the top branches cannot be peeled at all, while a few feet lower down the bark parted quite readily from the main stem and some of the lower branches.—E. M.

— **GRAPE-GROWING IN KENT.**—Having read this correspondence and being one of the gardeners who are employed in the production of Grapes in Kent, I agree with the informant of "W. S." (page 548). So far as the district in which I reside is concerned, first-class Grapes are somewhat of a rarity. Seldom have I seen them equal to the examples grown north of the Tweed. I cannot, however, say I have seen the London fruit shows to know what the counties of Middlesex, Wiltshire, Gloucestershire, and Worcestershire are capable of producing, and thereby draw a line for this part of Kent. All that I venture to say is, that this district has not produced any equal to examples of Mr. Kirke's that I have seen, and my residence in Kent is of more than one year's duration. Good Grapes can be, and are, grown in Kent, but most times lack the finish which is necessary before they can be termed "first-class," and which I put down to climatic conditions, coupled with the general system of planting.—SCOT. [We have some other correspondence on this subject.]

LIME.

"W. I." (on page 540) recommends this chemical for the treatment of garden refuse, omitting to mention, however, by what means he induces his men to use it. I for years have tried to introduce lime into my garden, but so far have utterly failed. The cause of my subordinates' resistance has hitherto been a mystery to me. Perhaps someone else can explain the matter. Does lime hurt the men's hands or injure their clothes? I am inclined to suspect the latter, and that working on soil previously so dressed burns their boots. Of course, if this is the case, I can easily understand their apparently ineradicable objection to the use of lime; but the working classes are so full of fads and fancies in the present day that I sometimes feel tempted to introduce lime at the point of the bayonet, metaphorically speaking.

Then, however, another even greater difficulty arises. Lime, if applied in sufficient strength to kill slugs, wireworms, earwigs, and other insect pests, must of necessity destroy also the nitrifying bacteria—those beneficent microbes whose sole occupation is the preparation of tree and plant food. If these are killed or even injured the soil becomes *ipso facto* sterilised, and I much question whether we are quite as well off after the application of lime as before. Should this view be correct then "W. I.'s" garden refuse is, in consequence of his treatment, worthless, and I therefore ask "what profiteth?" If any of your correspondents have had experience in, and would give some practical information upon these points, I should be much obliged.—INQUIRER.

ROYAL HORTICULTURAL SOCIETY.

DECEMBER 11TH.

SCIENTIFIC COMMITTEE.—Present: Dr. M. T. Masters (in the chair); Dr. Bonavia, Mr. McLachlan, Mr. Michael, Rev. W. Wilks, Rev. G. Henslow, Hon. Sec.

Pines, &c.—Dr. Masters exhibited a series of cones, &c., received from Mr. Herrin, gardener at Dropmore, as follows:—*Pinus Lambertiana*, the Sugar Pine, from California, the cones being 12 inches in length, of which the seeds are edible. *Abies nobilis*, remarkable for the golden coloured reflexed bracts and the silvery foliage. *Araucaria imbricata*, first and second year's cones. The largest tree at Dropmore was raised (as also the one lately dead at Kew) from seed brought by Mr. Menzies from Chili. *Cupressus Goveniana*, remarkable for its elegant branching with decussating branchlets. *C. macrocarpa*, only growing at Monterey, on the sea-coast of California. It succeeds well on our own coasts, but not inland.

Primula obconica a Cause of Eczema.—Dr. Bonavia described a case of a lady who was three times made seriously ill by handling this plant before it was discovered to be the cause. It appears to be harmless with most people, but is a serious source of trouble to some persons who touch it.

Nepenthes bicalcarata in Flower.—Dr. Masters showed specimens of the flowers of this plant, which has not been known to blossom in this country before. The inflorescence is an umbel, and not an elongated raceme, as in other species. It was received from the Edinburgh Botanical Gardens.

Tritoma with Axillary Buds.—Dr. Masters showed drawings illustrating the unusual occurrence of flower buds arising near the base of the stem in this plant. It was observed that other plants are occasionally seen to throw out supernumerary flower buds, as Docks and Nettles.



CHRYSANTHEMUM PRIDE OF SWANLEY.

ALL persons who take an interest in Chrysanthemums must have noticed the numerous white varieties that have figured among recent introductions. This fact, however, does not prevent an unusually good sort quickly coming to the front, as is the case with Pride of Swanley. Generally two or three years are required to develop the characteristics of seedling Chrysanthemums, but the variety under notice proved an exception to this invariable rule. We believe the seed which produced this grand acquisition was sown early in the present year, and at the last show of the National Chrysanthemum Society for this year blooms were staged by Messrs. H. Cannell & Sons, Swanley, the raisers. When brought before the Floral Committee on the 4th inst. a first-class certificate was awarded for this variety. It is a very large Japanese with long drooping white florets of medium width, forming a deep globular flower. The illustration (fig. 92) has been reduced from a photograph of a bloom kindly supplied us by Messrs. H. Cannell & Sons. Pride of Swanley is one of the best white Chrysanthemums of the season, and has a future before it.

CHRYSANTHEMUM ANALYSIS—JAPANESE VARIETIES.

Is it not remarkable that in the list of fifty-six varieties that the beautiful incurved Robt. Owen is missing, whilst in 1893, in many cases, this variety won premier honours as the best Jap in the show? It is only another instance, or proof, that some varieties do much better in a dry season than in a wet one. Other absentees from the list are Golden Wedding, Louis Boehmer and Chas. Blick. Surely the last named is omitted in error.

In my note *re* "Chrysanthemum Audit" on page 544 of last week's issue a misprint occurs. I wrote "out of the ninety-three varieties," not 1893 as printed in the third line. The last sentence but one referring to the varieties mentioned on the page quoted should also read, "In the next (of course there will be another) these varieties would occupy a much different position."—W. J. GODFREY.

SELECT JAPANESE CHRYSANTHEMUMS.

It has been suggested to me as a further means of assisting those who have neither the space to accommodate nor the means to procure so many varieties as noted in my "Estimate of New Chrysanthemums" in the *Journal of Horticulture*, that I should make a list of twelve of those I regard as being superior. I accede to the request, and append the names, placing the varieties somewhat in their order of merit:—Duchess of York, Mrs. W. H. Lees, Madame Carnot, Mrs. George Gordon, Niveus, Lady Northcote, Mrs. W. J. Godfrey, Golden Gate, Commandant Blusset, Duchess of Wellington, Mrs. E. S. Trafford, and H. L. Sunderbruck.—E. MOLYNEUX.

DISQUALIFIED EXHIBITS.

I MUST apologise to your correspondent "Lex" (page 546) for misquoting him, inasmuch as I wrote "rule" instead of "regulation;" but I still adhere to the statement I made on page 522, that "Lex" had put a construction on my letter on page 450 that was misleading. I do not suggest that there were two editions of the *Journal*, giving different versions of my letter; but I do say that "Lex" has only partly quoted what I said on the page quoted.

The point first raised by Mr. Wells was, What is meant by exhibitors being requested to have their stands made in accordance with the metropolitan plan? and I say that Regulation 8 of the Kent County Society definitely states what that plan is by giving the dimensions, and that is what I endeavoured to point out to Mr. Wells in my reply on page 450, but perhaps (unfortunately for me) I am not so able to express myself as your correspondent "Lex," with whom I have no wish to cross pens as to the difference between a request and a command after reading his able letter on page 546, and I am sure that it will be of immense service to committees when revising schedules of forthcoming shows.

I must admit that Mr. Wells' letter in the *Journal of Horticulture* (page 427) did not convey to my mind that he raised the question of the effect of a "request" as distinguished from a direction, as "Lex" says he does in another paper, but as I have not seen that paper I can say nothing about it.

In reply to Mr. Wells (page 546), I have most carefully read again the regulations of the National Chrysanthemum Society, and I have failed to discover anything in them that binds affiliated societies to accept the National's ruling as to size of boards. The regulation from which he quotes has reference only to exhibitions held by the N.C.S., and does not apply to exhibitions held by affiliated societies, but if Mr. Wells can point out anything in rule 6 of the National Society (which has reference to affiliated societies), which says they are to accept the ruling of the National as to size of boards I shall be obliged to him.—R. FILKINS.

STOPPING CHRYSANTHEMUMS.

WITH pleasure I reply to the inquiry of Mr. J. W. Beasley (page 545), and would say I am far from being a believer in the practice of stopping the plants of incurved varieties. I think that much better results are to be obtained by growing the plants with one stem until such time that this is multiplied by the formation of a flower bud in the point of growth. It always seems to me to be a loss of valuable time to stop the plants and encourage them to grow vigorously again to make up for the check.

The most important point in the cultivation of incurved Chrysanthemums is the maturity of the wood. If the growth is not free to begin with and thoroughly solidified it is useless to expect blooms perfect in contour, firm in the floret, and of large size. In no way can this state of things be better brought about than by securing for the plants a long season of growth, so that solidity of the wood is gradual, the result of perfect leaf development in the first place, and an entire absence of gross pithy wood in the next. Blooms from plants characterised by immature growth of both wood and leaves may become as large in width as those from more matured growth, but this is only one element in their production. Solidity of floret combined with build is of far greater import and will go much further towards winning prizes.

Mr. Beasley committed two errors in culture that I know of—first, by rooting the cuttings as late as February, and by stopping these same plants. The sunless summer, too, was much against plants ripening their wood that had been previously hindered in their growth.—E. MOLYNEUX.

DECORATIVE CHRYSANTHEMUMS.

THE system of planting out and lifting Chrysanthemums answers very well in some seasons, but it is not one to recommend taking one year with another. For instance, this year the absence of sun rendered the growths sappy, especially of late flowering sorts, hence the reason of their not flowering so well. When the weather is continuously wet and cold for a month at least the roots ramble further away in the cold soil consequent on little sunshine to warm the soil. Under such conditions there is not the same kind of check to exuberance that there is when the roots are confined in pots.

I should strongly advise "J. L. B." (page 545) to procure a selection of the newer varieties that give abundance of bloom in the open with long stems suitable for filling vases for two months, commencing with September, and grow the remainder in pots. The inclusion of a number of plants in the open would lessen the trouble and allow more time and space to cultivate the later flowering in pots. The following is a short list of choice varieties for flowering outdoor:—Madame Desgrange, G. Wermig, and Mrs. Hawkins, the two latter pale and deep yellow sports of the first named pure white and free-flowering sort; M. Gustave Grunerwald, light pink, changing almost to white; Montagu, dull purple crimson; Mrs. Gifford, silvery pink, flushed deeper in the centre; Comtesse Foucher de Cariel, a charming bronze shade; Arthur Crepy, pale yellow; October Queen, flesh pink; Rose Queen, rose; Roi des Precoces, brilliant crimson; and Rycroft Glory.

For pot culture, in addition to those named, I should recommend John Shrimpton and Cullingfordi as a good succession to W. Holmes. To follow Source d'Or, William Robinson and Golden Gem, which is really more bronze than golden, would be useful. In addition to those named by "J. L. B.," Lady Selborne, Elaine, Lady Fitzwygram, and Eynsford White are grand white-flowered varieties; Sunflower, Pæhus, and M. Garner are useful yellow blooming sorts. Elsie and Mrs. Honil,

both pale primrose, cannot well be left out where freedom in flowering is a point to observe.—E. M.

Now the shows are over this is a subject that might be ventilated with advantage. In decorative varieties two or three points should be considered, namely, colour, free flowering, and blooms that carry themselves well. In addition to those named by "J. L. B." (page 545) let him try *Sœur Melaine*, *Elaine*, *Lady Selborne*, *James Salter*, *Florence Percy*, *Mons. Astorg*, *Boule de Neige*, *Elsie*, *Val d'Andorre*,

THE FLORISTS' SHOW TULIP.

MR. JAMES W. BENTLEY will gain for himself the highest praises and heartfelt thanks of all his brother florists who cultivate with so much pleasure and pride the florists' show Tulip, for the very extensive and masterly account he has taken so much trouble in presenting to the public through the medium of the *Journal of Horticulture*, in regard to the history, cultivation, and properties of his favourite flower, the florists' show Tulip.



FIG. 92.—CHRYSANTHEMUM PRIDE OF SWANLEY.

W. Robinson, and *Roseum superbum*. *Cullingfordi* would make a good succession to *Mons. W. Holmes*.

For late use I find *Ethel*, *Meg Merrilies*, *Ralph Brocklebank*, *Golden Dragon*, *Mrs. H. J. Jones*, *Mrs. F. Jameson*, *Maggie Mitchell*, *J. Stanborough Dibbin*, *Grandiflora*, *Boule d'Or*, and *Mrs. H. Cannell*. *Boule d'Or* is grand as a decorative variety, being very free, carries itself well, and attains that beautiful bronze pencilling on the florets, and those who do not object to the eye, which is sure to come, it is well worth growing. If cut down about the middle of May and the tops rooted and moved into 32-pots they make excellent plants for decorating. Where late white flowers are wanted *Mrs. H. Cannell* is the best that I know, and should be in every collection.—F. G.

Mr. Bentley has in his veins the blood of the late and much-esteemed show Tulip enthusiast, Mr. Samuel Barlow, who never allowed an opportunity to pass when he saw a chance of speaking or writing in favour of the florists' flower he loved and cherished so much, and which Mr. Bentley properly terms the "Queen" of her sex. He has doubtless the desire of his late uncle to bring the show Tulip once more before the notice of the florists and amateurs in the suburbs and neighbourhood of London in the most prominent manner possible, in the hope of reviving its culture in the south to the extent it existed in the early part of the present century.

Mr. Bentley has already secured the support of a very enthusiastic firm of bulb growers and importers, as I learn that Messrs. Barr and

Son, King Street, Covent Garden, have been bold enough to enter into a speculation by the purchase of upwards of 15,000 "Show Tulip" bulbs, consisting of the principal exhibition varieties, at a cost of something approaching £150. I also understand that they have arranged, in conjunction with the Royal Horticultural Society, for two exhibitions to be held during the ensuing May and June, when silver and bronze medals will be awarded to exhibitors for stands and groups of the "Show Tulips" under their respective classes. Messrs. Barr & Son hope that with perseverance, and by offering collections to amateur florists and others at moderate prices, they may succeed with Mr. Bentley, and other cultivators of the "Show Tulip," in bringing it again into such prominence that the tables of the London exhibitions, and others in the South, will ere long be adorned in abundance (as of old) with the gorgeous and fascinating splendour which the "Show Tulip" in its best dress always presents.

Let us hope that Messrs. Bentley and Barr's efforts will be crowned with success.—JAMES THURSTAN, *The Green, Cannock*.



"THE BOOK OF THE ROSE," BY THE REV. A. FOSTER-MELLIAR.

EVERYONE who takes more than a superficial interest in Rose growing will hasten to possess himself of a copy of this book. It is the Rose book, *par excellence*, of the day, as far as practical experience, set forth in crisp lucid and terse language, can make it. Well written, well printed in good clear type, with a pleasant margin, and interspersed with many interesting illustrations, the general result reflects credit on both the author and publishers.

The book is divided into fourteen chapters, and has twenty-nine illustrations, the latter being principally photographs of varieties well known to all rosarians; but there are other pictures which will interest ladies, such as a shower bouquet, one of the numerous prize bouquets shown by Mrs. Orpen of Colchester this season. "The Book of the Rose" has been brought fully up to the present date, as notice is taken in the masterly chapter on "manners and customs" of the most recent Roses brought out by Messrs. Dickson of Newtownards in the last year, several of which have gained them gold medals.

I hope, later on, to go critically into the contents of this delightful volume, but no more propitious time could have been selected for its issue, as it will be a most acceptable Christmas present to many in England who love our national flower and wish to know of every phase in its culture. It is published by Messrs. Macmillan & Co.

NATIONAL ROSE SOCIETY—MR. GRACE'S LETTER ON REGULATION 13.

I cannot help admiring Mr. Grace's candour in his letter to you (page 536), although I disagree with his views. I do not know whether by his attitude on this question we are to understand that Mr. Grace himself practises what he preaches, but the doctrine he openly advocates, that an amateur member of the Society should be allowed to defy the regulations and continue to exhibit against amateurs who honourably comply with them, is rather startling. The regulation Mr. Grace proposes to defy is explicit, "*No person shall be allowed to compete as an amateur who sells Rose plants or Rose blooms.*"

Can anyone say that this can mean anything but what is stated? We all know that there are rumours, persistent rumours, and names are whispered about of amateurs who are disregarding this rule, so that if Mr. Grace's views be accepted as correct then the sooner it be expunged the better. So long as the rule exists, whatever Mr. Grace or anyone says on the subject, it is dishonest to exhibit as an amateur if you infringe it. There is no use in shutting our eyes to the truth, or calling such action by any other word.

At the meeting on Thursday last Mr. Lindsell proposed an addition to the present regulation, but at the last moment he so altered his original proposal that the onus of disproof was placed on the accused, instead of the charge having to be substantiated by the accuser. This being contrary to all accepted views in this country, I am not surprised to hear that his proposals were defeated. I was not present at the meeting, but I think that the trade members of the Society should have strongly protested against the infringement of the rules by amateurs, and also against Mr. Grace's views that a small amateur, or any other amateur, should be allowed to sell his flowers in order "to pay for rough labour and manures." I am a very small amateur, and all small amateurs know that their gardens cost far more in proportion to their size than do those of big amateurs; but every man has to pay for his hobby, and I should think Rose-growing is one of the cheapest of them.

It was with full and personal knowledge, acquired by the possession of gardens of varied sizes, that I, in 1891, approached the subject of dividing amateur exhibitors into classes according to the numbers grown, so that every man should have a fair chance. I certainly never contemplated that any amateur would, in addition to the benefit he gained by these new regulations, also expect that he should be allowed to compete with the trade!

It is a very unfortunate truism to state that the trade growers

amongst rosarians seem always struck dumb at meetings where they have the facility, if not the faculty, of expressing their views on this question, which most affects their pockets. It is not an amateur's duty to fight their battles, and I therefore do not write this letter for them, as if they will not stand together, as they ought, for their just rights, then let them suffer; but I do say this, that if amateurs are to be allowed to sell Roses and plants, and in other ways to advocate a defiance of our regulations, then in the name of honour and common sense let us do away with what appears to be a rule that is so defied; otherwise let us all start fair and deal indiscriminately with each other. The big amateurs are mostly personal friends of mine; they are not men of unbounded wealth, and I do not think I am saying a word to disparage those whom I deal with at present in the trade when I state that I would prefer to deal with personal friends if Regulation 13 be in future considered a dead letter.—CHARLES J. GRAHAME.

THE ROSE ANALYSIS.

It is all very well for the two writers on this question on page 536 of your last issue to say that the actual figures, and those only, should be used in every case, and no allowances whatever made for "disturbing causes;" but have they ever thoughtfully considered how this would work out in practice? I have in previous letters given them examples, and if they can tell me in what better way to deal with these varieties without misleading your readers I shall be only too glad to learn how this can be done. If I had not myself thoroughly tested the actual figures plan and found it wanting I should never have departed from it, being as fond of simple facts as anyone.—E. M., *Berkhamsted*.

REV. F. R. BURNSIDE.

I WAS very glad to meet this well-known rosarian at the annual meeting of the National Rose Society, and upon expressing my regret at his retirement from the exhibition arena, was pleased to receive his hearty assurance that he has no intention whatever of retiring, but that, on the contrary, he has already secured a place in Derbyshire and has a few Roses *in situ*. This will be the fourth county in which Mr. Burnside has grown and shown Roses, and those who know him will predict that, given a season or two for getting settled down, his blooms will soon be found giving as good an account of themselves as when he was resident in Kent, in Gloucestershire, and in Herefordshire.—J. B.

RANDOM NOTES—TEDIOUS SHOOTING.

"WHEN you three gentlemen have quite done with that bird!"—and then he shot it. These were the words not long ago addressed to me and two others on my right when all three of us had missed a partridge, strong on the wing, flying at right angles to our guns. I ask, When will Messrs. C. J. Grahame, E. Mawley, and "W. R. Raillem" have quite done with "Rose Analysis" that it may be shot down by one of cool aim and steady head? Alas! I possess neither, but I ask, Is not Mr. Grahame too impetuous, making mountains out of molehills? Mr. Raillem rather sarcastic and parabolic? and Mr. Mawley beautifully patient in tribulation?

Mr. Grahame never fails to express his "very greatest respect" for the opinions of his brother rosarians, and then at once joins issue with them. Mr. Raillem tell us that he "has little knowledge or experience in statistics," so he shrugs his shoulders and ungraciously retires from the field of argument, his cup of tea not being quite in accordance with his taste. That Mr. Mawley's analysis ought not to have been assailed as it has been is, I think, conclusively proved by Mr. Girdlestone's letter on page 517, December 6th, wherein he shows how slightly Mr. Grahame's list differs from that of Mr. Mawley.

Surely it is the grower of a great number of maidens—for example, Mr. Pemberton—who so largely helps to bring up the average of such Roses as Duchess of Bedford, Duke of Edinburgh, and Comte Raimbaud, of the last of which trio I have never yet had a decent bloom. I grew six plants of it for eight or nine years, and I ask again, Is it quite fair on the part of Mr. Grahame to keep referring to Mr. Pemberton as absolute evidence in favour of any particular Rose being reliable or unreliable? Some Roses are good only as maidens; some as cutbacks only.

THE "HUMBLE AMATEUR."

Before these notes can be in print Mr. Lindsell's motion will have been brought forward. My sympathies are certainly with your correspondent, "A. F. Grace (page 536)." Doubtless it is the humble amateur who is always among his Roses, doing all the work himself, that does most on behalf of Queen Flora. At the same time, a policy of "protection" may be necessary. I can but hope that Mr. Lindsell and his supporters will be found to have been generous in their desire to be equitable.

TEACHING GRANDMOTHER.

And now I come to some notes on Hybrid Briar Roses. Your contributor (page 536) is so kind as to tell us (not for the first time) that these were raised by Lord Penzance; also that these Roses are uniquely fragrant, the aroma delicious. Moreover, we are informed that the Sweet Briar and the Eglantine are synonymous! It is rather amusing to meet with these young innocent patronising kind of correspondents. It was, I think, in July, 1889, that Lord Penzance told us all this, and a little more, in his interesting paper entitled "Modern Roses and Hybridisation," read at the National Rose Conference. But then this was five and half years ago!—STORM IN A TEACUP.

ECHOES FROM THE ROSARIANS' MEETING.

"DID you go to the Rose meeting?" "Yes! Then tell me a little about it." And he did. Who did? does someone ask? Well that does not matter. Here follows the narrative, with comments, some parts being perhaps a little peculiar.

It was not a model gathering as far as concerns the unanimity of opinions; but could it be expected otherwise of an assembly of "standstills," "moderates," and "progressives?" "Was it a representative 'National' meeting from a numerical point of view?" Scarcely so. According to the annual report read there are 525 members on the books, and of these about thirty-seven were present. Even these few were, as said, by no means unanimous in their views, and the proceedings might have been more "lively" had there been a "full house." "Rocks ahead" appeared at times, but under the guidance of an able pilot any serious collision was averted. Still incidents were not uncommon.

Verily the ways of the N.R.S. are *singulier*, as the French would say, and few there be that comprehend them. After the audience had been told why the meeting was held (did some wonder why they were there?) an event happened that is worthy of an explanation. To some of us it was inexplicable. I will relate it. On behalf of a member, who was unable to honour the company with his presence, the Chairman moved that two well-known and popular rosarians, and valued supporters of the Society to wit, be given a seat in the "upper house." In other words, it was suggested that the names of these gentlemen be added to the list of Vice-Presidents. But the powers that be ruled otherwise. One was accepted and the other rejected. The result was—shall I say it? Well, one of the oldest members of the Society "could not see on what principle Mr. So-and-so was entitled to a place on the list of Vice-Presidents." "If we go on increasing the list," continued this gentleman, "we shall soon have as many Vice-Presidents as there are members of the Committee." Very well, but there is a sequel to the story.

The succeeding part commenced thus. Immediately after the aforesaid member objected to a certain addition being made to the Vice-Presidents, one of the committeemen tendered his resignation. At first it would not be accepted on any account, for although he was unable to attend the meetings they could not afford to lose him. However, the Committee did lose him, for he persisted in resigning. This being so the aforementioned objector to a long list of Vice-Presidents at once suggested that the resigning committeeman be offered a seat in the "upper house." To raise a laugh the prospective Vice-President replied, "That is what I wanted," leaving some to wonder why after one had been left another was taken!

Nor is that all. Pondering the matter over in my mind, on reaching home late at night I turned to the N.R.S. annual reports, which, like an ardent rosarian, I usually keep filed. In the report last circulated (not that read at the meeting on the 13th inst.) I find, "Especial credit being due to Mr. Machin." None other than the rejected northern rosarian, whose name, strange to say, is given in that report to the Rose world as a *Vice-President* of the National Rose Society! It surely must occur to ordinary minds as being rather curious why a gentleman is deemed a rosarian of sufficient ardour to be a Vice-President of the Society in 1893, and then objected to for 1895 because he is "a comparatively new exhibitor," yet two years older! It would be interesting to know who proposed this rosarian as a Vice-President for 1893. Can any readers remember? Can they also say why it was necessary to propose him again (for rejection) seeing that his name appears in the V.-P. list in the N.R.S. Report issued this very year? It is an enigma.

Then British gardeners are not wanted by the N.R.S.! This fact was to all intents and purposes admitted at the meeting under notice. A suburban amateur rosarian proposed to alter Regulation 7 so as to read, "All Roses exhibited in competition must be from plants which have been grown by, and have been the property of, the exhibitor for at least three months." A nurseryman seconded this, and in a very short time speakers were as busy as flies in a bottle. The mover of the above motion brought a charge of fraudulent exhibiting against gardeners; but it was afterwards pointed out that he had overstated the case. There was only a temptation to exhibit as they ought not to do! But are gardeners liable to yield to temptation more than other men? I think not. Moreover, I am glad to be able to say that gardeners found two other strong supporters in the Chairman and a respected Vice-President of the Society. These latter gentlemen, like myself, know and value the genuineness of British gardeners. But they were bowled over.

The proposition was carried, though not without a struggle. Henceforth British gardeners are debarred from exhibiting as gardeners at the exhibition of the N.R.S. Is it possible? Unfortunately such is the case, and the gardeners' productions are not wanted, neither are, one may assume, their subscriptions. No one who attended the meeting could come to any other conclusion. The regulation makes it binding that all Roses exhibited must be the property of the grower and exhibitor. It is obvious that gardeners are not the owners of their employers' property, and it is equally apparent, in some cases at any

rate, that the Roses are not always grown by the exhibitors without the aid of gardeners. Indeed one might almost say that the Roses are invariably grown by the gardener where one is employed. Who will refute this assertion? Where, might I ask, would be the majority of horticultural exhibitions if gardeners were always thus slighted?

Can a gardener exhibit as a cottager? Yes, according to some members of the N.R.S. No, if one is guided by custom—and common sense. Several persons at the meeting contended that as the majority of gardeners resided in cottages they might cut blooms from their own gardens and exhibit in cottagers' classes. What would the "smaller amateurs" think to this arrangement if generally adopted? What, too, would happen if the gardeners, who are the principal exhibitors at the leading horticultural shows, were to stage in the cottagers' classes produce from "their own" gardens? Everyone who has had experience in showing or the management of shows knows what the result would be. The Chairman, with his knowledge of gardeners and exhibitions, pointed out that were the National Chrysanthemum Society to adopt a similar short-sighted policy, they would lose five-sixths of the exhibits. Happily the N.R.S. is alone in this matter, and gardeners turn their attention to other societies where they receive encouragement. Can anyone blame them?

A slight "buzzing" occurred when the question of altering Regulation 13 was brought forward *re* allowing any person who sells Rose plants, blooms, or buds for budding except when changing his residence, and in the case of seedlings and sports, to compete as amateurs. Opinions were divided on this point, and one of the movers of the proposition asked his hearers "if they had seen the *Journal of Horticulture* of that morning?" Some had, as a matter of course, and others satisfied themselves with smiling. But he would read the paragraph from page 536, although it rather gave his case away. It was read, and caused a commotion; indeed the whole meeting may be described as a "commotion," and possibly we have not heard the last of it.

Such are the echoes I have tried to reproduce of what seems to have been a somewhat remarkable meeting. Those who deem them faulty can make the needful corrections.—GLENER.

THE NATIONAL ROSE SOCIETY'S MEETING.

THOSE members of the National Rose Society who attended the annual meeting on the 13th inst. must have felt gratified in participating in one of the most earnest and spirited meetings the Society has ever held. The session lasted over two hours, and during the whole of that time there was not a dragging moment, but the transactions marched forward in steady (sometimes battle) array.

Mr. C. E. Shea has already proved his ability as a chairman, and it was nothing less than a boon to have him in this position, for resolutions, additions, and amendments were so many and involved, that it required a clear head and a firm hand to prevent the business drifting into complete confusion. How easily this might have arisen may be gathered from the fact that one gentleman rose to second a motion, but expressed his strong disapproval of one feature connected with it; whereupon the Chairman pointed out that *that* was the point immediately before the meeting, and that what he (the speaker) was really doing was seconding that to which he avowed himself strongly opposed.

Matters progressed smoothly until the twelfth item on the agenda paper was reached, which was a proposal to require that all flowers staged must be from plants "the property of"—as well as grown by—the exhibitor. This seemed a fair and reasonable requirement on the face of it, but some members thought they discovered a possible hardship to somebody involved in it, and the matter was strongly debated for quite a considerable time before being ultimately carried by a large majority.

Then came the group of amendments connected with Regulation 13. This defines the status of amateurs, and forbids the selling of Roses by such members, and the Committee had agreed, subject to confirmation, to add the words, "or buds for budding." The first motion was for the addition of the words "except when changing residence, or in the case of new seedlings, or sports," and this was soon agreed to and passed. Next came the proposal, "Un-English and opposed to all British notions of fair-play," as one speaker well characterised it—that in the event of a charge being made under this regulation it should rest with the person charged to prove his innocence! Round this extraordinary proposition discussion waxed fast and furious, and when stripped of its surroundings and presented to the meeting in its true character, it was speedily and emphatically rejected, scarcely anyone besides the proposer and seconder voting for it. Arising out of this followed the suggestion that all exhibitors should be required to sign a declaration that they had observed all regulations. This was summed up by one speaker as a proposal to say to an exhibitor, "The world says you are a rogue, and we want you to sign a certificate that you are not," and this speedily shared the fate of its predecessor, and then the proceedings came back to smoother waters.

The Chairman announced the result of ballot for officers and committee, which gave the house list as returned, except that

Messrs. E. B. Lindsell and A. Foster-Melliar were appointed Vice-Presidents, Messrs. A. Slaughter and T. F. Rivers were added to the Committee in place of these two gentlemen. There was a proposal to add another name to the list of Vice-Presidents, but this was outvoted.

The position of the Society, as evidenced by the report and balance-sheet, is eminently satisfactory. The year just closing has been one of severe depression in trade, and of general financial difficulty, and has left its mark upon the contributions of almost all societies. In spite of this, and of the holding of a third show, there is a balance in hand within a few pounds of that of last year, which was the largest ever attained. This speaks volumes for the combination of energy and discretion brought to bear upon the affairs of the Society by the Hon. Secretaries and the Hon. Treasurer, and augurs well for the future in the same well-trying hands.—J. B.

NATIONAL ROSE SOCIETY—ANNUAL MEETING.

THE eighteenth annual general meeting of the National Rose Society was held, by permission of the Horticultural Club, at their rooms, Hotel Windsor, Victoria Street, Westminster, on Thursday, December 13th, to receive the report of the Committee, to pass the accounts, to elect the Committee and officers for the ensuing year, and for the transaction of other general business. Mr. C. E. Shea occupied the chair, and he was supported by a large attendance of rosarians. Among those present were Sir Alexander Arbuthnot, Captain Christy, Revs. H. A. Berners, A. Foster-Melliar, W. J. Mellor, J. H. Pemberton, F. R. Burnside, T. Holbrow, T. N. Flintoff; Messrs. G. Bunyard, E. B. Lindsell, C. F. Hore, R. E. West, J. D. Pawle, W. H. Burch, A. Burch, A. Piper, W. F. Cooling, A. Slaughter, W. Rumsey, W. Prior, A. Turner, H. Appleby, G. Prince, G. Mount, A. Prince, G. Gordon, J. Bateman, O. G. Orpen, Cecil Cant, A. Paul, J. T. Strange, H. Shackleton, G. Paul, G. Moules, with the Rev. H. H. D'Ombraim and Mr. E. Mawley, the Honorary Secretaries, and Mr. T. B. Haywood, Hon. Treasurer. After reading the circular convening the meeting, and the minutes of the last general meeting being taken as read, the appointment of the Scrutineers of the ballot took place, Messrs. W. F. Cooling and O. G. Orpen being elected for that office.

Mr. SHEA then moved on behalf of Mr. C. J. Grahame, who was unavoidably absent, "That the names of Mr. E. B. Lindsell and Mr. H. V. Machin be added to the list of Vice-Presidents." Mr. Mawley seconded, and said that in the event of Mr. Lindsell being elected a Vice-President his name would be removed from the Committee. He therefore proposed that Mr. A. Slaughter's name be placed on the Committee list for election. The Rev. H. H. D'Ombraim said he could not see on what principle Mr. H. V. Machin's name be added to the Vice-Presidents, he being a comparatively new exhibitor. At this point the Rev. A. Foster-Melliar asked to be allowed to resign his position on the Committee, as he was unable to attend the meetings. Mr. Mawley thought that they could not afford to lose Mr. Foster-Melliar, and pointed out that many other members of the Committee were also unable to be present at most of the meetings. Eventually, however, Mr. Foster-Melliar's resignation was accepted, and on the motion of the Rev. H. H. D'Ombraim his name was added to the list of suggested Vice-Presidents, Mr. T. F. Rivers being duly proposed for election in his stead on the Committee. The report and financial statement, which we publish below, were then read and subsequently adopted.

REPORT OF THE COMMITTEE FOR THE YEAR 1894.

Owing to the disastrous May frosts, and the cold weather which followed, the exhibits at the Society's southern show, which was held at Windsor towards the end of June, were much less numerous than had been anticipated. In other respects this was a successful meeting. Her Majesty, being unable to be present at the exhibition in person, was represented by H.R.H. the Princess Henry of Battenburg, who, accompanied by H.R.H. Princess Alix of Hesse and H.I.H. the Czarewitch, visited the show during the afternoon. By command of the Queen several of the leading stands, including the one which gained the silver cup presented by Her Majesty, were sent to Windsor Castle for Her Majesty to see, who, through the President of the Society, expressed her high appreciation of their beauty. The arrangements for this show were ably carried out under the direction of Mr. W. Colin Romaine, the Hon. Secretary of the Windsor, Eton, and District Rose and Horticultural Society. The Crystal Palace exhibition proved, with the exception of that of 1892, the largest the Society has yet held—6500 Rose blooms being staged in competition, irrespective of those exhibited in the various beautiful stands of garden Roses. Owing to the untoward character of the season the general quality of the flowers shown was, however, somewhat below the usual standard. The northern show took place at Halifax, and was in every way a great success. The arrangements in connection with it reflect much credit on the Local Committee, and more especially upon Mr. John E. Brooks, the energetic Hon. Secretary of the Salterhebble and District Rose Society.

In accordance with an invitation received from the President of the Antwerp Rose Society, the Committee deputed Mr. George Gordon (Vice-President) and Mr. Edward Mawley (Hon. Secretary) to represent the Society at an International Rose Congress, which was held at Antwerp early in July. The principal proposal brought forward was the foundation of an International Rose Society. This resolution was, however, opposed by the English delegates on the ground that the time

had not yet arrived when such a society could be established upon a sufficiently firm or satisfactory basis.

The number of members, and also the number of affiliated societies, still continues to be well maintained, there being at the present time on the Society's books 525 members, and thirty-five affiliated societies.

FINANCIAL STATEMENT.

This the Committee cannot but regard as very encouraging, for notwithstanding the extra expense incurred in holding a southern show, the large amount expended in prizes, and the continued depression in trade, there still remains a balance to the credit of the Society of £72 11s. 9d.

NATIONAL ROSE SOCIETY.—BALANCE SHEET, YEAR ENDING 30TH NOVEMBER, 1894.

RECEIPTS.			EXPENDITURE.		
	£	s. d.		£	s. d.
1893.					
Dec. 1. Balance at Bankers ..	81	19 3	Printing, Stationery, and Advertising	60	1 8
Subscriptions	374	5 0	Postage, Telegrams, and sundry expenses	44	6 2
Affiliation Fees and for Medals from Affiliated Societies	81	15 0	Secretary's travelling expenses to arrange Shows	2	13 0
Advertisements	11	12 0	Expenses Windsor Show	4	13 0
From Windsor	40	0 0	„ Crystal Palace ditto ..	9	1 0
„ Crystal Palace	105	0 0	„ Halifax ditto	7	3 0
„ Halifax	80	0 0	Medals	10	3 4
Special Prizes	14	17 6	„ for Affiliated Societies ..	64	19 0
Sale of Catalogues	2	3 2	Prizes Windsor Show	275	15 0
New Catalogue Fund ..	3	10 0	„ Crystal Palace ditto ..	130	15 0
			Assistant Secretary and Accountant	20	0 0
	£795	1 11	Balance	72	11 9
1894.				£795	1 11
Dec. 1. Balance	72	11 9			

Audited with vouchers and found correct,
J. D. PAWLE,
F. T. WOLLASTON, } Hon. Auditors.

—THOMAS BURT HAYWOOD, Hon. Treasurer.

ARRANGEMENTS FOR 1895.

The plan of holding a southern, a metropolitan, and a northern exhibition has met with such general approval that the Committee propose holding three similar shows during the coming year. The southern show will accordingly be held at Gloucester, in conjunction with the Gloucestershire Rose Society, on Thursday, June 27th; the metropolitan exhibition at the Crystal Palace, on Saturday, July 6th; and the northern show at Derby, on Wednesday, July 17th.

MEMBERS' PRIVILEGES.

Members subscribing £1 will, as usual, be entitled to two private view and four transferable tickets, the latter admitting at the same time as the general public; while subscribers of 10s. are entitled to one private view ticket, and to two transferable tickets. Each of these tickets is available for any one of the Society's exhibitions. Members joining the Society for the first time in 1895 will also receive a copy of the Society's descriptive catalogue of exhibition and garden Roses. Members alone are allowed to compete at the Society's exhibitions.

In conclusion the Committee desire to express their best thanks to their local Secretaries, to the donors of special prizes, as well as to all others who have in any way lent a helping hand in advancing the work or interests of the Society. As regards the special prizes received during the year, it should be stated that they were more numerous and valuable than for many years past, and that they have greatly contributed to the success of the exhibitions.

BY-LAWS AND REGULATIONS.

After the adoption of the Committee's report, and votes passed that the thanks of the Society be communicated to the Horticultural Club for the use of their rooms during the past year, also to the officers and other members of the Committee for their services, the incorporation of a new by-law, and alterations of various regulations were proceeded with.

Mr. G. PAUL proposed the following new by-law:—"That the Committee shall at its first meeting appoint a sub-committee (to be styled the General Purposes Committee) not exceeding ten in number, for the purpose of considering and reporting upon any matters connected with the Society which may be brought before the sub-committee by notice to the Secretaries of the Society, and that the functions of that sub-committee shall endure until the next general meeting of the Society. This sub-committee to have no executive power whatever." In making this proposition he said the hands of the Secretaries would be considerably strengthened if such a sub-committee could be formed. The Rev. J. H. Pemberton seconded the motion on the ground that "half a dozen heads were better than one." On being put to the meeting this proposition was carried.

Mr. G. BUNYARD then moved in respect to Regulation 6:—"That Chromatella and Cloth of Gold be removed from, and Mrs. Harkness and Paul's Early Blush be added to, the list of synonymous Roses." Mr. West seconded this; but an amendment was brought forward by the Rev. A. Foster-Melliar to the effect, "That Chromatella and Cloth of Gold be retained on the above list." He thought, however, that Mrs. Harkness and Paul's Early Blush should be added to the list of synonymous Roses, but he objected to the others being removed. The amendment was seconded and duly carried.

Mr. J. BATEMAN proposed to alter Regulation 7 so as to read:—"All Roses exhibited in competition must be from plants which have been grown by, and have been the property of, the exhibitor for at least three

months." In pointing out the necessity of this regulation, Mr. Bateman said it had come to their notice that gardeners had exhibited Roses under their master's name in one class, and also under their own in another. This motion was seconded by Mr. Burch, and a considerable discussion followed. The Rev. H. H. D'Ombraïn said Mr. Bateman had rather overstated the case. He was not sure that any gardener had exhibited his employer's flowers as his own, but an instance had occurred in the north when it was thought there was a strong temptation to do so. Sir Alexander Arbuthnot observed that such a regulation would probably come in conflict with the by-laws of many affiliated societies. Mr. C. E. Shea said that in the National Chrysanthemum Society the gardeners were allowed to exhibit their employer's blooms and plants, and unless this rule of exhibiting was adopted they (the N.C.S.), would lose five-sixths of their exhibits. Mr. G. Gordon also strongly supported the gardeners, and remarked that if the suggested alteration was made the National Rose Society would shut out many exhibitors. Mr. D'Ombraïn dissented, as did others, some gentlemen remarking that gardeners may exhibit as cottagers if they cut blooms from their own garden. On being put to the meeting the motion was carried.

In connection with Mr. Lindsell's motion to consider and alter Regulation 13 some difficulty arose, owing to the mover's unavoidable absence from the previous Committee meeting, when formal notice should have been given. Mr. Lindsell ultimately moved the following resolution, that after the word "arbitration" in Regulation 13 be

TABLE DECORATIONS.

PERHAPS a few words on the floral decoration of tables will not be out of place at the approach of the festive season. Mr. Dunkin has at times given us some practical advice on the above subject, and I hope he will do so again. The exchange of ideas on what I consider to be one of the most important parts of a gardener's work has a mutual advantage. Some years ago it was the practice to mix the colours. It might be the same now in some places, but my experience of late years is quite the reverse, all one colour being the most popular. I find that yellow and scarlet are the most admired colours that I have used. White requires a good groundwork of green to show it, but when done well is very effective. Pink I have not used much, but should say it would harmonise well with a service to match.

For embellishing a table there is, in my opinion, nothing to surpass the Poinsettias. My advice to beginners is to grow Poinsettias, as they will find them most useful. Henry Jacoby Zonal Pelargonium I grow extensively in 5-inch pots, and if managed well the plants flower freely the whole of the winter. Cut single pips of the flower off with a pair of scissors, and others in a short time will spring up and fill their places. Then there are Pompon Chrysanthemums, one I may mention in particular being St. Michael, a most charming yellow. Then comes the double and single Primulas, Bouvardias, Carnations, and others too numerous to mention in these brief notes.

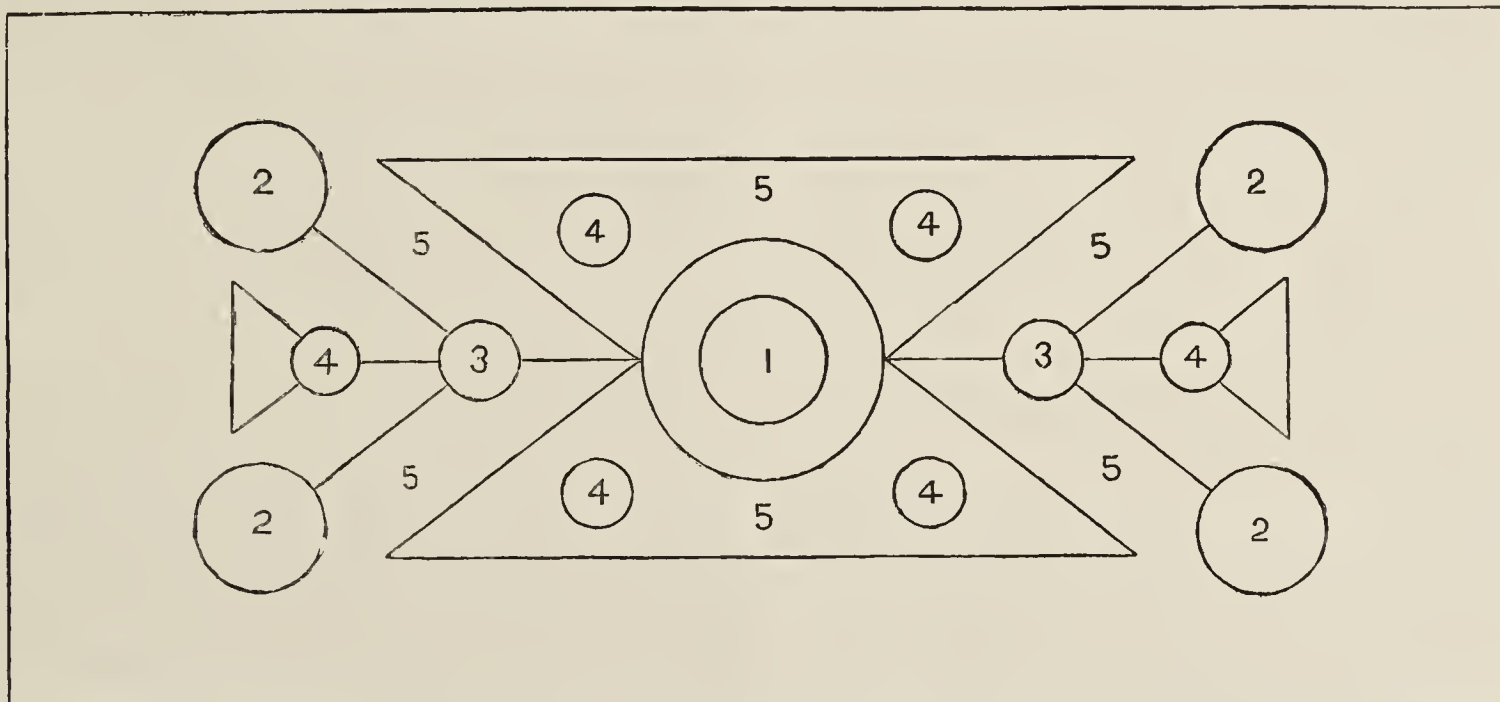


FIG. 93.—TABLE DECORATIONS.

inserted the words, "*but it shall be upon the exhibitor to whom objection has been raised to refute such objection.*" This amendment on being put to the meeting was lost. Mr. O. G. Orpen and the Rev. A. Foster-Melliar, too, had propositions to make in respect to this Regulation, which complicated matters so much that not a few persons present had some difficulty in grasping the situation. Mr. Shea, however, with admirable precision, put everyone right, and eventually the proposition made by Mr. Orpen in respect to buds for budding, and Mr. Foster-Melliar's motion as to an amateur changing his residence, were carried. So that Regulation 13, as amended, now reads:—"No person shall be allowed to compete as an amateur who sells Rose plants (*except when giving up possession of the place where they grow, and in the case of new seedlings or sports*), Rose blooms, or buds for budding, nor any person in the employ of a nurseryman. Any objection raised as to the rightful qualification of an exhibitor shall be referred to the Committee for arbitration, and their decision shall be final and binding on both parties." The sentences printed in italics are the additional clauses to the existing regulation.

Mr. LINDSELL also made the following proposition:—"That it be an instruction to the Committee to insert in the entry form, to be signed by exhibitors, a declaration that the regulations have been strictly adhered to." Mr. Lindsell said he had received letters from a number of gentlemen in support of the insertion of such a declaration. Mr. Shea observed that he could not extend his sympathy to the writers of those letters; and Mr. D'Ombraïn, with others, likewise opposed the motion, which was lost.

The CHAIRMAN then announced the result of the ballot, which was to the effect that, in addition to the names printed on the balloting list, the Rev. A. Foster-Melliar and Mr. E. B. Lindsell had been elected Vice-Presidents with 34 and 27 votes respectively, Mr. H. V. Machin being rejected, and Messrs. T. F. Rivers and A. Slaughter on the Committee.

It was decided that arrangements be made to hold the Southern Provincial Exhibition at Reading in 1896, and the northern one at Ulverstone.

A vote of thanks to the Chairman concluded the meeting, after which the members of the National Rose Society held their annual dinner.

Mossing the table does not find favour here. I think tracing designs are much cleaner and pleasing to the eye than banks of moss, which oftentimes make the table look too heavy. It is a good system to find out how many persons there are for dinner, then form an idea as to the size of the table, and after learning what service your employer wishes to use, decide your colours to match accordingly. Designs you must fix according to circumstances. Mark out the centre of the table, get your principal points measured from that, and then the working out of the rest will come quite easy. Points of Box shoots I generally use for tracing. The width of the tracing varies with me according to size of flowers used, just wide enough for a margin of green to show each side of flowers. In the case of white flowers more green should be employed, and the inside of design where the tablecloth shows white ought to have a few fronds of Maidenhair Fern spread on, which will display the flowers to better advantage.

The design depicted in the illustration (fig. 93) is for a table to seat ten or twelve persons. The references are as follows:—No. 1, Cocos Weddelliana, and hanging lamp with shade; No. 2, silver candlesticks with red shades; No. 3, two small Crotons, The Countess; No. 4, six dishes of fruit. Lines round candlesticks and plants, and all straight lines, tracing of Box with single flowers of Henry Jacoby Pelargonium laid on. No. 5, small glasses filled with small truss of Henry Jacoby Pelargonium, intermixed with Maidenhair Fern.

The different narrow-leaved Crotons, Aralias, Cocos Weddelliana are my favourite table plants, and Pandanus Veitchi is most useful in a small state. Asparagus plumosus nanus and Cissus discolor are sometimes very serviceable for winding round candlesticks and centrepieces. —WM. ROBERTS, *The Gardens, Peniarth.*

GROWING, SHOWING, AND JUDGING.

In default of some more competent person I do not like that "E. K., Dublin," interesting notes (page 514) on these matters of so much importance should pass unnoticed.

There is no doubt that the "big battalions" if equally handled must in peaceful conflicts, as in war, have the greatest prospect of

success. It is perhaps right that they should, but it restricts all trophy competitions, if for large exhibits, to these large battalions; and even if these trophies were open to a smaller exhibit, these larger competitors cannot be robbed of the advantages which numbers give. "E. K." is certainly right in his notions that the smaller grower, as a rule, must be content with fighting in the smaller classes if he knows that "So and So" will be a competitor.

"Numerous entries, with well filled tables, are the backbone of strength to an exhibition," says "E. K." I have frequently urged this point, for nothing is so fatal to the success of a show as bare boards. That the large battalions should sweep these boards is an evil, and various are the plans that have been adopted to prevent this. Bracketing classes together and permitting entry in one only is useful, but I recollect a show in which this rule existed, but the brackets having been omitted, the big battalions swept the boards.

The National Rose Society has gone a step further and adopted restrictions as to numbers of plants, and certainly something of the kind might be done for our autumn beauty, but the success of this plan hangs largely on the good faith of exhibitors. Have I any right to say this? I am forced to it by the fact that Mr. Lindsell, doubtless for sufficient reasons, desires to mark in Rose competitions what an amateur should be, and if there is doubt on the one score there is, almost as a matter of certainty, a shadow over the other. Is there any guarantee that the numbers are not exceeded? Mr. Grahame's suggestion is useful; but do not all entry forms contain some sort of statement of the kind already?

It is certain that there are amateurs and amateurs. There are those who, with ample means, employ continually first-class professional gardeners, in whose hands they entrust their stock, and leave their gardeners in all things to act as they think best. They are amateurs as far as the explanation of the word goes in this sense, that they do not sell plants, or blooms, or buds—that is, they do not profess to do so. Still, I recollect well a friend of mine exhibiting, and being offered by the gardener of another amateur a large sum for one special plant in the collection, which my friend declined. Had he yielded, would he have ceased to be an amateur? What is an amateur to do with a surplus stock of plants? It is most difficult to draw the line. Such a rule may suit for Roses and Chrysanthemums, but seems to me rather to fail for higher priced plants.

Then, again, there is the amateur who does not keep a regular gardener, but who has every week a professional gardener coming for a day and overhauling everything, directing here, and possibly arranging the soils and potting the plants.

Again, there is still another sort of amateur. He or she does not dig the ground, but possibly has an eye on the process while it is performed. He picks up every wrinkle that comes across his path; he superintends the planting of his trees, prunes them with his own hands, buds his own stocks (if his back has not become unbendable), makes his own cuttings, pots and repots his plants, orders the quality of soil; in fact, the whole daily routine of his garden is under his own eye. This is the man, to my thinking, who is the true amateur. At the same time it is evident that he enters the lists under greater difficulties than the other classes of amateur.

Will it ever become general that the time for the judges to commence their labours shall be rigidly observed and carried out? It ought to be. It is a tax on the man who comes early to the show that his exhibits, especially if consisting of cut flowers, should have one hour more of a hot tent than the man who arrives late. It is an eye-opener given to the wrong person. This is not only unfair to competitors, but it is unjust to the judges. They, poor men, huddle together, anxious to be at work and to get finished before visitors hustle them about, or perhaps whilst busy deciding some knotty point an officious wheel-chairman brings the handle of his vehicle into their back.

"Nothing succeeds like success." True enough; but we hear of the success—do we hear of the failures? Shrewsbury "E. K." quotes, and mentions that "Substantial prizes are scented from far;" but there is another side to the shield. I exhibited as largely as I could at a Rose show started many years ago in a neighbouring town. It was held in the large room of one of the hotels. It was successful. The following year, still keeping in a comparatively small way, they tried outdoor tents. In two or three years they were going to carry all before them. They came out with a grand prize list, and called themselves the name of the town and a great division of England Rose show, and they offered freely "substantial prizes"—I think £15 was the first prize. Well, it was the old story of the rocket and the stick. The latter never rose again! It takes a large number of visitors to make up for "substantial prizes," and these are not always forthcoming in our fickle climate.

As regards cups and prizes of that character they are all very well at first, but the repetition becomes monotonous; moreover, "things are not what they seem." I was the fortunate (?) possessor of a silver cup on one occasion. It represented £2, and was handed to me engraved. It was plated! having only this advantage, that a burglar would not have encumbered himself with it had he been on evil deeds intent. Some of the articles offered as prizes by tradesmen out of a desire to help the society often prove white elephants to the winner, and it seems better to offer any article to the value of so many shillings, or to give the winner the option of taking so much less in coin. Something of this kind has been done, I believe, in poultry exhibitions. Personally, I have had my share of these white elephants.

"E. K.'s" concluding remarks I entirely agree with. It may take a good man to win a prize, it takes a far better man to lose pleasantly.

Such a friend I have. He had won a champion cup two years in succession, and had only to repeat the performance once more. It was suggested by professional opinions that it would be wisdom to alter the way in which the awarding of this prize was made. I objected that this could not fairly be done if the holder raised the slightest obstacle. The Committee met, the holder waived his claim and left the matter wholly to the Committee. They made a change, and though he ran close he was beaten, and the trophy changed hands. The old regulations would have given him the cup, but not a shade of regret clouded his countenance, and yet he had never won many cups. On the other hand, I had another old exhibiting friend. We were often showing in the same classes; if he was beaten, a thunder cloud was over him; if he won he growled and said there was no competition! Some people are difficult to satisfy.—Y. B. A. Z.

"E. K." (page 514) generally writes so decisively that it is seldom indeed there is any fault to find. I am not intending to do this now, but it appears to me that he somewhat underestimates the chances of the "little man" in the suburban garden against his "lordly neighbour." I do not mean to say that the former can win as many and as valuable prizes as the latter, but I do know that it is possible for the "little man" to defeat his lordly neighbour in some classes.

There are certain conditions that the lordly man cannot rid himself of that the "little" man knows nothing about, and as I will presently show the latter scores an advantage. The gardener in a suburban occupation is very often single-handed, or nearly so, he therefore can carry out all cultural details himself, whereas his "big" neighbour has to depend on others, who perhaps have not had half the experience of our "little" man. Surely now the "big" man is handicapped under such conditions. Speaking from experience, I won the finest silver medal I possess when in a suburban garden, and next door to being single-handed. This was for Grape culture. On that particular occasion my opponents were "lordly neighbours" presiding over ten times the number of acres I had rods, and having a score of men under them where I had the solitary boy. From this I do not mean to assert that I could have entered into competition in several large classes with any chance of success, but by a judicious selection of one class, or it may be two, the "little" man may cope with his rival, and win too. Many times since has my successor defeated "lordly neighbours" with produce from the same vineyard.

Turning now to Chrysanthemums, the same remark applies with similar effect. Seldom indeed do the best blooms come from the garden where the plants are grown by the thousand, as compared with the hundred of the little man. I could point to several persons who have obtained far greater success from their 300 plants than those with 1000 or more this season. The reason is this. The former has the advantage of a thorough training in the art, and a strict observance to the necessary details. The true lover of his plants will during the summer spend several hours of his leisure time daily carrying out the many details required. I am not acquainted with a single successful exhibitor who does not do this. Those whom I know act on the reverse principle are generally found low down in the prize list.

"E. K." does not appear to favour the "ubiquitous cup," as he suggests "something more useful." Well, this is purely a matter of opinion. Speaking, however, from experience I consider cups are the best means of making known, not only as individuals, but also societies. I do not regard a prize in the light that some do. I am acquainted with men who prefer a third prize of a few shillings to a first of a medal or a cup. This latter may not commend itself to the "pot hunter" I know, but if such men were to strive for a reputation first I do not think they would be the losers. No form of prize will bring a society into prominence sooner than the offering of a challenge cup—assuming it to be of good value. I do not believe, though, that it is not possible to overdo the cup business.—E. M.

FAILURES IN FRUIT GROWING.

I THINK that "F. R. H. S." in his letter (page 533) has touched on the secret of the inability of our home fruit growers to hold their own against the importation of foreign produce. No one who sees the quality of the Apples exposed even on costermongers' barrows, and chiefly coming from abroad, but must contrast them with the curiously mixed and indifferent assortments which are gathered from those venerable and picturesque orchards planted during the youth of our grandparents. It is only within the last generation that the idea of dealing with this subject scientifically has developed. Not that fruit-tree planting has failed to receive the attention of trained minds in the past. The reputation of Herefordshire and Kent is the offspring of the studious forethought of Lord Scudamore and Henry VIII.'s gardener, who two and three centuries ago, acting according to the best light of their times, scattered the then best-known varieties over those smiling districts. What motive influenced them in doing this at a period when communication was so slow we cannot tell. At all events their action was fraught with benefit to succeeding generations, and is an example of that benevolence which "F. R. H. S." so justly extols in his letter.

Even if scientific planting of the best varieties should not result in a great profit to the growers, it would at least keep much money in this country and beautify the aspect of our mother land, in the exaltation of which every good citizen should take a pride. Trees, as we see in timber trees, have virtues apart from any special usefulness, while fruit trees, as we note in Japan and Germany, add immensely to the beauty of the

landscape in the springtime. In the present depressed condition of agriculture land is not so valuable that orchards are made to give place to cereals, and if there are to be orchards, surely it is better that they should be of the newest and most efficient type for combating the foreign growers rather than of the prevailing effete sort.

It seems to me that the advice of Mr. Blackmore is not only mistaken but unpatriotic. Clearly one characteristic of foreign fruit is that it comes from newly settled countries where everything is young. These young communities, being unlike us disembarassed of the debris of past ideas and of past things, appropriate our best knowledge and apply it practically and promptly while we stand still thinking. The love of preserving old ruins and picturesque old orchards is all very well when no object is to be gained by their removal. When, however, they become mere ornamental encumbrances it is better that they should be out of the way, like the barren Fig tree, and their place occupied by some more useful successors.—SPES IN FUTURO.

ALAS! that the logic of "F. R. H. S." (page 533) is not equal to his goodwill and eloquence! He argues that I am a traitor to my western friends because I warn them against such a tilt at the windmills as I have long pursued. Convinced by the evidence of forty years, and the loss of half as many thousand pounds, that fruit-growing was a very poor investment, am I cruel for telling the truth, and would it be kinder to conceal it? But in lieu of these personal reflections, oh! worthy fruit-chanters, why not grapple with my facts? Because it is easier to gird at me. Well, gird away! When you have sunk your fortunes, and spent all the best years of your lives in the service of Pomona, as I have done, may you have better reward for your faith! All I would beg is, just do it yourselves, instead of tickling others with the long pen, and a pen that brings gold to the ungalled palm. But when a man has done the very reverse, when he has cast away by the spade all the produce of his pen, at least permit him to raise a friendly voice to others in like danger. If your correspondent will refer to my article, "Orchard," in the last edition of Chambers' "Cyclopædia," he will find that I have done, under limitations, as nearly as may be what he suggests.—R. D. BLACKMORE.

THE DEVON AND EXETER HORTICULTURAL SOCIETY: ITS HISTORY AND DEVELOPMENT.

[Abridged from a Paper read by Mr. F. W. PARKER at a meeting of the Gardeners' Mutual Improvement Society held in the Guildhall, Exeter.]

I BELIEVE it is generally known that the Devon and Exeter Horticultural Society was first started in the year 1829, and has held an unbroken series of exhibitions up to the present day, a position held by very few societies in the United Kingdom. Regarding the standing of the Society in comparison with others who are older, I have been able to obtain some information which I know will be of interest. I was until now under the impression that we were the second in regard to age in England, of course I speak of existing societies, but thanks to Mr. Wm. Dean of Birmingham, who is well known in gardening circles, and to whom I was advised to apply to by a gentleman connected with the *Journal of Horticulture*, I find I have been labouring under an error, and I am now enabled to let some light on the scene in this respect. Mr. Dean tells me that the oldest existing society is that of the Ancient Society of York Florists, established in 1760; then comes the Horticultural Society of London in 1804, and which was incorporated by Royal Charter in 1809, and now known as the Royal Horticultural Society; the Caledonian Society dates from 1809, and is now known as the Royal Caledonian Horticultural Society, incorporated in 1824, the latter Society hold the exhibitions in Edinburgh; Aylesbury Horticultural Society in 1822, Newcastle-on-Tyne 1824, and then comes the Devon and Exeter Horticultural Society in 1829, and the same year Buckingham Horticultural Society is said to have been started together with the Birmingham Horticultural and Botanical Society. Mr. Dean also tells me that he knows that the Bath Horticultural Society was existing in 1830, whether it was founded then he is unable to say, but I hardly think this is correct, as I see from their schedule they say "established in 1855." Taunton Society was founded in 1864, so as far as I have been able to gather we rank in conjunction with the other two Societies I named as the sixth oldest in the United Kingdom. Such a record I feel all will agree with me in saying is something to be proud of. Old institutions in these days are very much decried, but I think we all have a little weakness when we can point to anything with which we are connected with or have an interest in, to say with an air of pride how long standing it has had. We can, however, say truthfully, I think, that we are at any rate the oldest Society in the West of England. I should, perhaps, say that there was a Society called the Royal Horticultural Society in Cornwall, formulated in 1821, but as far as I know of it is not in existence at the present time.

I will now turn to a branch of the work of this Society, and speak on some of the various exhibitions which have been held under its auspices. It has, of course, had a varied, and also, we may say, a chequered career since its formation, and it has not only held shows for matters purely of an horticultural kind, but has also indulged in shows for dogs, poultry, and other things. For a great part of what I am now going to speak of I have taken from the old reports and the various books which are the property of the Society. Through the thoughtfulness of some of the past officials, the Society has in its possession a

complete list of reports from 1830 until the year 1861, but from that date up to 1887 I am sorry to say they have not been preserved, and I therefore been obliged to pick up what information I could from various means for the remainder of the time.

I have been unable to find how the Society was originally started, nor have I any particulars of the first year's exhibitions; but in the second year (1830) I am enabled to inform all there were four exhibitions held in May, July, September, and November, the latter being for fruit only; but the receipts for admission to all four shows amounted to only £82 2s. 6d.—not a very encouraging sum I should say; but I observe that they finished with a balance on the right side of over £15 that year. In 1831 I notice the subscriptions received were over £300, nearly £100 more than that of the previous year.

With the commencement of the Society considerable attention seems to have been paid to form a library in connection thereto, and they appear to have had a good number of books on various subjects relating to gardening and botany, but in the majority of the reports of which I have read there did not seem to be much demand for the use of them. I believe some of the books were very valuable. The Society eventually being in financial difficulties, sold what books that were left for £30, as I understand they had been lying idle for many years. The books were stored in the early days with a Mr. Spreat, a name some of the older members may remember.

In the year 1832 the shows were still held, notwithstanding that cholera was very prevalent at that time. In their report mention is made of that dreadful scourge, and their reason for holding the shows was they considered that if they were discontinued it would increase the alarm then felt, but of course they suffered as regards the receipts. In that year a Mr. Thos. Jackson was appointed joint Secretary with Mr. Gidley. I also notice in an early report mention is made of the desirability of landowners granting allotments. I mention this fact, not that I presume the question of allotments has been more generally granted through the instrumentality of this Society, but as a witness that cottagers were then represented at the exhibitions.

Among many remarks I have come across there is one, in which, speaking of the state of the finances it says "the balance was of no great amount, nor did the Committee think it ought to be, as they thought if there was a big balance in hand the Society could not be doing its duty in providing for the objects it was meant for," and I could not help thinking that that was rather a novel way to explain away an unfavourable balance sheet. I also gather that the awards made by judges even in those primitive days did not always give satisfaction. We all know some competitors occasionally grumble, and it would therefore seem it is not a novelty, as fifty years ago it would appear that everyone could not obtain prizes; there are in every stage of life men who cannot take a defeating comfortably, and I have in my mind's eye a certain gentleman who stands in the first rank as an exhibitor who was very angry at not getting the first prize for which he made up his mind he was sure to win. I remember he was very wroth, and intimated that the judges did not know their business.

Prizes were offered by the Society for essays on horticultural matters or "dissertations," as they were called, and I observe two of the suggested essays were on "insects injurious and destructive to fruits, flowers, and vegetables, with the best means of preventing and destroying them," and also "for the best original plan for the formation of a flower garden," two very good subjects I should think even for its members to take up now; but so far as I can gather did not meet with any success. It is a pleasing feature to see your flourishing Society and to think that you have met with so much success in this way, and I cannot help thinking that you have attained that what the members of the Devon and Exeter Horticultural Society were anxious to do fifty years ago. But after writing this, a friend of mine, who has had a long connection with gardening, tells me that Mr. Gray did for several years have gardeners to meet him in his office to read papers on various subjects, and he has told me he has heard some excellent essays read then. I also learnt that these meetings were held once a month, and as a part of the programme refreshments in the form of tea and coffee were supplied by the Hon. Secretary. These meetings were always held in the evening when there was a full moon. This latter remark rather puzzled me at first, as I hardly saw the connection between a full moon and these meetings; but I was soon enlightened on this point when he informed me that the object of holding the meetings when the moon was at full was for those who had to walk home to any distance, such as my informant had to do. The time I am referring to must be about thirty years ago. This is only one of the many valuable services rendered by the then secretary. Up to 1842 the exhibitions were held in the Subscription Rooms, now, I believe, the Royal Public Rooms. I am afraid some little difficulty would be found to find the necessary space for the exhibits if we had to revert to them now.

I was much astonished in going through the reports in early history to notice how admirably they were written. One could easily see that for many years they were drawn up by one who had a great love of flowers and other horticultural subjects. The first exhibition held on Northernhay was in the year 1846, and two tents were purchased for £140, the sizes being 100 feet by 30 feet, and the other a bell tent 20 feet in diameter. In the year following another tent was bought, for which they paid £58 10s., and I believe these tents are the same as what we at present possess, at any rate I have been unable to find any mention to the contrary; and the Committee in speaking of the first show held there say that Northernhay had never been seen to such an advantage, not only as regards a horticultural point of view, and

the natural graces of that beautiful spot, but also from the brilliant attendance which was to be found there. I have often been told that our shows are not easily surpassed as regards the pleasing appearance it has when it is held there. In the year 1847 mention is made that the declaration of the Crimean War was on the 22nd May, and this was the same day as the spring show. This, of course, affected the takings of that exhibition, and another thing of note was that at the June exhibition in that year the total amount taken at the doors realised the small sum of £4, owing to the inclement weather.

The Royal Agricultural Society patronised Exeter in 1850, and the Devon and Exeter Society held the summer show on two of the days it was here, and evidently made a very good thing out of it, as over £622 were taken in gate money alone. The show was held on the lawn fronting Mount Radford House, by the kind permission of the Rev. C. R. Roper. In the year 1852, having some £380 to the good, another line was taken in conjunction with one of the shows, and that was an exhibition for poultry, and which seemed to have had considerable success. These shows were afterwards kept for many years.

One of the striking events in the whole of its history was that of the spring show in 1855 being held on the same day as was appointed for the "peace rejoicings" after the Crimean War, this being the 25th May. The Committee tried their utmost to help the commemoration of that memorable day, and readily met the civil authorities by lowering their prices to induce the people to visit the show. This privilege seems to have been greatly appreciated, and a large number attended. It is a most curious coincidence that this Society should have held shows on the day of declaration of war, as I have mentioned before, and again on the day of declaration of peace rejoicings.

Of some of Mr. Gray's valuable services I have spoken of before, but I think it will be interesting to know of the only two life members now living he is one, and I gather from a report Mr. Gray was elected as such in 1859 for the assistance he had then rendered for a period of nearly twenty years. Mr. Gray was appointed Assistant Secretary in 1838, Mr. John Dunstan being the Hon. Sec.; the latter resigned in 1841, and Mr. Gray was appointed in his stead. I think I am right in saying that Mr. Gray has done more for this organisation than anyone who has had connection with it, and I am confident I shall not be doing an injustice to the many others who have given so much valuable assistance in the years that have past in saying this; and while speaking on this topic I feel I must also add the well-known name of the late Rev. John Huyshe. One cannot go through the papers such as I have done without seeing the great interest he took in all gardening circles, and of the value he was to this Society for a very long period. There is a long list of other gentlemen who have rendered inestimable services at various times.

It would seem that in 1860 the members of this Society were in the same position as we are just now as regards the summer show, lack of support in the attendance, and they then decided to give a ball and concert in connection therewith, which was done, and very successfully, as the takings for the two days and for the ball and concert amounted to the splendid sum of £500. I am afraid it would be an impossibility to do such a thing now with the great number of attractions and amusements of this class, but one cannot help feeling in a Society like ours, with such a long record, that history very often repeats itself, and what we suffer now is but a repetition of that in time past. Exhibitions of poultry, dogs, cats, and rabbits were also held at this period. In 1874 the Society had a display of fireworks. The exhibition and fireworks were held at Mr. Follett's premises, which is, I believe, now the Polstoe Park Estate, and no less a sum than £90 was taken for the fireworks alone.

With respect to the prizes awarded in the early years of the Society it was customary to give only first prizes, and I observe in 1829 the highest prize awarded was £2 2s., and this was offered for the best Pine Apple. I hardly know if a Pine Apple was of great merit at that time to be so singled out. I observe amongst some novelties were classes for wine, made from Grapes grown in the open; for the best specimen of wine, made from any other fruit or vegetable of English growth; also for Devonshire cider, and no doubt these classes proved interesting. In regard to collections of stove and greenhouse plants the prizes, I am afraid, would be considered rather inadequate now, as the first prize would be 1 guinea. For collections of vegetables of twenty sorts the prize was £1. I am speaking of some fifty years back, when these things had not attained the height of perfection as at present. I was interested to find that at the Committee meetings it was usual to award prizes to anything of merit grown by the usual exhibitors, and for years this rule was kept up, and a number of prizes would seem to have been awarded.

As the Society progressed prizes were of a considerable higher value, and at the July show, 1850, this being the date of the Royal Agricultural Show, over £50 were offered for groups of plants alone, the Society being at that time very well off, having over £300 in hand. I see some who are prizetakers now are the same as those who exhibited at the first show. In the first records I have seen I notice the names of Sir T. D. Acland, Bart., Messrs. C. G. Sclater, J. Gidley, Lucombe & Co., Sir S. H. Northcote, Mr. Veitch, Divett, Lord Rolle, Sir L. V. Palk, Lord Clifford, J. Milford, Mr. Kekewich, Sir J. Kennaway, and many others too numerous to mention; and we all know that not a few of these names are still to be found as our warm supporters.

Nurserymen of Exeter have always been well-known men in the country, and we have always been well treated by them with good displays, and notably among them I noticed mentioned Messrs. Veitch, Sclater, Pince & Co., afterwards Lucombe, Pince & Co., and the reports have spoken of them in the highest terms as regards the collections exhibited.

In the year 1878 the Society was at a very low ebb in financial matters, and at a general meeting in that year the sum of £140 then standing to their credit on deposit had to be withdrawn to discharge their liabilities. This sum was the amount of the life subscriptions given by those who had become life members. I notice, according to the present rules life members are donors of ten guineas and upwards, but it would seem that there has not been any appointed for many years. In July, 1878, the Society lost the valuable services of Mr. Gray in his capacity of Hon. Sec., of which he had been for a period of forty years, and I believe I am correct in saying he is the oldest member of the Society now living as I gather; but I am pleased to say at the present day he still takes a deep interest in our welfare. Upon Mr. Spray's resignation Mr. C. B. Sanders was appointed Hon. Sec. In 1879 Mr. T. M. Snow was appointed Hon. Treasurer in lieu of the Rev. John Huyshe, resigned. In 1879 the Bath and West of England Agricultural Society came to Exeter, and a show was held at Mount Radford House in the same week, but was not a success; it was kept open for two days, but the weather was very unfavourable, which no doubt accounted for its non-success.

In 1883 the dissatisfaction which seems to have been brewing for a long time against the manner of conducting the Society came to a climax. Prior to this year no one was allowed to be a subscriber unless he paid a guinea, and gardeners were not permitted on the Committee, and the gardeners seemed to have felt that they were not treated in the manner as they should be by the Society, and there appeared to have been a lack of sympathy towards them. Steps were taken to form another Society, but fortunately this was not carried out, as these threats seemed to have forced the hands of the Society, and a reorganisation of it was made upon the more broader basis as it now stands, and which I feel sure has never been regretted, as there is no doubt the gardening members of the Committee are some of its most valued members. Mr. C. B. Sanders resigned in 1883, and Mr. C. J. K. Roberts was elected Hon. Sec.

I will now here give a résumé of the various Chrysanthemum shows held under the Society's auspices, and I hope to prove that this exhibition was started earlier than many persons think. The first Chrysanthemum show was that held on November 19th, 1850, a period of forty-four years ago. It was held at the Royal Public Rooms and combined with it Apples and Pears, similar to what is now held. There were only thirteen classes all told, of which seven were for Chrysanthemums. This innovation did not seem to take, as the admission money was only £3 11s., I believe the lowest record taking for us. Another was held in 1854 and again in 1856, when the latter was even on a smaller scale, there being only eleven classes, five of which being for Chrysanthemums, but not being patronised sufficiently it was then decided to repeat the same only every third or fourth year. Another was held in 1859 on somewhat of a larger scale, and again in 1860, but from the latter date to 1871 I have no record to show that any was held. From 1871 to 1881 none was certainly held, but in that year (1881) it was again started, and I presume I am right in saying that this one was the real forerunner of our present autumn exhibitions. It was repeated in 1882, and then discontinued until 1884, when an exhibition was held for Apples and Pears, but I cannot find any mention of Chrysanthemums; this was an extra show held by some of the gardeners who usually exhibited, and was given without prizes. Thanks to their energy and good feeling about £13 were added to the funds, which were at that time very low.

The spring show in 1884 was held on two of the days on which the Devon County Agricultural Association visited Exeter, and it was held in a field at the top of Tiverton Road, facing the show, but resulted in a loss, a contrast to some of the successes which had favoured us when combined with the visits of such societies.

In the year 1885 the Society kept their autumn exhibition open for two days, but unfortunately the purpose for which it was intended was not attained, as the receipts on the second day did not even meet the expenses. The first evening fête held under the auspices of the Society, and which has been kept up ever since, was held in 1886, and proved a great success, over £85 being taken at the fête alone. I am sorry to say we do not realise that sum now.

In 1887 Mr. Roberts resigned his office as Hon. Secretary, with much regret by the members, as he had proved himself a most valuable officer to them, and through his endeavours the Society had been put on a different position from what it was when he took office. Mr. Cann, the present Secretary, was appointed on his resignation. Through the kindness of Mr. Hope, one of the Secretaries, I find there was another Society started in 1847, called "The Exeter Florists' Society," and exhibitions were held once a year exclusively for certain florists' plants. I have been unable to obtain any information as to the success it attained, nor can I say why it was promoted, nor how long it lived.

I now purpose speaking briefly upon its development or growth, or rather, I should say, upon its present position, as I feel I have not the experience to criticise the various shows held for any period with authority. Many exhibitors have told me that for quality we are surpassed by very few. I have also been told that it is only in the numbers of groups and specimen plants we fall off with that of larger societies. I suppose it is incumbent for me to say something on our future course as regards the summer shows, though I can say but very little, as it is hardly within my province to pass any opinion. There is an opinion that a change is good, and that we should revert to a Rose show next year. Whether it will be held or not I cannot say, but no doubt we shall shortly know. It meets with favour with many people, and if combined with other things will be acceptable.



FRUIT FORCING.

Vines.—*Early Forced in Pots.*—The chief art in forcing Vines in pots is maintaining a steady progress, and giving effect to the crop existing in embryo by judicious feeding and management. Where fermenting material is used in the pits, and the pots are placed on brick pedestals, frequent additions of fresh sweetened leaves and litter can and should be made as the heat declines, keeping the heat about the pots at between 70° and 75°. The temperature having been gradually raised, after the buds commenced swelling, from 55°, so as to have it 60° to 65° at night by the time they are coming into leaf, and an advance of 5° to 10° allowed by day, the Vines will be progressing steadily and be able to appropriate nourishment, provided care has been taken to admit a little air at 70°, and close early with sun heat. The leaves will attain considerable consistence under those conditions, and on their conformation their elaborative power chiefly depends. Dishud as soon as the bunches can be detected, reserving the most promising, but not burdening the Vines with many more than will be required for the crop. Stop the shoots about two joints beyond the bunches. The laterals or growths on the current year's wood may be removed up to the bunches, and those allowed to extend should be above the fruit, permitting such extension as the space admits without crowding, as it is important that the foliage retained have full exposure to light for the due performance of its functions. A couple or three joints of lateral extensions are generally all that can be allowed Vines in pots, and this is quite sufficient for the due perfecting of the crop.

With fermenting materials a genial warmth and moisture will be constantly evolved, with a certain amount of ammonia, which, whether assimilated or not, is certainly good for the Vines and inimical to insects. The moisture needed artificially under such conditions will be considerably lessened, yet the paths and walls should be sprinkled in the morning and afternoon, also in breezy bright weather just before dusk in the evening. Evaporation troughs (if any) should be filled with weak guano water, say 1 lb. to 20 gallons, always straining it, and where there are not such means of modifying the dry artificial heat and fermenting materials are not used, the floors may be sprinkled with the guano water two or three times a week after closing the house or early in the afternoon.

Early Forced House.—The buds of Vines started last month, or those to which fire heat has been applied from the commencement of this, will now show signs of swelling, when raise the temperature 2° or 3° in the course of a few days, not exceeding 60° to 65° by artificial means until the Vines come into leaf. In forcing against time it is necessary to induce growth by a brisk moist heat of 70° to 75°, continuing this until the buds have broken and the Vines fairly started growing, when the temperature should be allowed to fall to 60° to 65° at night, with 5° to 10° rise in the daytime, it being important whilst the foliage is being made that a moderate temperature be employed, and air admitted on all favourable occasions, in order to secure short-jointed sturdy wood and stout, well-developed foliage. Such practice, however, must only be exercised where the Vines are thoroughly established, and have had a good rest. Young Vines require more heat than those that have been regularly forced to start them, and they will need the canes brought down to a horizontal position to insure their breaking regularly. The inside borders must be brought into a proper state of moisture by the application of tepid water or liquid manure when the Vines are weakly. Avoid, however, making the soil sodden, as the Vines will not root well in such, but there will possibly follow a lankness of growth and looseness of bunch which usually culminates in shanking. The outside border should have such protection as necessary to prevent the soil becoming frozen. Where fermenting materials are employed they must not be allowed to become cool, but should have fresh material added and spent removed as required, so as to maintain a genial warmth, otherwise chill will be productive of more harm than the material rightly used confers benefit.

Midseason Houses.—Push forward the pruning of the Vines as they become cleared of the Grapes, for there is nothing like a long and complete rest for Vines, which early pruning in a great measure secures. The Vines ought to be dressed, removing the old loose bark, for it does nothing but harbour vermin, yet not going to the opposite extreme of peeling and scraping into the quick or live bark. Wash the rods with a softsoapy solution, 4 ozs. to a gallon of water being strong enough, or with an insecticide properly diluted. Such rightly administered—that is, with a stiffish brush, and every angle, crevice, and hole reached into thoroughly, taking care not to damage the buds, are all that is required. The house also should be thoroughly cleansed, for it is essential that nothing be left undone which in the coming season is of consequence to the health of the Vines. All insects or eggs now cleared away mean the prevention of new colonies in the coming year on the Vines, from which they derive their subsistence, and it is far better to prevent than have to cure diseases. The loose inert soil should be removed and fresh loam supplied, with an admixture of about one-fourth of well decayed manure, a sprinkling of charcoal and old mortar rubbish being incorporated with the loam and manure, then a

good handful per square yard of the advertised fertilisers sprinkled on the top will put food into the soil ready for the Vine roots to lay hold of in the next season of growth. Liquid manure may be usefully given when the soil is dry or even moist, provided always that the soil is not made sodden. Keep the houses cool and dry until the time arrives for starting. If they must be used for plants keep the temperature at 40° to 45° by artificial means. More heat interferes with the resting of the Vines, and in a mean temperature of 50° they start into growth.

Late Grapes.—The bunches should be examined at least twice a week for decayed berries, and the house kept as cool and dry as consistent with the safety and preservation of the fruit. With the Grapes thoroughly finished, and the Vines leafless, a temperature of 50° is suitable until the time arrives for bottling. Any degree much below that is liable to cause mould and decay, and fire heat, especially at night, will undoubtedly cause the berries to shrivel immediately after the fall of the foliage. Some Grapes improve in quality after this is gone, such as Gros Colman, which requires the most time on the Vines, while some soon pass into a red colour and shrivelled condition, especially Mrs. Pince, after the leaves are gone. No further time should be lost in getting the Grape-room ready for the stock of keeping Grapes, which, as a rule, would be cleared off the Vines not later than the first week in January, expelling damp from it by the needful firing and ventilation. The Grapes keep better in a suitable room than on the Vines exposed to light, and they lose very little more weight cut than hanging, whilst the losses from decay are reduced to a minimum. Bottling affords relief to the Vines, insuring that perfect rest so essential to their well-doing. It also admits of the Vines being started earlier in the spring, and this gives the kinds that require a long time of growth the full benefit of the summer's sun—its light and its warmth—when utilised by early closing, so that the Grapes may be ripened perfectly before September is out.

Cucumbers.—The night temperature should be kept steady at 60° to 65°, and the day at 70° to 75°, being very careful in the admission of air, though a little should be given to clear the glass of condensed moisture and admit all the light possible. Though a change of air is desirable it is advisable to secure it without draughts and unduly lowering the temperature, this being often done by frequently opening the door in severe weather, which should be obviated by having the thermometer so fixed that it can be seen from the outside. A mat suspended over the door is also useful in preventing a rush of air outwards and consequent inrush of cold air when the door is opened. Remove all superfluous fruits from the plants immediately they show, also staminate flowers and tendrils, and tie up all shoots to the trellis as they require it. Encourage vigorous growth, on which stopping should be moderately practised, otherwise very little stopping will be required. Should mildew appear, dust the affected parts with flowers of sulphur, and maintain a somewhat dry atmosphere. For red spider and white fly brush the hot-water pipes with a thin cream formed of skim milk and sulphur. If green or black aphides attack the plants dust with tobacco powder, or if fumigation be resorted to, it must be done with great care and judgment, it being advisable to fumigate in the evening and repeat in the morning about daybreak.

Prepare some Oak or Beech leaves with a third of stable manure by throwing them into a heap and damping if necessary, throwing the material when it has become warmed through outside to inside, and watering if necessary, so as to secure an even and thorough fermentation of the whole, with which a hotbed is to be made at the end of this month or beginning of the new year to raise Cucumber plants from seed, also Melons, and subsequently to make beds for planting them in. The better the materials are sweetened, but not overmuch wetted and decayed, the more satisfactory heating and the better results in the quickest time will follow.

PLANT HOUSES.

Panicum variegatum.—Cuttings of these may be inserted thickly together in 3-inch pots and placed in handlights in a warm house. They will soon be rooted and ready for decorative purposes early in the season. Few plants form a neater or more effective margin to a house of Palms or other foliage plants than these; a few plants dotted here and there are not particularly pleasing, but a good row adds materially to the appearance of the structure.

Gardenias.—Young plants that were rooted in thumb pots some time ago should be placed at once into 3-inch pots. They will continue to grow slowly, and will be ready for 5-inch pots early in the season. Keep the young plants in a temperature of 60° to 65°. Pinch the points out of the shoots to induce them to branch.

Veronica Andersoni variegata.—For large conservatories where flowering plants do not do well this will be found a useful plant during the winter months. Soft growing shoots will root freely now if inserted in sandy soil and placed in handlights in a heated structure. In one season they will grow into bushy plants if repotted, as they need root room, and their shoots are pinched occasionally. They are also very effective grown as small standards with legs about 18 inches high. They grow into decorative plants quicker than *Euonymus latifolia* variegata, and are nearly as effective amongst other plants.

Libonias.—Where good plants of these are appreciated 1 foot high and as much through them, cuttings should be rooted early. If one or two plants are cut over now and placed into heat they will soon produce good cuttings, which should be inserted and rooted at once. If potted on as they need root room, and the shoots pinched occasionally until the plants are placed into 5 and 6-inch pots, they will be fine bushes by autumn, and if well ripened they will flower profusely.

Solanums.—To do these well cuttings should be rooted early. To obtain these, introduce a plant or two that has not berried well into heat to induce growth. Soft-growing ends should be taken off and inserted into sandy soil, and potted singly as soon as they are rooted. The shoots should be pinched from time to time, and the plants repotted until they are placed into 5 or 6-inch. Grow them inside in an intermediate temperature until May, then gradually harden and place them in frames.

Grevillea robusta.—Plants that have become damaged may be cut close back to the surface of the soil. If placed in a temperature of 50° they will soon break again into growth, and make good plants long before those raised from seed. They can be grown on with two or three shoots if preferred to those with a single stem. The latter are best for most purposes, and if the roots are carefully reduced after they have broken into growth and the plants repotted, they will grow rapidly after they are once started. Plants of *Aralia Sieboldi* that have become bare may be subjected to the same treatment, while the head may be taken off where the wood is soft, and re-rooted under a bell-glass in heat.

THE BEE-KEEPER.

APIARIAN NOTES.

THE LANARKSHIRE STORIFYING HIVE.

(Continued from page 552.)

THE flight board has a pivot on the end, the edge being rounded as well as the pivot next the rebate (fig. 94) so as to turn easily within a wire staple driven in at an angle on the upper edge of the stand. Or to turn in a "bosshead" as shown at fig. 95,

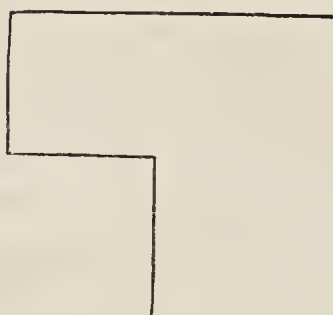


FIG. 94.



FIG. 95.

the long end to be on the hive. Instead of rebating the flight board, it is a better plan after making room for the "bosshead" with a saw the proper depth to nail a fillet of wood on the pivot and the whole length of flight board. The ladder may be attached to the former with backflap hinges or staples, two forming a hinge; four are required.

I omitted to mention that in order to prevent the mouthpiece shaking out when in transit, it is secured by a piece of wire bent as in fig. 96, about 3 inches long, and fixed with staples so as to

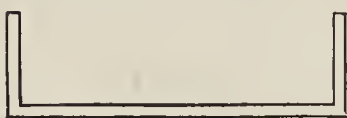


FIG. 96.



FIG. 97.

form a slip bolt, and at a considerable angle to prevent it slipping back.

The pedestal is made from the wood of crates in which honey jars come. The pieces are 1 foot 10 inches long by 4 inches broad and seven-eighths of an inch thick. They are nailed at the corners to form a square frame on which the hive is set after being thoroughly tarred. The ground being levelled a piece of tarred and limed felt the size of the pedestal is laid under it, and the hive is

then stood in position. To make it rigid and secure against storms hooping may be fixed with brass screens to the feet or sides of the hive. The hive being attached to a pedestal with a broad base enables it to resist the most violent storms. "How am I to prevent insects entering the hive?" some persons may ask. This is easily accomplished. Raise the ladder in front of the flight board from the ground with a cord or wire. Place the feet of the hive in saucers containing some sort of liquid distasteful to the insects, then have a saucer at each side with a "pap" or thimble in the centre of it, and a hole through the centre of the "pap." Bend the hoopings to suitable angles, put round-headed heavy brass screws through the iron and saucers and sides of the hive. To obviate lifting the screws notch the iron as shown in fig. 97, and a slight tap with a hammer will either make firm or slacken them.—A LANARKSHIRE BEE-KEEPER.

(To be concluded.)

NOTES ON HIVES.

THE moveable comb or frame hive is the one chiefly used by advanced bee-keepers in this country, and since its introduction great strides have been made in the production of honey. The advantage they have over the old system of fixed combs is that they can be removed from the hive without injury, the honey extracted without damaging the combs, and be replaced in the hive to be again filled with honey, thus effecting an increased harvest of honey. By using full sheets of wax foundation much valuable time is saved, as the bees will consume a considerable amount of honey before they fill a hive with natural combs, some authorities placing it as high as 20 lbs. of honey for every pound of wax used in building the combs. I think this is too high an estimate, but the amount consumed must be very high.

It is surprising what work a strong swarm will do in a short time if the weather is favourable. I had an experience of this in the Jubilee year. Being from home on Jubilee day, and not returning until evening, I found a strong swarm had come off during my absence, but had been hived into a straw skep. It was then too late to find out which hive they had come from, as I was anxious to obtain honey and not an increase of stock, and having no comb on hand, I at once fixed some narrow strips of foundation to ten standard frames, and shook the bees from the straw skep into the frame hive, covered them and left them. Three days afterwards I put on a crate of twenty-one sections. A fortnight later, noticing the bees bagging out at the entrance of hive, I examined the sections and found them all full and sealed. The frames, too, were all filled with beautiful white combs. This stock subsequently filled another crate of sections, but did not quite finish them off, thus showing what a strong swarm will do in a short time providing the weather is favourable during the honey flow. Had the swarm been put on full sheets of foundation, or on fully drawn out combs, they would doubtless have gathered much more honey in the time.

I always use the thin super foundation for brood combs, and have never had any trouble with them breaking down. It is economy to use them, as there are about fifteen sheets to the pound; whereas by using the thick foundation, which is usually recommended for the purpose, there will be only from five to seven sheets to the pound, different makers varying them somewhat in thickness. It is better for a beginner to at first use wired foundation, which can be obtained from any dealer in bee appliances. In using full sheets of thin foundation for brood combs care is required to prevent "sagging," for unless the combs hang straight in the hive they will not be interchangeable, which is so necessary under this system of management. It is better to use old combs alternately with the foundation, or the beginner may have a breakdown, and the bees and foundation will be a confused mass on the floor board. I have sometimes found it an advantage when an extra strong natural swarm has come off to put three or four frames in the middle of the hive with only narrow strips of foundation to act as guide combs. The bees will cluster on these, and start comb-building at once, storing honey in the outside frames of fully drawn-out combs that were given to them at the same time. I always keep a stock of frames on hand for an emergency. I shall return to the subject of hives in my next notes.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

W. Cutbush & Son, Highgate Nurseries, London.—*Herbaceous and Bulbous Plants; Dahlias, Carnations and Begonias.*

J. R. Pearson & Sons, Chilwell Nurseries, Beeston, Notts.—*Chrysanthemums.*

Sutton & Sons, Reading.—*Amateurs' Guide in Horticulture for 1895.*

E. Webb & Sons, Wordsley, Stourbridge.—*Spring Catalogue for 1895.*



All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Chrysanthemums with Blind Centres (*J. T.*).—You give no information as to whether the defective blooms are from early or late formed buds, or whether you refer to the Japanese or incurved section. If the buds are "taken" too early, the centre of the bloom often comes hard and scaly. Instead of the florets unfolding kindly they do not get beyond the calyx state of development. There is art in asking questions, and the better it is cultivated the better the information elicited.

Apple Small's Admirable (*Reader*).—The above is no doubt the variety to which you refer. It is a very useful, hardy Apple, and we have often known it to be one of the few to crop well in adverse seasons. The tree is a very free bearer, and suitable for growing in the dwarf open bush form. When the requisite number of branches are formed, which should not be less than a foot apart, the after pruning is best limited to thinning, taking out superfluous growths in summer to prevent overcrowding, not shortening the main or bearing branches. This Apple was raised by Mr. Small of Colnbrook, near Slough. Trees, true to name, can be had from most, if not all, advertisers of fruit trees in our columns.

Laurel Leaves Brownd (*S. T. C.*).—The discolouration seems to be due to the action of some agent acting prejudicially on the tissues. This has certainly been a chemical one, lime being present, as there is an incrustation of calcium on some of the leaves; but the darker blotches give clear indications of cyanogen, which is the substance that gives the prussic acid when Laurel leaves are macerated in water for several hours to obtain the Laurel water sometimes used as an insecticide, though more frequently formerly than now. The young wood does not seem injured, but that does not contain the active principle referred to, except when passing from the immature to the ripened stage, and it is possible that you may find some of the one and two-years-old wood die as well as the leaves, in which case the plants will die down to the thoroughly ripened wood or even roots. The submersion by the floods is quite sufficient to account for the appearance of the leaves.

Tecoma radicans (*H. E. M.*).—Sometimes this climbing plant is pruned in the winter, cutting the young shoots back as may be necessary, but the better plan is to keep the young growths thinly disposed in the summer. They will then mature and produce flowers if trained on a sunny south wall. It is difficult to ascertain when this beautiful deciduous climber was introduced to this country from North America its native place of growth. It was evidently cultivated in this country by Parkinson in 1640, as he has described it minutely, adding, "This never bore flower with mee, nor any other that hath it in our country that I could heare of." From that we may infer it could not have been long and generally cultivated, as the plant blooms freely enough when a few years old and the wood is well ripened. It used to be called *Bignonia radicans*, but was transferred to *Tecoma*, the difference in the genera consisting chiefly in the partition of the fruit. Plants are raised from cuttings and layers in the autumn, and grow luxuriantly in rich soil, but firm growth in firm soil containing chalk is promotive of flowering. It is popularly known as the Ash-leaved Trumpet Flower.

The Costard Apple (*F. B. C.*).—The following quotation from the "Fruit Manual" will give the information you require regarding this Apple:—"The large oblong five-ribbed and five-sided Apple, with a green skin and sometimes a brownish tinge on the side next the sun, an open eye and short stalk, is no doubt synonymous with the Catshead, and this accounts for George Lindley saying they are the same variety. But there are two other varieties of Costard which are undoubtedly distinct, and these are the Herefordshire or Dador Costard and the Gloucestershire Costard, which will be found described under these names. The Costard is one of our oldest English Apples. It is mentioned under the name of 'Poma Costard' in the fruiterers' bills of Edward I. in 1292, at which time it was sold for a shilling a hundred. The true Costard is now rarely to be met with, but at an early period it must have been very extensively grown, for the retailers of it were called Costardmongers, an appellation now transformed into costermongers.

It is mentioned by William Lawson in 1597, who, in his quaint style, says, 'Of your Apple trees you shall finde difference in growth. A good pipping will grow large, and a Costard tree: stead them on the north side of your other Apples, thus being placed, the least will give sunne to the rest, and the greatest will shroud their fellows.' Modern authors make the Costard synonymous with the Catshead, chiefly, I think, on the authority of Mr. George Lindley, who has it so in the "Guide to the Orchard;" but this is evidently an error. All the early authors who mention both varieties regard them as distinct. Parkinson describes two varieties of Costard—the 'Gray' and the 'Greene.' Of the former he says, 'It is a good great Apple, somewhat whitish on the outside, and abideth the winter. The Green Costard is like the other, but greener on the outside continually.' Ray describes both the Catshead and Costard as distinct, and Leonard Meager enumerates three varieties of Costard in his list—the white, grey, and red. Some etymologists, and Dr. Johnson among the number, consider this name to be derived from *Cost*, a head; but what similarity there is between this Apple and a head, more than in any other variety, must puzzle anyone to discover. Is it not more probable that it is derived from *Costatus* (*Anglice*, costate, or ribbed), on account of the prominent ribs or angles on its sides? I think this a much more likely derivation."

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*J. M.*).—Apparently *Caprifolium sempervirens*; too withered to identify definitely. (*H. V. T.*).—1, *Cyperus alternifolius*; 2, *Jasminum Sambac*. (*C. P.*).—1, *Cymbidium Lowianum*; 2, a fine form of *Cypripedium insigne*; 3, *Cypripedium barbatum*. (*Amateur*).—1, *Oncidium tigrinum*; 2, *Sparmannia africana*. (*H. E. F.*).—*Sonerila margaritacea*.

COVENT GARDEN MARKET.—DECEMBER 19TH.

HEAVY supplies of indoor fruit for Christmas, with prices unaltered.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, per half sieve ..	1	6	to	4	6	Lemons, case ..	10	0	to 15 0
" Nova Scotia, per barrel ..	10	0		15	0	Peaches, per doz. ..	0	0	0 0
Grapes, per lb. ..	0	6		1	6	Plums, half sieve ..	0	0	0 0
Cobs, per 100 lbs. ..	21	0		23	0	St. Michael Pines, each ..	2	0	6 0
						Strawberries per lb. ..	0	0	0 0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per lb. ..	0	6	to	0	9	Mustard and Cress, punnet	0	2	to 0 0
Beet, Red, dozen ..	1	0		0	0	Onions, bushel ..	3	6	4 0
Carrots, bunch ..	0	3		0	4	Parsley, dozen bunches ..	2	0	3 0
Cauliflowers, dozen ..	1	6		3	0	Parsnips, dozen ..	1	0	0 6
Celery, bundle ..	1	0		1	3	Potatoes, per cwt. ..	2	0	4 0
Coleworts, dozen bunches ..	2	0		4	0	Salsafy, bundle ..	1	0	1 5
Cucumbers, dozen ..	2	0		6	0	Seakale, per basket ..	1	3	1 9
Endive, dozen ..	1	3		1	6	Scorzoneria, bundle ..	1	6	0 0
Herbs, bunch ..	0	3		0	0	Shallots, per lb. ..	0	3	0 0
Leeks, bunch ..	0	2		0	0	Spinach, bushel ..	1	6	3 0
Lettuce, dozen ..	0	9		1	0	Tomatoes, per lb. ..	0	2	0 6
Mushrooms, punnet ..	0	9		1	0	Turnips, bunch ..	0	3	0 4

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	6	0	to	8	0	Poinsettia, dozen blooms ..	3	0	to 6 0
Azalea, dozen sprays ..	0	6		1	3	Pyrethrum, dozen bunches ..	2	0	4 0
Asparagus Fern, per bunch ..	1	0		2	0	Roses (indoor), dozen ..	0	6	1 0
Bouvardias, bunch ..	0	6		1	0	" Tea, white, dozen ..	0	6	2 0
Carnations, 12 blooms ..	1	6		3	0	" Yellow, dozen ..	2	0	3 0
Chrysanthemums, doz. bchs. ..	4	0		12	0	" Safrano (English), doz. ..	1	0	2 0
" doz. blooms ..	1	0		4	0	" Maréchal Niel, doz. ..	3	0	6 0
Eucharis, dozen ..	3	6		4	6	" (French), yellow, doz. blooms ..	1	6	2 0
Gardenias, per dozen ..	2	0		4	0	" (French), Red, dozen blooms ..	2	0	2 6
Geranium, scarlet, doz. bunches ..	4	0		6	0	Smilax, per bunch ..	3	0	4 0
Lilac (French) per bunch ..	5	0		6	0	Stephanotis, dozen sprays ..	4	0	6 0
Lilium longiflorum, per dozen ..	6	0		9	0	Tuberose, 12 blooms ..	0	4	0 6
Marguerites, 12 bunches ..	1	6		3	0	Violets (English), dozen bunches ..	1	6	2 6
Maidenhair Fern, dozen bunches ..	4	0		6	0	Violets (French), Parme, per bunch ..	4	0	5 0
Mignonette, 12 bunches ..	2	6		4	0	Violets (French), Czar, per bunch ..	1	9	2 0
Orchids, per dozen blooms ..	1	6		12	0	Violets (French), Victoria, dozen bunches ..	1	6	2 6
Pelargoniums, 12 bunches ..	6	0		9	0				
Primula (double), dozen sprays ..	0	6		1	0				

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen ..	6	0	to	12	0	Ferns, in variety, dozen ..	4	0	to 18 0
Aspidistra, per dozen ..	18	0		36	0	(small) per hundred ..	4	0	6 0
Aspidistra, specimen ant ..	5	0		10	6	Ficus elastica, each ..	1	0	7 0
Chrysanthemums, 93 doz. ..	4	0		8	0	Foliage plants, var., each ..	2	0	10 0
" large, doz. ..	9	0		18	0	Lycopodiums, per dozen ..	3	0	4 0
Cyclamen, per doz. ..	9	0		12	0	Marguerite Daisy, dozen ..	6	0	12 0
Dracæna, various, dozen ..	12	0		30	0	Myrtles, dozen ..	6	0	9 0
Dracæna viridis, dozen ..	9	0		18	0	Palms, in var., each ..	1	0	15 0
Erica, various, per dozen ..	9	0		18	0	" (specimens) ..	21	0	63 0
Euonymus, var., dozen ..	6	0		18	0	Poinsettia, per dozen ..	10	0	15 0
Evergreens, in var., per dozen ..	6	0		24	0	Primulas, per dozen ..	4	0	6 0
						Solanums, per dozen ..	10	0	12 0



WINTERING DAIRY COWS.—5.

CLEANLINESS is a matter of the first importance in the management of dairy cows; it is especially so in winter, yet is practically ignored very generally. The term is comprehensive. It includes everything—cows, buildings, litter, food, water, and the cowmen too. Who that looks into such matters closely has not seen evidence of negligence in almost everything. Of what use is it for the dairy maid to scrub and scour the wood and metal of milk pails if she has to hand them over to a dirty cowman for milking cows absolutely reeking with filth? The practice of keeping cows tied up in stalls during the winter, and only allowing them to go out for water, is most objectionable. Since writing our last article we have seen some so mismanaged, whose coats were already clotted with filth, and they were standing in litter sodden and filthy, in most wretched plight, about as miserably uncomfortable as they could be. The sight is only too common, and is a lamentable example of the heedless negligence resultant from custom which is so prevalent on dairy farms.

Let us now see what is absolutely necessary during winter for the comfort and health of cows. In doing this, necessity only must be kept in view, and all fanciful ideas avoided. The cowhouse, byre, or milking hovel should be free from draughts, well ventilated by louvres, with stalls deep as well as wide. We have seen stalls so short that when the cows lay down the tails and udders were in the gutter, both becoming so foul that a swing of the tail during the milking often throws filth into the pail. It is self-evident that dirty udders must defile the milk and soil the milker's hand. We have seen their hands presenting a disgusting appearance while milking.

By having floors sloping gently to the gutter, the gutters shallow, wide, and sloping to the outfall, the stalls so deep that when the cows lie down they are well away from the gutter, and the floors and gutters kept thoroughly clean, there is much less risk of defilement. But we only have the cows in stalls at milking time and in very rough weather. At all other times they are out in the snug yards and open hovels. There is, of course, always some accretion of filth on tails and coats daily, therefore the cows have their coats dressed daily by the washing off of filth, and by a free use of the curry comb and brush. They are thus kept clean, to the promotion of health and comfort, and of cleanliness during the milking. To this end also a sink with water laid on, soap, bowls, and roller towels are provided for the milkers, who are made to wash their hands before milking. We have seen also long white milking coats used, and like them, provided they are kept clean by washing as regularly as the towels. There may be a little difficulty about all this with the men at first, but the exercise of a little firmness and tact soon sets things going in the right way. The master's hand and eye must be there, and he must insist upon the same care and neatness for cow and cowhouse as for horse and stable.

It may be asked, Is all this care—this striving for cleanliness necessary? It is. Even after the exercise of the utmost care, milk that is filtered through sand—as is done in Denmark—leaves behind it so much foreign matter, as shows how difficult it is to deliver it pure to milk pan or separator.

The possibility of taint from the cows' food was shown last week with sufficient clearness to induce caution. It is certain that no taint is imparted by really good meadow

hay and sweet crushed Oats. It is well to be particular about quality, because Oats badly harvested become mouldy in the stack, and are then unsuitable for cows. Make these the main thing, and be cautious about quantity in all such things as silage, Swedes, or Cabbage. Carrots and Mangold do not impart taint, but even these excellent roots are regarded as additions to the dietary. By all means have a mixture of green food and roots, but mix with discretion, so as to promote health and yet do no harm to the milk. Feed well, keep up condition. Better be without cows than to half starve them in winter, and to suffer them to become filthy. The care we so strongly advise, though first of all for the comfort and well being of the cows, is also clearly in the farmer's interest. A healthy, well-nourished cow gives a strong, sturdy calf, and affords a good milk yield, or in other words there's profit in it, which is worth remembering, apart from the kindly care which mere humanity should prompt.

WORK ON THE HOME FARM.

Though it is not considered a good root year the crop generally is a fair one, and will be invaluable in the first months of the new year. Apart from the folding of hoggets on Turnip all roots are being held in reserve for hard weather, the abundant supply of magnificent Drum-head Cabbage being ample to carry us well into the new year. This is an invaluable green crop, good for cows, store cattle, and sheep, which it has answered to transplant this year, but let it not be forgotten that in hot dry summers drilling answers best as the plants sustain no check. To have enough Cabbage for three or four months of late autumn and winter, and to follow with an equally abundant crop of Thousand-headed Kale is indeed good practice. Both when well grown are sound wholesome food, the Kale being much hardier than the Cabbage.

Where lambing is timed to begin early in January the ewes should now be settled on sound pasture near the fold or lambing yard. Avoid much disturbance by dogs, allow no roots to be used, and if the herbage is insufficient give trough food and some Cabbage. Chaffed Oat or Barley straw, mixed with some crushed Oats at the rate of about half a pint per head, will answer very well. But if snow comes, or the weather becomes cold and wet, increase the Oat ration by half, and give Pea straw in racks. See to it that the ewes have not to search beneath the snow for food, that they have access to rock salt, and that there is no negligence about the trough food. Perfect quiet is now of vital importance. If there is the slightest risk of alarm by stray dogs use every precaution by night as well as day, or irremediable mischief may be done. Be on the alert if there is fox or stag hunting near the home farm, as much harm is occasionally done by reckless riding through a flock. A good shepherd will bear all this in mind, but we desire to assist beginners, and a word to the wise in matters of such vital importance is always worth while. Sheep are still so profitable that a good fall of lambs is worthy of our best efforts.

SPRATTS' ALMANAC.—We have received from Spratts Patent, Limited, Henry Street, Bermondsey, S.E., a copy of their Almanac for 1895. It contains an illustrated detachable sheet for each month of the year, with descriptive notes of the subjects portrayed. Dog fanciers, poultry keepers, and farmers generally will find it particularly interesting. It can be obtained from the above mentioned firm if in writing a stamp is enclosed for postage.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet

DATE.		9 A.M.					IN THE DAY.				Rain.
1894. December.		Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday	.. 9	30.145	35.3	35.2	N.E.	41.2	45.3	33.0	48.1	26.8	—
Monday	.. 10	30.116	45.0	43.2	S.	41.1	47.7	34.7	52.9	34.9	—
Tuesday	.. 11	30.160	45.8	43.4	S.	42.1	48.6	41.9	52.1	36.9	0.181
Wednesday	12	30.075	47.7	47.0	S.	42.9	50.4	44.0	56.9	41.0	—
Thursday	.. 13	30.183	48.9	46.7	S.W.	43.1	51.7	42.8	54.3	37.6	0.079
Friday	.. 14	30.156	49.7	49.6	N.E.	44.2	50.7	48.3	51.3	46.0	0.929
Saturday	.. 15	29.977	41.9	39.4	W.	44.9	48.8	41.0	59.6	37.3	0.142
		30.116	44.9	43.5		42.8	49.0	40.8	55.0	37.2	1.331

REMARKS.

- 9th.—Fog all day, thick in the morning.
 10th.—Fog early; dull day, with spots of rain at 3 P.M.; fine evening.
 11th.—Overcast early; fair day, with a little faint sunshine.
 12th.—Rain in small hours; cloudy morning; faint sunshine at midday; fine afternoon and evening.
 13th.—Cloudy all day.
 14th.—Continuous rain from 6 A.M. to 10.30 P.M., and fog all morning.
 15th.—Bright sunshine from sunrise to sunset; bright night.
 A wet and warm week, but barometer rather above the average.—G. J. SYMONS.



GAUNT, grey, and grim, with lagging limb,
 December crawls along;
 A haggard dame, with skinny frame,
 She drones a dismal song;
 On, on, she goes, through falling snows,
 With sighs, and sobs, and tears,
 Until her faltering footsteps reach
 The graveyard of the years.

* * * * *

And now we see her weak and old,
 Neglected in the storm
 That beats with fury stern and cold
 Around her withered form;
 And when at last she drops and dies,
 The joy bells loud will ring,
 For from her bier the glad New Year
 Will give us back the spring.

SOMBRE, yet cheering, are those lines of Mr. Horace Lennard which appeared in the excellent London evening paper, the *Echo*, the other day. December is indeed crawling along with tottering feet to the "graveyard of the years." Let us hope that all will be buried with it that has tended to make more rugged the path of the past—all that has marred the moments which should have been glad some; all that has joined in the harmony of association which makes the wheels of life roll pleasantly along. And when she is gone, the "haggard old dame," with her creaks and cranks, let us not dwell on these with a morbid delight, but look onward with thoughts of buoyant hope to the cheerful spring; and when it comes, with its smiling flowers, make the best of it, each in his own way, and thus strive to mould the future, that it may be better than the past has been. Towards the attainment of this object gardening plays its part—a most important part, for in its highest aspects and worthiest examples it points the way, the only safe and sure way, to the prosperity of owners and tillers of the land in this country—higher culture; a more bountiful return of food; a greater development of beauty for the sustenance and delight of the whole community. The world is what we make it: let us make it as good, as happy a place to live in, as we can. These are our last words through the *Journal of Horticulture* in reference to the old year, and in which are embodied our best wishes for the new.

THE PASSING YEAR—A REVIEW.

FAREWELL, Old Year! Mediocrity is written on thy record. Looking back o'er thy span, even through an optimist's spectacles, we can accord thee but the negative praise that matters might have been worse. A cursory glance over the garden at the present time yields an unsatisfactory feeling. Soft, sappy, immature growth is much in evidence. There appears to be a halting opinion with many things between growing and resting. It is a question whether a spell of frost—not yet forthcoming—is most to be dreaded or desired. I fear that at least with some denizens of the borders such a peremptory command to rest as frost would give might mean the sleep which knows no awakening.

Happy should be the gardener whose cares are confined to his own department. He may not think so, but I did when piping all hands to our haymaking. It was toil and moil to save it from the midden instead of for the rick. Meadows were late, and few persons thought of cutting till Sol should favour us. Summer may be said to have commenced in the last days of June, and also to

have ended in a tropical burst on Sunday, July 1st. This day gave the maximum reading of 82° (in the shade) for the year. From thence to the end of the month we had twenty wet days, or what was so to all intents and purposes of haymaking. Truly we had some fine days, but they were invariably sandwiched between two wet ones. Over this part of the passing year it may be meet to draw a veil.

There was some cause for thankfulness in being quit of harvest operations which followed haymaking in County Dublin under the same unfavourable conditions. Oats form the staple of harvest in this neighbourhood. Wheat is but little grown, but the day has gone past when home growth affected the price of the loaf. It may be of interest to note that the best bread is at present 4½d. the 4 lb. loaf; the quality is seldom equalled, and, I venture to add, not excelled on your side of the channel, and the leading limited company supplying us pay a handsome dividend. The introduction of so crusty a subject may be excused in consideration of its importance in the economy of a country's food supply.

Small fruits were fairly good, but quickly over. Strawberries on a north-east border escaped the frost by being late, whereas most of those in the open were annihilated—the dual aspect gave two strings to one's bow. Pears on the walls in the best position were passing fair; Apples few and decidedly bad. Taking a bird's eye view, Hollies may be mentioned amongst the fruit, being profusely berried, and the birds are busy at them.

The dreaded Potato blight has been much in evidence over the country. Spraying with sulphate of copper appears to have been sufficiently tested in various localities to demonstrate the efficacy of it as a remedy. Having passed the experimental stage, results tend to show that it is a means whereby the blight, if not totally eradicated, may be divested of its terrors. But it will require the spirit of philanthropy to carry its benefits to the humbler classes through the length and breadth of the land. Unless this is the case, it will obviously be least known and last used where it is most required. Would that every parish in Ireland was supplied with a sprayer for free use among small holders, and that the necessity of using it, with the way of using it, could be demonstrated by practical lessons from competent teachers. I doubt not that sooner or later a matter of such vital importance will receive the attention it deserves. The sooner the better, for the spectre of famine is invariably waiting on the failure of the Potato crop. It is not long since we read of gaunt want being combated by one of H.M. gunboats laden with Indian meal. In the near future let us hope to read that "The line of battle ship 'Prevention' is under orders for the West Coast of Ireland, charged with sulphate of copper." The highest quotation for Champions in the Dublin markets is now 4s. per cwt., but as home demand creates a foreign supply, these prices afford no criterion of matters prevailing over the principal area of the country. On the importance of suitable varieties, methods of culture, and quality of the seed, a special article would be required.

Looking back on a more agreeable, if less important subject, not any more practical illustration of the effects of a sunless summer has been afforded than by the Chrysanthemums. I am recording my own experience only. Plants were unusually well rooted, and the foliage to a "mum" grower's eye was glorious. After taking what buds were ready early in August, a spell of gloomy weather prevailed to the end of the month, tops went up with a rush, bud formation stopped, and so far as timing went was thrown out of gear. During this weather buds previously taken swelled rapidly and gave every promise of grand blooms, which indeed they partly developed into; but the fatal damp—my first experience of it in its worst form—set in, and damped the prospects amongst some of the finest of the Japanese section. One redeeming feature obtained in the incurved varieties, the Princess family gave the finest blooms I ever had, or in fact, have ever seen, although it is but right to say that it is many years since I saw

examples of English growth. Still, on this side an expert's opinion of our recent Dublin Show has drawn a curtain of comfort around Irish growers. Totting up his remarks, and taking off some discount for courtesy, it sums up, We are pretty well up to date.

Gladiolus gandavensis hybrids struggled on in blooming till the last day of November, when we lifted them. The miserable corm crop is now endeavouring to ripen in a warm shed. *G. Colvillei* and *alba* have prominent new growth above the soil, whilst the old stems are yet green. These are but a few results of the passing year; but to foreshorten what is unavoidably resolving itself into a tale of woe, I append a rain table for the eleven months ending November 30th. For this I am indebted to Mr. Bedford of Straffan Gardens, Kildare. From his record I find that rain fell on 173 days out of the 334. Each month totalled as follows:—January, 3.29 inches; February, 2.64; March, 2.08; April, 3.38; May, 3.79; June, 2.02; July, 4.16; August, 3.78; September, 0.44; October, 3.88; November, 2.01.

I must confess that there has been but little pleasure in reviewing the passing year. So get thee gone, 1894! May thy successor be "A guid New Year to ane an' a!"—E. K., *Dublin*.

WINTER IN A SCOTTISH MANSE GARDEN.

THIS is the season of thoughtful retrospection. That of fruition for the horticulturist has passed away; from the heights of whatever experience he has gained, he can look back upon his successes or failures in the past. It is not a period of outward beauty; the glory of their lustrous leaves has fallen from the trees; our gardens wear a forsaken and desolate aspect; the last Rose of autumn, which outlived the *Viola* and rivalled the *Chrysanthemum*, is "faded and gone."

Yet Nature is not so lifeless in reality as in aspect she appears. Her fairest children are only dormant; they are not dead—with them this is the period of repose; they are repairing their vitality and renewing their strength; they are resting from their manifold beneficent activities, till they experience once more the inspiration of the spring. It is for similar reasons and for equally wise and providential purposes, supreme among which is self-preservation, that those sweet comrades of the flowers—the birds of the woodlands—are silent in the winter; their gift of melody is latent in their hearts. Throughout the vast domains of gracious Nature capability of growth and development is sleeping—it is not dead.

"Do not the seeds of spring's glad sweetness grow
Beneath the darkness of the winter earth,
That yet, when the inspiring breezes blow,
Shall rise like Hope, to tell of Beauty's birth?"

And thus this pensive season, however saddening to the superficial vision that cannot see beneath the surface of outward appearances, is by no means to the spirit of the earnest horticulturist destitute of hope. Nor is it altogether lacking in manifestations of activity to him who finds some attractiveness in his garden at all periods of the year. He sees that the beautiful *Madonna Lily* has during the earlier months of winter been steadfastly growing, fearless of all danger, and spreading out with calm confidence on the herbaceous borders its green and luminous leaves, exhibiting a vitality which survives, through its strength, the sternest grasp of frost. The *Wallflower*, which loves to adorn ancient ruins, is as verdant as the *Hollies* that gleam through the naked environing woods. He watches daily with the pride of a parent the gradual growth of the pendulous *Snowdrop*, the first fair floral daughter of Nature that rises from the grave of her former beauty, to hail with its purity and unobtrusive loveliness the new-born year. He bends reverentially, remembering its exquisite sacred associations, over the snowy splendours of the *Christmas Rose*. And thus to him winter is not desolation; he knows from experience that to Nature it is not death. Unlike others he rejoices in her white shroud of glistening snow, for he feels that beneath this mystic covering, as if enfolded in ermine, the heart of Nature is beating still; that this is her own instinctive preservation against the imperious dominion of that element which is the greatest destroyer of vegetative life, and it is a matter of ordinary observation that when the covering snow has gradually faded into and fertilised the earth a delightful transformation, vernal in its freshness and beauty, is disclosed.

And thus through the death-like reign of winter those energies which shall create the all-awakening spring are sleeping underground. Even this season of seeming inaction yet earnest preparation is gladdened by the calmly heroic aspect, amid all tribulation, of its own peculiar flowers, supreme among which are the *Naked-flowering Jasmine*, *Forsythia suspensa*, the fragrant *Chimonanthus*, and the gracious *Christmas Rose*.

One of the most gifted of our essayists has said, "With my garden I am in the present; with my books I am in the past." My own experience is somewhat different, for the literary creations by which I am surrounded as I sit in my study are, with the exception of a few of the immortals, for the most part the achievements of great modern writers, whose thoughts depict the intensity, the fierce, incessant struggle, the earnest concentration of modern life; whereas in my peaceful, sequestered garden, guarded on every side by venerable trees, planted for the most part by my predecessors, and haunted through all its winding, shadowy walks by reminiscences of my father, whose greatest earthly happiness was his love of horticulture, I am much less frequently in the present than in the past. It is chiefly in such scenes of the purest activity—those modern Edens in which man finds, even as of old, his deepest and most abiding blessedness—that we acquire a deep reverence which is more than all knowledge—a wisdom born of Nature, which is a more consoling and permanent possession than the breath of human fame, for the love of a garden through all our vicissitudes is steadfast and remains; it is a possession which the frivolous world has not given, and cannot take away.—DAVID R. WILLIAMSON.

INTERVIEWING A NOTED GRAPE GROWER.

TO rise from a third to a second, and this year to a first prize-winner for six bunches; to win with *Madresfield Court* three years in succession; first for four whites, and first any other white Grapes at *Shrewsbury*; first three years in succession for four bunches, one first and two seconds for *Black Hamburgs*, two firsts and two seconds for *Madresfield Court*, with sundry prizes at *Liverpool*, *Manchester*, *Cheadle*, and other places denotes progress of no mean order, for all the above are shows where only Grapes of the highest quality can ever hope to be admitted to the coveted honours. But such is the record scored by the painstaking and yet young gardener, Mr. J. J. Craven, gardener to J. Grant Morris, Esq., *Allerton Priory, Liverpool*.

Owing to such good work I thought him deserving of a somewhat extended notice in the *Journal of Horticulture*, so paid him a visit, with a view of eliciting from him some account of the rapid way in which he had come to the front with the cultivation of the Grape. A look round the vineries was sufficient to tell me that, with all his difficulties when commencing, that they were almost overcome, or such splendid quality bunches could not be produced. Then commenced the more solid part of the work, Mr. Craven giving his impressions in a clear and lucid manner, showing him thoroughly conversant with his subject, a close observer, and one who would be essentially a fighting man, if told to stick to any orthodox method.

To what do you consider your success? His answer being, that it "depended chiefly upon close attention to details and hard work; no amount of instruction will avail if a man does not apply himself diligently to the task. Upon taking charge of these gardens I found the Vines very unsatisfactory, the Grapes shanking considerably, although growing vigorously. It was altogether a puzzle. I tried various remedies without much improvement. Lifting was resorted to, roots found to be in bad condition, borders much impoverished, apparently composed of too rich material. At last I forwarded samples, with a statement of the case, to the *Journal of Horticulture*. The advice given was the key to the situation, and set me studying more of agricultural chemistry, and I may here remark that I think highly of the sound information conveyed in that paper upon all matters. The *Muscat* border was entirely renewed and young Vines planted, but I think in this part of the country that lean-to houses would be most suitable."

What do you consider the best houses? "Those not constructed at too sharp an angle, as they are too fluctuating, and terribly punishing on hot days, transpiration going on so rapidly that the roots cannot possibly keep pace with it. I think many a house of *Hamburgs* has been prevented finishing in the best manner at a critical period in the colouring process, especially if the borders are inside and have become rather dry. Glass structures should be designed, as far as practicable, so as to maintain a steady temperature. Light is the great consolidating agent we know, but there is such a thing as gaining it too costly."—R. P. R.

(To be continued.)

BORDER CARNATIONS.

WITH so open and moist a winter there is a good deal of reason to fear that *Carnations*, whether outdoors or in frames, may be much affected by the *Dianthus fungus*. This pest revels in a mild

damp atmosphere, and is indeed often worse in frames, where the atmosphere is close and humid, than outdoors, even though there far more subject to excessive rainfalls. It is very doubtful whether when gardens are low lying, and the soil stiff and retentive, conditions always inimical to Carnations in the winter, it is not better to keep the young plants from layers in pots and near the glass in a cool greenhouse, where plenty of air can be given, then to plant them out in the autumn even under the most favourable conditions of site and soil, with open breezy surroundings. Carnations cannot escape from the frequent rains and mists that always prevail during a mild winter. Frosts, if dry, are far less harmful to the plants than continuous moisture.

The Carnation is naturally alpine in its constitution, and prefers a fairly porous soil, a slightly elevated position, and plenty of air. One of the best wintered lot of plants I ever saw was some two years since in a nursery at Winchester. There were several hundreds of previous season's layers in 48's standing along on one side of a cart road running north and south, and very high, so that intensely cold winds must have swept over them. The sorts were of the best border forms, all strong, sturdy, and as good as could be desired. That was at the close of a severe winter. Probably many persons would have thought such rough exposure would have killed the plants, but so far from that being the case they could hardly have looked better.

However, the chief matter for consideration is that the fungus may soon become very prevalent, even if it be not already so, and absence of sunshine and so much rain has made the leafage somewhat soft and sappy, hence it is more than usual likely to fall a prey to the fungus. What is to be done to check the pest, for if not checked these plants will be destroyed wholesale? Has any remedy been found? Soot and sulphur dustings have been tried, but these soon wash off, and are also very offensive in appearance. Has anyone tried the Bordeaux mixture of sulphate of copper and lime? This compound seems to be the most efficacious of all anti-fungoid materials, and if mixed with treacle, Gishurst compound, or softsoap, should be fairly adhesive, even during the winter. Such a mixture, if occasionally given to Carnations, might not only check the fungus, but also that other dread pest, the maggot. It is so often the case that both these troubles to Carnations are found operating, and nothing is done to provide a remedy. If even such a compound as hellebore powder be destructive to caterpillars, why not also to the Carnation maggot? In any case the copper and lime mixture should be tested for both of these pests.—A. D.

SNOWDROPS.

It is a moot question whether the Snowdrops which bloom in late autumn or early winter should be called early or late flowering species. As forerunners of the ordinary *Galanthus nivalis* they are, I think, entitled to be called early bloomers. This year they are unusually late, and the disappointment of those who admire the chaste Snowdrop is correspondingly great.

The first with me this year is one of a few bulbs which I received for *G. montanus*, but which appears to be related to *G. corcyrensis* or *octobrensis*. This drooped its flower on November 23rd, and is considerably in advance of all others in my garden, although some of these are showing their flowers through the spathe. I have several varieties or so-called species under various names, and have come to the conclusion that there are too many names, so little is the difference in flower or leaf. These kinds do well in my garden without lifting and drying as has been recommended by some whose soil is not so congenial to their welfare. The wet season we had may have delayed their flowering, but it does not appear to have injured the bulbs, although I think I have lost a very weakly root of *G. Rachelæ*. The white line down the centre of the leaf, which is a distinguishing feature of nearly all these early kinds, is very marked and, in my eyes, is also ornamental.

Among those which will shortly be in flower are *G. Elsæ*, *G. octobrensis* (?) from Albania, and *G. corcyrensis*. These will be closely followed by *G. Elwesii* from Bithynia, the newly imported bulbs flowering earlier than those established for a year or two. Several others, including some of the varieties of *G. nivalis*, are through the soil, so that if we have mild weather there is every appearance of an early blooming season of the bulk of the Snowdrops. There are not many novelties among those offered for sale this year, but we shall be able to form a better estimate of the value of some of Mr. Whittall's introductions of last year. The re-discovered *G. Olga Regina* has made its appearance through the soil, but I fear will not flower with me this season, although the price paid for my solitary bulb should have secured one of a flowering size.—S. ARNOTT.



SCHOMBURGHKIA SANDERIANA.

LIKE other Schomburghkias the above-mentioned species is not often seen in cultivation, although when properly managed a few plants usually form quite a feature in a collection of Orchids. *S. Sanderiana* (fig. 98) was introduced a few years ago, and probably has not yet found its way into many gardens. The flower is about 3 inches in diameter, the sepals lanceolate, half an inch apart at the widest part, $1\frac{1}{2}$ inch long, and pale rosy purple. The petals are broader and less tapering, the same length as the sepals, but deeper in colour. The lip is $1\frac{1}{2}$ inch long, the centre lobe rounded, an inch across, and slightly cut at the margin, rich crimson-purple, like the lateral lobes, which are folded over the column, and the white blotch in the throat brings the colour into bold relief. In general appearance the lip is suggestive of a small *Sobralia*.

The plant produces hollow pseudo-bulbs like its relative, the "Cow Horn Orchid," as *S. tibicinis* is sometimes termed, and it is supposed that these cavities are utilised for a similar purpose by



FIG. 98.—SCHOMBURGHKIA SANDERIANA.

the ants of the districts in tropical South America, where the plants are found. The flowers are produced in short racemes of four or five each; but it is said to be very free, and its colour renders it a favourite where grown.

MASDEVALLIA TOVARENSIS.

Like all the other members of the genus, the flowers of this Orchid are more remarkable for their quaint appearance than for size or showiness. Being such a pure white, they are, however, always useful, and the fact of their lasting so well when cut is an additional recommendation. It is, moreover, one of the freest blooming Orchids in existence, small plants in 3-inch pots producing as many as a dozen spikes, these almost hiding the foliage. The cultivation of this species is quite simple, and as it thrives in a cool house may be cultivated by all. It should be grown in pots in a compost consisting of the best fibry peat and clean sphagnum in equal proportions with small crocks freely intermixed. The temperature and atmospheric conditions of the *Odontoglossum* house will suit it admirably, but in the winter it must not fall much below 50°. The spikes usually bear the flowers in pairs, and these should be removed without cutting the spikes, as they continue to produce the blossoms several years in succession.—H. R. R.

ORCHIDS IN A PLANT CASE.

I SHALL be glad if you can inform me if it is possible to induce Orchids to flower in a large size plant case in a room close to the window. I have been trying to grow them in a plant case, but not with much success. They seem to want something besides heat and moisture, which can easily be supplied. I have had evidence

of growth, but no flowers, and a strong inclination to decay. I therefore want to find out whether it is possible to get them to flower or not.—R. B.

[In a properly constructed window case, that is one built in the window, with means of opening to the outside by a ventilator, and also to the interior of the room by the window sash, it is quite possible to grow and flower many kinds of Orchids during the summer. It is, however, rather more difficult to do so in an independent or Wardian case, such as we presume yours to be by your description, but with care and attention it may be and often is done. Certainly something is required besides heat and moisture, but you give no clue as to the kind of Orchids you wish to grow. Care in watering, ventilating, potting and cleaning are only a few of the details necessary to the successful culture of these plants which are often described in our columns under the heading of the various species. Read these notes and adopt them as far as may be practicable in your case. Ventilate freely and avoid wetting the foliage of the plants at this season. Study the natural habit of the species you wish to cultivate, and encourage them to grow or to rest according as may be necessary, and the plants will soon show by their healthy appearance or otherwise whether the treatment accorded them is right or wrong.]

THE PROPOSED NATIONAL VEGETABLE EXHIBITION.

KINDLY grant me leave to inform the readers of the *Journal of Horticulture* interested in the above object that matters are now assuming a more definite shape. Unable to obtain accommodation for the exhibition at the Crystal Palace because of the African Exhibition to be held there, the Provisional Committee applied to the Directors of the Royal Aquarium, Westminster, where the proposal was favourably entertained, and subject to the sanction of the General Committee, it has been resolved to accept the Directors' offer to hold the show there on three days of the second week in September next. Of course much must also depend on financial support.

If the Royal Aquarium be not an ideal place for such a show, it is at once the most central and the very best that the metropolis offers. A schedule of classes and prizes such as will be suited to limited accommodation has been prepared. It is a capital schedule, and includes both for Potatoes and vegetables generally, open classes, and others for market growers and cottagers. Lack of space, and only at present a limited assurance of funds, render a larger schedule out of the question.

I therefore ask from the seed trade very cordial acceptance of the schedule, and a ready willingness to offer prizes in the classes as presented. Classes that are for purely trade exhibits may be all very well for local shows, but in a national exhibition are far too exclusive. We want to find all firms or others willing to offer prizes in a broad-minded, generous mood. I may add that cards of invitation, eighty in number, will be sent out to all who kindly consented to become members of the General Committee to attend a meeting of that body at the Royal Aquarium, on January 15th next, at 2.30, when an executive committee will be appointed.—ALEXANDER DEAN, *Hon. Sec.*

GRAPE GROWING IN KENT.

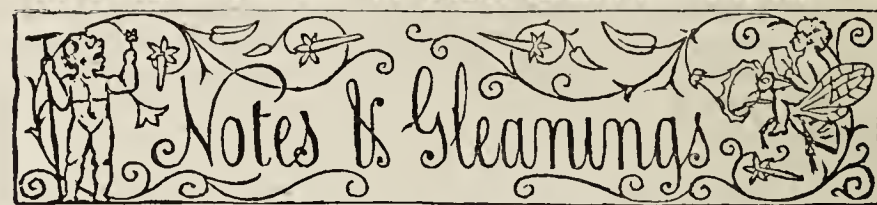
I CAN assure "W. S." (page 548) he need have no fear of giving any offence in asking for information on the above subject. In replying to my previous note he tells your readers I mention two varieties that were not in the exhibit at all. What exhibit does he refer to? I made no mention of any exhibit; neither did I allude to Mr. Kirk's collection. I named the varieties that came from Scotland and Kent, leaving the others for "W. S." to divide between the counties he holds up as being noted for their good Grapes.

"W. S." goes on to state I claim Tebbiano as a popular variety. It is as good as other white Grapes, Muscats excepted, but whether it is popular or not matters little for our present purpose. Further, he says he fails to find Kentish names in the report who staged Grapes in better form than other English counties. It must be evident to your readers they made some impression on his memory, or he would not be able to say in whose collection they were to be found, more especially as he was under the impression they were grown in Middlesex.

In giving your correspondent further information on this subject I wish it to be understood I do it in no boastful spirit, as I know too well what it is to go home from an exhibition disappointed. I shall refer to the county, and not to any individual grower. First of all I will call your correspondent's attention to the summer show held at Sevenoaks in Kent, where three first prizes were offered for Grapes; one for a collection in which Grapes are included. All of these were gained by the county. Now, I will ask "W. S." to follow me as far as Brighton, where six first prizes were given, also one for a collection in which six bunches of Grapes must be included. Five of these seven prizes were won by growers in the county of Kent. Coming back to Kent County Chrysanthemum Society we find both first prizes for Grapes were retained by the Kent growers. Now I will ask "W. S." to call in at the Royal Aquarium, where he will find many counties were represented in the Grape classes provided by the National Chrysanthemum Society; two first and one

second were won by the county in question. I think this will be sufficient to convince your correspondent of what I said to be right.

I cannot agree with your correspondent that soil and situation are the important factors in the cultivation of Grapes. Provided the necessary accommodation is provided, management forms the very post on which the door of success swings. It was said a few years ago, by a very noted Grape grower, the Vine could be made to grow in anything between a heap of stones and a manure heap. As Kent is composed of neither of these, "W. S." may take it that as good Grapes can be grown therein as any other county in England.—A KENTISH GARDENER.



THE JOURNAL OF HORTICULTURE.—As was announced last week, the present issue of the *Journal of Horticulture* is a day beyond the usual time in consequence of the Christmas holidays. We desire also to say that the Index to the half-year's volume has necessitated the abridgement of some articles and the postponement of others of considerable interest. We wish for writers who favour us with communications to distinctly understand that they are not the less appreciated if their publication is somewhat delayed. Articles that will "keep" without losing their value are particularly convenient in the making up of our pages; and, besides, we always like to have a store of "good things" in hand. We rejoice in their possession, and thank all who have aided in filling our pages so creditably to themselves and satisfactorily to us during the year now drawing to its close, leaving us with a good surplus for the commencement of 1895.

— THE WEATHER IN LONDON.—Since publishing our last issue a severe gale has occurred in the metropolis. Early on Saturday morning rain fell heavily, and the storm raged furiously. It was also very windy throughout the day. Sunday opened more calm, and slightly frosty, a fine day following, though it rained at night. On Monday, while preparing for press, a drizzling rain was falling.

— DEATH OF MR. J. WITHERSPOON.—Many readers of the *Journal of Horticulture* will regret to hear of the death of Mr. J. Witherspoon of Chester-le-Street. He had only taken to his bed a few days before he died on the 15th inst. As a Grape grower for market Mr. Witherspoon was equalled by few, and I think excelled by none, as the fine crops of Gros Colman now hanging in the vineries amply testify. Many have been the predictions that such a weight of crop could not be borne year after year by the same Vines, but it has been done, and at present there seems no reason to doubt that the same Vines will go on bearing similar crops for many years to come if the good management is continued. Mr. Witherspoon was sixty-four years of age.—W. A. JENKINS.

— GRAPE MRS. PEARSON.—Mr. H. W. Ward writes:—"This very excellent late white Grape deserves to be grown more extensively than it would appear to be at present. The Vine is a good grower and free fruiter, producing long, tapering, well-shouldered bunches, consisting of roundish berries, which, when properly thinned and ripened, measure about 3 inches in circumference, and takes on a beautiful golden colour, and flavour is very little inferior to that of the Muscat of Alexandria; in short, I consider Mrs. Pearson the best late white Grape that I am acquainted with next to the Muscat of Alexandria growing in the same house." [We have not seen any Mrs. Pearson Grapes to excel those grown by Mr. Ward, and few to equal them. In size of berry, clearness, and quality they are excellent.]

— THE same correspondent observes:—"Another late white Grape that I have formed a high opinion of is LADY DOWNSHIRE. This was raised by Mr. Thomas Bradshaw, head gardener to the Marquis of Downshire, Hillsborough Castle, Hillsborough, County Down, Ireland. The Vine is very robust growing, producing good sized bunches, consisting of berries measuring over 3 inches round, and 3½ inches in circumference longwise, the colour when at its best being of a slightly golden amber, the flesh being very juicy and of pleasant flavour. I have a fine young rod of this Vine, which, all being well, I shall crop next year, and give it a fair trial, so as to be in a position to express a more decided opinion upon its merits. This Grape, I may add, is not yet in commerce."

— GARDENING APPOINTMENT.—We are informed that Her Grace the Duchess of Marlborough has taken The Deepdene, Dorking, Surrey, and that Mr. F. Chamberlain has been appointed head gardener there.

— IT is stated that the next meeting of the American Pomological Society will be held in San Francisco on the 16th, 17th, and 18th of January, 1895. Members visiting California will be the guests of the State Horticultural Society.

— ACCORDING to "Nature," considerable changes have recently been made in the scientific department of Smith College, U.S.A. The botanical department has been reorganised, and Dr. W. F. Ganong appointed Professor. Miss Grace D. Chester, formerly Instructor in Botany, has been appointed Instructor in Cryptogamic Botany.

— THE HESSLE GARDENERS' MUTUAL IMPROVEMENT SOCIETY.—At a meeting of the above Society, held on December 18th a paper on "Horticulture as an Industry, and its Effects on the National Welfare" was read by Mr. Wilkinson, Elloughton, Brough. Mr. Wilkinson remarked that the advance of horticulture at the present time and the enormous extent of land under cultivation as nurseries and market gardens, also the amount of capital it must represent and labour employed had an effect on the national welfare from a commercial and trading point of view. Mr. Wilkinson concluded by impressing upon all present the importance of the work in which they are engaged.—F. L. T.

— TOURNEFORTIA CORDIFOLIA.—This plant has recently been flowering at Kew, and a correspondent in the "Garden and Forest" says, "It was distributed by Monsieur Bruant two years ago as a new Boragewort of shrubby habit, with large cordate leaves and crowded terminal-branched racemes of Heliotrope-like white flowers. Whatever it may be like in South America, where it was found by Monsieur E. André, who introduced it, there is little charm in it as a flowering plant here, although the leaves are large and handsome, and there is the possibility of crossing it with Heliotrope, as suggested by Monsieur Bruant. The leaves are cordate, 6 inches by 4, on petioles 2 to 3 inches long, and they are of a rich dark green colour, with the texture of the leaves of common Heliotrope."

— WOUNDS ON TREES.—Mr. S. D. Willard, in the "Rural New Yorker," states that nothing is better for covering bruises on trees than oil shellac, with perhaps a little flowers of sulphur and a few drops of carbolic acid, which last ingredient should be used very sparingly. The mixture can be applied with a paint brush. For the exclusion of air from wounds, it is suggested that a grafting wax, made of four parts of resin, two parts of beeswax, and one of tallow, melted together, poured into water, and immediately worked and made up into half-pound rolls, is convenient to have ready for use. Held in the hand, so that it is softened, a small lump of it may be spread over a wound, and it will remain for some time and keep out air and germs of disease. If the wound is large the application may need to be repeated.

— ROYAL METEOROLOGICAL SOCIETY.—The monthly meeting of this Society was held on Wednesday, the 19th instant, at the Institution of Civil Engineers, Great George Street, Westminster, Mr. R. Inwards, F.R.A.S., President, in the chair. Twenty-six new Fellows were elected. Mr. H. Southall, F.R.Met.Soc., read a paper on "Floods in the West Midlands," in which he gave an interesting account of the great floods which have occurred in the rivers Severn, Wye, Usk, and Avon. He has collected a valuable record of the floods on the Wye at Ross, which he arranges in three classes—viz., 1, Primary or highest of all, those of 14 feet 6 inches and above; 2, secondary, those with a height of 12 to 14½ feet; and 3, tertiary, those with a height of 10 to 12 feet. The dates of the floods above 14 feet 6 inches are as follows:—1770, November 16th and 18th; 1795, February 11th and 12th; 1809, January 27th; 1824, November 24th; 1831, February 10th; 1852, February 8th and November 12th. The height of the recent flood on November 15th, 1894, was 14 feet 3 inches, which was higher than any flood since November, 1852. The flood on the Avon at Bath on November 15th, 1894, is believed to have been the highest on record. Mr. R. H. Scott, F.R.S., gave an account of the proceedings of the International Meteorological Committee at Upsala in August last, with special reference to their recommendations on the classification of clouds and the issue of a cloud atlas. A paper by Mr. S. C. Knott was also read, giving the results of meteorological observations made at Mojanga, Madagascar, during 1892 to 1894.

— WE learn from a foreign contemporary that Herr W. Siehe of Berlin, has undertaken a botanical exploration of the almost unknown region of Cilicia Trachæa.

— FOXGLOVES.—Like other hardy plants the Foxglove has been very much improved of late years both in the lengthening and distending of the blossoms, some of which are most beautifully spotted and marked with a great diversity of colour. As a companion to Delphiniums it would be difficult to conceive anything more suitable. In addition to the herbaceous border there is nothing better for certain positions, such as dotted about in the wild garden, in shrubberies, or on the sides of woodland walks. The plants will also thrive on banks, under the shade of trees, and many other positions.—G. P.

— THE GARDENERS' COMPANY.—A meeting of the Court of the Gardeners' Company was held recently, at which were present the Master (Mr. Beaumont Sheppard), Colonel Lambert (Upper Warden), Colonel Sewell, Messrs. Corble, Ivey, Barker, Croswell, and the Clerk (Mr. R. Gofton Salmond). Mr. E. Pinder Davis was introduced, and took his seat as a member of the Court. Mr. H. E. Milner and Mr. Joseph Lyons, according to a daily contemporary, were admitted to the Freedom and Livery of the Company, and, being elected to the Court, took their seats accordingly. Mr. Herbert Haynes and Mr. R. L. Devonshire were admitted to the Freedom and Livery of the Company. A pair of handsome silver-gilt cups have been presented to the Company by the Master and Upper Warden. Other business being transacted the Court adjourned.

— ANEMONE JAPONICA WHIRLWIND.—Writing to an American contemporary, "Plantsman" says:—"There are not too many forms of Japan Anemones that are distinct and worth growing. Both of the two best known are of garden origin, and these have superseded the original typical plant, which is dwarf, bearing a semi-double dull reddish crimson flower, not nearly as beautiful as the white-flowered variety or the one called *Anemone japonica hybrida*, which is identical with the white form, except in the colour of its flowers, which are pink. We have now another variety, quite new, pure white, and with an inner row of petals that give the flowers a semi-double appearance, and the effect is pleasing. I have observed a disposition to criticise the flower and doubt its usefulness, but I believe it would prove an acquisition as a garden plant. Our plants thus far are small in habit, but this may be due to their age, and it may be outgrown. If Whirlwind attains to the stature of the white and pink forms it will be valuable. It is worth noting here that within the last year or two an Irish grower has succeeded in raising seedlings and some of these are said to be very large and beautiful."

— CULTIVATION OF COFFEE IN INDIA.—According to the "Kew Bulletin," the early history of Coffee in India is very obscure. Most writers agree that it was brought to Mysore about two centuries ago by a Muhammadan pilgrim named Baba Budan, who on his return from Mecca brought seven seeds with him. Linschoten, who travelled in South India from 1576 to 1590, and described the countries through which he passed, their people, agriculture, and industries, makes no mention of Coffee in India. Tavernier, who journeyed in India in 1665-69, gives a full account of the Coffee plantations he visited. Dr. Wallich, in his evidence before a Select Committee of the House of Commons, stated that he never drank better coffee than that produced in the Company's gardens at Calcutta. Near the Bauria Cotton Mills, a little below Calcutta, may still be seen some of the original Coffee plants sown in connection with an attempt made at the beginning of the century to open out Coffee plantations on the plains of Bengal. These old plants continue to bear fruits copiously, and the Superintendent of the mills informs the writer that he regularly prepares his own Coffee supply from these plants. Though numerous experiments of this nature were conducted all over India, and continue to be made to the present day, Coffee planting has attained a commercial position almost exclusively in South India. In British India there were last year 127,548 acres under the crop. But the area devoted to it in Mysore, Travancore, and Cochin would have to be added to that in British territory, thus bringing the total up to more than 200,000 acres. There are thirty-one Coffee works (for cleaning Coffee) in the Madras Presidency, giving employment to 1379 permanent and 5433 temporary hands. The exports of Indian Coffee (in spite of the prevalence of Coffee-leaf disease) have shown, if anything, a steady tendency to increase in value if not in quantity. In 1877-78 the exports were 298,587 cwts., of the value of Rs. 1,344,638. Since that time the quantity and value have, with slight fluctuations, risen until 1892-93, when there were exported 299,337 cwts., of the value of Rs. 2,082,439.

MUSHROOMS IN PEAT MOSS.

IN your issue of the 6th inst. "R. C. W." (page 518) asks if any readers of the Journal have been successful in growing Mushrooms in peat moss litter after coming from the stables. We have used peat moss litter ever since it first came out, and I am sorry to say we had many failures in Mushroom growing when we commenced to use it. The great difficulty was to keep any heat in it. At last we took to sifting all the fine out of it, at the same time throwing all the lumps of peat moss out, and thus we had half droppings and half peat moss, and since doing so the beds retain their heat better, and we have fairly good crops of Mushrooms, but not so good as we do when the horses are put on straw.

Another difficulty with peat moss is—that should it by any chance become wet, it will hold the water like a sponge, and it sometimes gets too much for the spawn to live in. I have seen letters stating what extraordinary crops of Mushrooms have been grown in peat moss, and I have wondered what reason they had for writing them; for although we do have fair crops now it is a great deal more trouble, and peat moss should not be recommended in preference to straw manure.—J. L. B.

MY recent experience in connection with growing Mushrooms in peat moss litter exactly coincides with that of "R. C. W." (page 518). Mushrooms, in this establishment, have always been grown very successfully in former years when droppings only collected from straw have been used. This year only peat moss litter was available, and the beds were made in the usual way, spawned with the same kind of spawn, and at the exact temperature as heretofore; ten weeks have elapsed, and with the exception of a few stragglers no Mushrooms have appeared. As in the case of "R. C. W.," the beds at first heated well, and at the time of spawning were everything that could be desired; the spawn appeared to run well, but afterwards died away, and the temperature of the bed sank rapidly until it became cold, and the crop will, I fear, prove a failure.

As peat moss litter is now considerably used for horse bedding and appears to be on the increase, the question is one of interest. I know another case in point of a gardener, after several failures in attempting to grow Mushrooms with peat moss litter, being obliged to give up their cultivation. The bed seems to lose its heat at the time when the Mushrooms are commencing to germinate; this may probably be owing to the fact that the moss being of a somewhat succulent nature, like a sponge, absorbs all warm moisture caused by fermentation, together with the nitrogenous and ammoniacal matter given out by the manure; thus the bed, instead of being a retainer of heated moisture, becomes a self-consumer by absorbing it. This seems proved by the fact that for a short time the bed retains its heating qualities after making up, and then rapidly goes cold. I only throw out the above as suggestions, and if any readers are successful in growing Mushrooms with peat moss litter, their experiences and method of procedure will prove very beneficial to their more unfortunate brethren.—G. H., Alton Towers.

DISEASED PEARS.

LAST year Apples kept very indifferently, especially the large, soft-fleshed, early varieties, which was attributed to the wet weather following the driest and hottest summer of the century. In November of 1893 Pears were submitted to the Scientific Committee of the Royal Horticultural Society, which body referred them to Kew for examination, with the result that Mr. Massee reported they were infested with a fungus (*Glæosporium fructigenum*, Berk.), and this was duly recorded in the *Journal of Horticulture*, November 2nd, 1893, page 399. The specific name is there given as *G. fructigerum*, but I find the Rev. M. J. Berkeley has it as before given in his "Outlines of British Fungology," page 325. This change of nomenclature is very bewildering; in fact the one great mystery I find in the study of fungi, and inspires anything but confidence. In a subsequent communication to the Scientific Committee Mr. Massee stated that "the fungus attacking the Pears first appears upon the leaves, and from thence it passes on to the fruit" (*Journal of Horticulture*, November 23rd, 1893, page 469).

The foregoing is mentioned because it accords precisely with the statement of a correspondent, "C. N. P."—namely, "I first noticed it in August, after a severe thunderstorm; then I thought the tree had been struck by lightning. The Pears, in a space about 3 feet wide from the top of the wall to the ground, were all affected more or less. These I destroyed, and had not seen anything of it until ten days ago (October 11th, 1894), since when it appeared again, developed with great rapidity, more so on Doyenné du Comice than the other varieties, and to day I find it is spreading in the fruit room, although I have not knowingly taken any affected fruit there." This diagnosis of the disease from external appearance is singularly accurate, and the specimen forwarded with the communication bears out the statement in every particular. The Pears are fine even fruit, ranging from 8 to 12 ozs. in weight, which are a better size for general purposes—market and table use—than large and coarse, the varieties most affected being Doyenné du Comice, Huyshe's Prince of Wales, Beurré Diel, and Marie Louise,

These represent both the gritty (Huyshe's Prince of Wales and Beurré Diel) and the buttery (Marie Louise and Doyenné du Comice) Pears, therefore the idea of susceptibility is practically ousted. A tough skin and a hard flesh may have some influence in immunity or otherwise from disease, but there are other matters that count in the resistance of the plants to parasitic invasion, and fungi have not the battle all their own way after they have invaded the tissues of a plant. The most casual of observers must have noticed certain patches in Pears very hard and gritty, while the rest of the fruit is tender, melting, juicy, and richly flavoured. What is the cause of these gritty patches. It is a question of nutrition—tumours in the fruit. The grit is so much sand, lime, and other rock substances; but why do they become aggregated in certain parts of the fruit? Sometimes the grit surrounds the core, at others it is a speck only here and there. The object is the same, however, in both cases—that of the protection of the seed, the perpetuation of the species or variety, and the way it is effected has a direct bearing on our subject.

When the spore of a fungus finds its host it commences to grow and enter the tissues, if a species living therein, and something happens—to wit, a battle. The fungal germ—that of *Glæosporium fructigenum*—pushes its way between the epidermal cells and enters the intercellular spaces of the cells containing nuclei and nucleoli-growing cells, and abstracts their contents, resulting in a slightly depressed patch on the

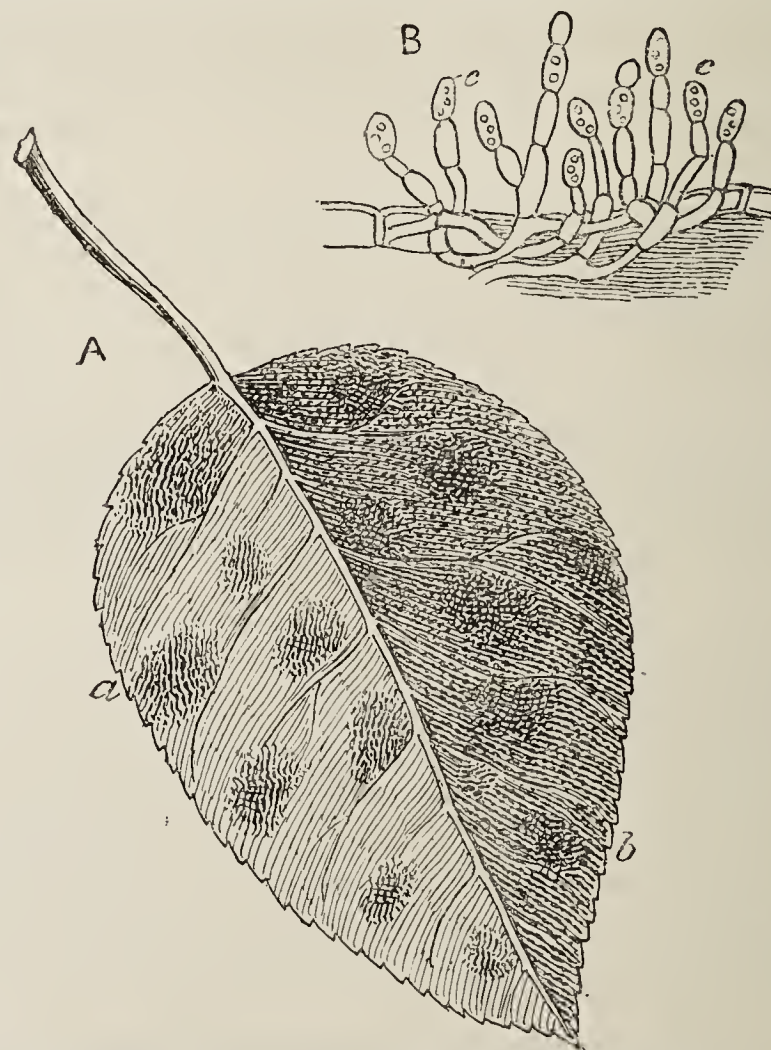


FIG. 99.—Bitter or Ripe Rot Fungus (*Glæosporium fructigenum*) on Pear leaf (A), natural size; early stage of fungus (B), enlarged 260 diameters.

leaf or fruit of a Pear tree. Sometimes it is the first, at others the latter, and not infrequently both. If the season be dry the leaves may not suffer, and the fruit have a few depressed spots only near its stalk end. These are common in Beurré d'Amanlis, General Todleben, Glou Morceau, and Nec Plus Meuris. There is an abundant secretion on the part of the fruit to such parts, and the fungus absorbs the nutrient—this is the organised or organisable matter, and rejects the silica, lime, and other inassimilable inorganic substances, consequently there is an accumulation (says the fungologist) of gritty matter. That is one view, and bad on the face of it, for the secretion is not due to the fungus but to the action of the plant. Wound a Cherry tree and it will secrete gum, a Fig and it produces milk, strives to cover it, and prevents the ingress of parasites. The leucocytes of the plant rush to the injured part, and they bear or draw the silica and the lime, and they knead it on the cell walls around the invaded part; yea, and so thicken them that the fungus cannot draw the matter through them, or very indifferently, and the fungus is precluded from the remainder of the fruit. Thus the gritty parts of fruits are formed, and the fundamental principles of avoiding and of counteracting fungoid ailments laid upon a solid foundation. But we are told silica is worthless, soda not needed, and as for lime a very moderate amount suffices. Where is the silica, lime, iron, or manganese or copper (if any) placed by the plant? Is it not in the epidermis, bark, and wood? There—barrier to repellant of parasitical invasion. Silicates are the most important of all substances in the treatment of plant diseases from a cultural point of view.

Glæosporium fructigenum attacks many other fruits besides Pears,

and its effects are variable. On the leaves it causes them to become brown, curl up more or less and fall prematurely. The disease first appears as discoloured spots, Fig. 99 A, on a leaf.* These spots (a) enlarge by the growth of the mycelium in the tissues of the leaves, and

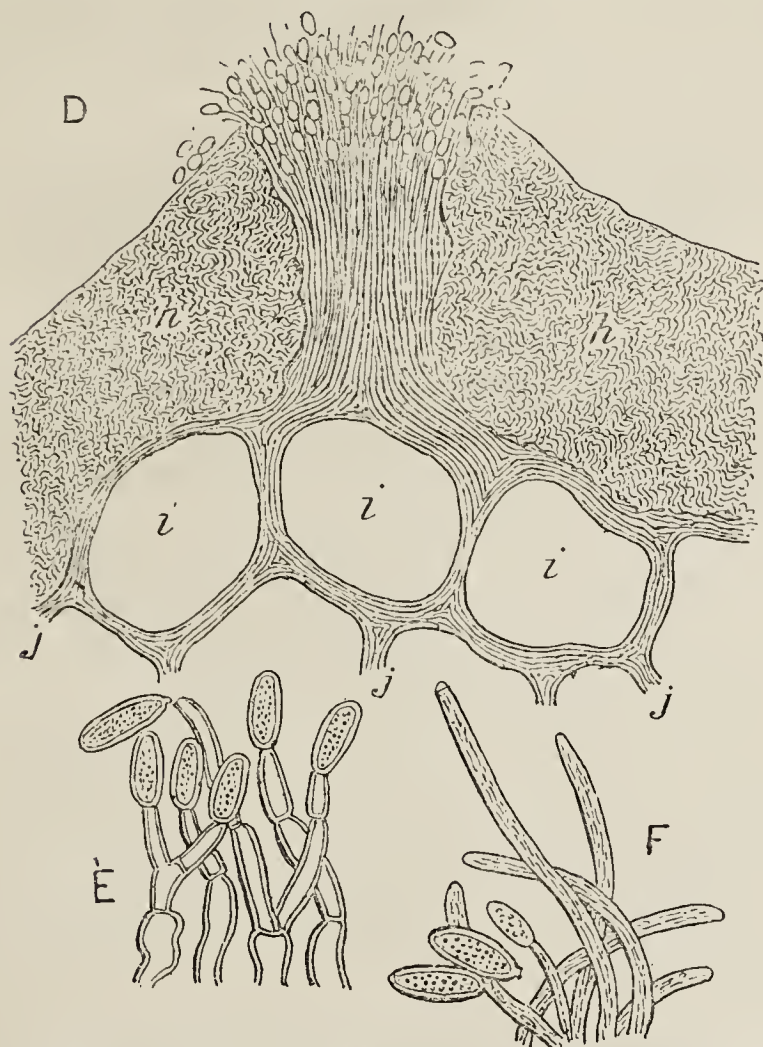


FIG. 100.—Section (D) through pustule on fruit, showing fungus discharging spores at g, enlarged 130 diameters. Mature form (E) of *Gloeosporium fructigenum* and tendril-like (F) outgrowths, both magnified 540 diameters.

soon extend to the whole surface. Through the epidermis minute bodies are pushed here and there, in pustule form, which bear on their apices club-like bodies (B), the conidial stage of the fungus, each of which breaking off and alighting on a succulent leaf or fruit of the Pear, or other suitable host plant, germinates in the presence of moisture pierces the epidermis by its germinal tube and passes into the interior, traversing the intercellular spaces, and by suction derives its support from the cells, which become slightly depressed at the point of attack.

From the mycelium similar bodies may be pushed, such as those figured, which are enlarged 260 diameters; but on a fruit (fig. 101 C, natural size) the invasion generally does not proceed beyond a depressed spot (d), the appearance being that of a wound from a hailstone, and the tissue there is hard and gritty. The fungus has been arrested in its progress, confined for the time being to the affected part, and the flesh swells all over the fruit but there. The hole in the fruit shown is half an inch deep. But the fungus can wait, the staying horse always wins, the cells of the fruit will sooner or later cease swelling, then the fungus pushes mycelial threads without opposition through the tissue, and these penetrate the fruit to its core. The mycelium seizes on the pips or seeds, abstracts their substance, and thus energised throws out fruit-bearing branches, which appear as small blackish pustules scattered over the surface of the Pear, and rot-spots form such as those shown at the apex of the fruit. A seed destroyed by the fungoid filaments is shown at e, and another, apparently sound, possessed by the mycelium of the fungus is represented at f. The fruit weighed 8 ozs., and, barring the fungus, an excellent table specimen, it was brown externally and the flesh discoloured. The cells were run together, the fungal threads having fermented the intercellular spaces, and it was totally unfit for use.

A section through a small pustule, enlarged 130 diameters, is portrayed in fig. 100, at D. The spores ooze out in tendril-like form, and are very minute (g); h, epidermal cells; i, internal cells; j, intercellular spaces. A piece of a pustule enlarged 540 diameters is shown at E, and a later stage at F, k, representing two fallen (teleuto) spores.

There is no cure for fruits diseased with *Gloeosporium fructigenum*. All infested fruits must be burned. To throw them on the rubbish heap, or feed the birds with them, is only to save the "seed" for another year, or scatter them far and wide. Prevention is feasible. First of all remove all fallen leaves and damaged or dropped fruit, and when all

the leaves are down syringe the trees and wall with bisulphide of calcium, made by putting 1 lb. of flowers of sulphur and 1 lb. of freshly slaked lime in an iron pot, and pouring on the mixture 6 pints of water, mixing thoroughly, and boiling for ten minutes, keeping stirred all the time. Allow the mixture to settle, pour off the clear liquid into a stone bottle, and keep in a dark place well corked. Use a pint to 3 gallons of rain water. This only when the trees are leafless. In the spring, when the leaves are forming, the shoots being about 2 inches long, syringe with half a pint to 3 gallons of water, but spraying is far preferable, as an overdose may damage the tender foliage, but the solution can be made weaker so as not damage it. Repeat two or three times at intervals of a fortnight if wet weather, or three weeks if the season be dry. Sulphide of potassium, 1 oz. to a gallon of water, may be used in winter, or half an ounce to a gallon in summer, instead of the calcium bisulphide. Either will kill the spores, and neither are poisonous.

Bordeaux mixture is a most effective preventive. Pear foliage, however, is very susceptible to injury from copper sulphate, and the mixture must only be used at half strength, avoiding altogether ammoniacal carbonate of copper solutions, which injure the foliage of Apples and Pears severely in our climate. Two or three early sprayings are usually sufficient, care being taken not to apply the mixture too strong, which should be guarded against by experimenting on immaterial growths before treating those of consequence with it.

To aid the trees is no mean part in thwarting parasites. The chief wants of the Pear are potash, phosphoric acid and lime. Potash may be applied in sulphate form or as carbonate. Kainit is the cheapest form, but it is liable to promote yellowness in the foliage, possibly due to the chlorides, yet fungi hate chlorine, chloride of iron being one of the most drastic of all applications for fungi, and it adheres far better than any other. Perhaps somebody may like to experiment with it, say $\frac{1}{2}$ per cent. solution = 1 oz. to 5 gallons of water, and I should like to know what fungus it will not kill. Kainit is useful in forming silicates, and they cannot possibly injure but aid the plant against its fungoid enemies, 2 ozs. per square yard being a sufficient dressing. Basic slag phosphate supplies both phosphoric acid and lime, 4 ozs. per square yard being an extra dressing, yet not too much. These should be applied this autumn to give results next year, also lime, a peck per rod, which

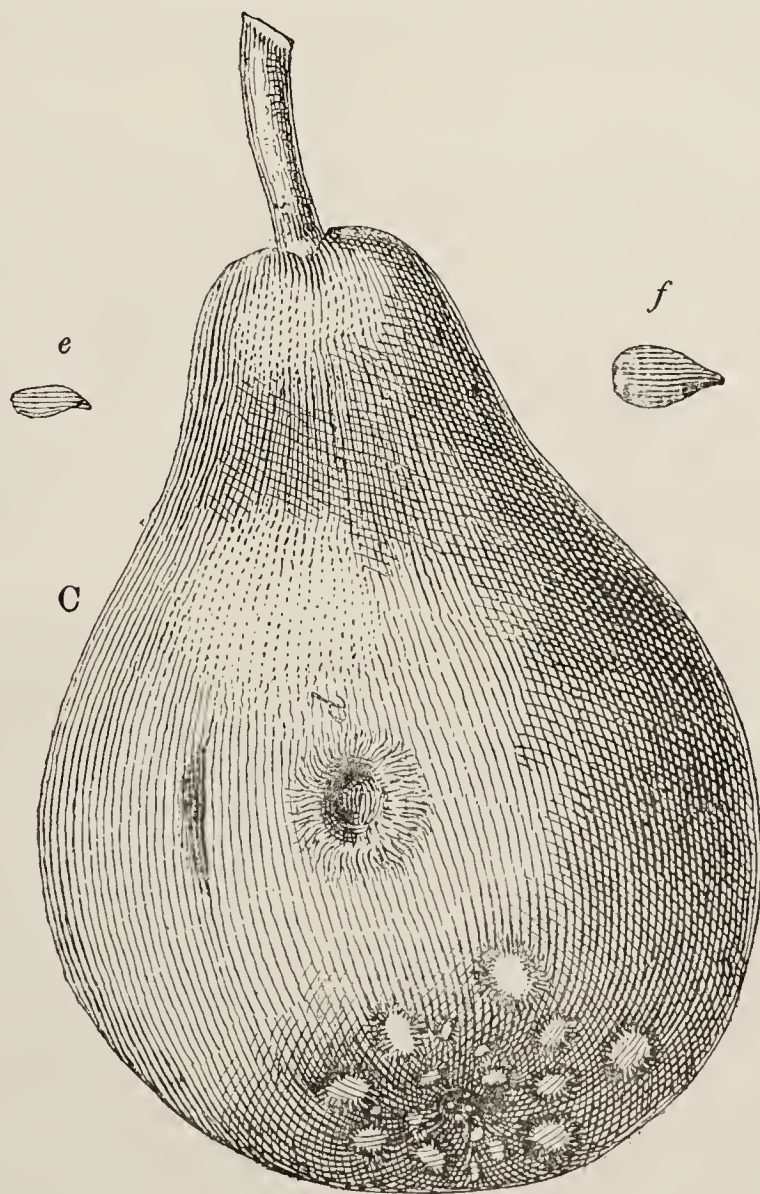


FIG. 101.—Doyenné du Comice Pear (C) infested with Bitter Rot fungus, natural size.

is desirable when the soil contains much organic matter. Quick-acting manures should be applied early in the spring, the advertised fertilisers acting promptly, and contain all the essentials of plant nutrition. Otherwise use bone superphosphate 3 parts, nitrate of potash (powdered) 2 parts, and sulphate of lime (ground) 1 part, all quite dry, mixed, and applied at the rate of 4 ozs. per square yard when the trees commence growing in the spring, leaving the rains or waterings to wash in.—G. ABBEY.

* The spots this year were very abnormal and much run together, also on the fruit, which showed very few brown spots, but the white patches were very conspicuous. Both the leaf and fruit figures represent the affection this year on the Pear. On another occasion I will endeavour to show the characteristic attack and effects of this fungus on the Apple tree leaves and fruit.—G. A.



TWO NEW INCURVED CHRYSANTHEMUMS—MRS. R. C. KINGSTON AND MRS. JNO. GARDINER.

THE above named varieties are grand additions to our incurved section, and unless I am much mistaken both will figure very prominently in the winning stands of 1895.

Mrs. R. C. Kingston has only been exhibited at four different places—viz., at Philadelphia, U.S.A., in November, 1893, where it was specially mentioned; and this year at the National Chrysanthemum Society's show at the Aquarium show, also at York and Beverley, at each place gaining the highest possible award for a new variety. Its flowers are large, of an excellent form, and a beautiful shell-pink in colour, with broad florets.

Mrs. Jno. Gardiner, wherever it has been exhibited, has gained hosts of admirers. Both colour and form are truly grand, and it should take front rank at once as one of the best front-row blooms ever introduced. From what I hear Owen's New Crimson will create quite a sensation next autumn.—YORKSHIRE BITE.

A LARGE SHOW CHRYSANTHEMUM.

LAST year when on a visit to Mr. Owen I noticed a very fine large Japanese flower called Mme. Rozain. Having been recently to Maidenhead I was particularly struck with this variety again, and on looking over the show reports do not find that it has been staged in any of the winning exhibits at the shows. It is difficult to imagine that such a flower has been entirely overlooked, but perhaps there may be faults of growth with which I am not acquainted, and which would account for its not being shown. Mme. Rozain was raised by M. Rozain, Boucharlet, and sent out by him in 1893; in build it is rather flat but of very great breadth, and has florets of immense length. They are tubular, twisted, and intermingling. The colour is silver pink edged purple, and if known might, other things being equal, prove to be a valuable exhibition flower.

FRENCH CHRYSANTHEMUMS AT THE RECENT EXHIBITIONS.

A rough audit of the varieties staged in the winning stands at the various leading shows recently reported in the *Journal of Horticulture* gives the following varieties as figuring in them. Mrs. C. Harman Payne, Mdlle. Thérèse Rey, Vivand Morel, Mdlle. Marie Hoste, President Borel, Etoile de Lyon, Préfet Robert, Louise, Madame J. Beylie, M. Pankoucke, Marquise de Paris, Madame Isaac, Madame C. Molin, Alberic Lunden, Madame C. Capitant, Souvenir de Petite Amie, Madame Oct. Mirbeau, Incendie, Madame Carnot, Commandant Blusset, Madame Ad. Chatain, Madame A. Giroud, Madame Calvat, M. Bernard, H. Jacotot fils, Beauté Toulousaine, M. E. A. Carrière, Val d'Andorre, Boule d'Or, Condor, Madame Ricoud, Van der Heede, Le Verseau, and Vice-President Audiguier. Some of our friends about two years ago began to prophesy that the French raisers were "played out." It does not look like it yet.—P.

THE MISSING LINK.

J. AGATE, the variety that is the source of the coining of the above heading, affords a striking instance of the folly of judging a variety before it has been sufficiently cultivated and tested as to its proper development. It is well known to practical cultivators that seedling Chrysanthemums require considerable time and patience, as well as cultural skill, before a strict definition of their true character and class can be written. No doubt many of the best and most popular varieties were but single-flowered the first time they expanded their blooms. In some instances three years are required to thoroughly test the capabilities of a variety. Instances occur to my mind where varieties have been unfavourably spoken of that have afterwards developed into exceptionally fine examples. C. B. Whitnall was condemned as a bad Japanese when it opened its first blooms. He would indeed be a bold man who placed it otherwise than in the front rank as a true incurved flower. Not only does this variety possess all the points of a perfect incurved bloom, but its colour is quite unique—a soft velvety maroon.

In the case of J. Agate, a variety which is supposed by some to furnish the "missing link," experts and specialists were misled when the first blooms developed. As then seen it was truly a Japanese in form, but a bad type of that section. I remarked at the time to Mr. J. Agate what a poor variety it appeared to be to bear the name of so popular a cultivator. Never was the truth of the old adage, "time changeth all things," better exemplified than in the case of this Chrysanthemum, which is at the present time engaging the attention of so many judges, critics, and readers of the *Journal of Horticulture*.

From blooms developed here this season, I have no hesitation whatever in placing J. Agate amongst incurved varieties. I cannot see how the Floral Committee of the National Chrysanthemum Society could do otherwise than grant a certificate to this Chrysanthemum placed before them in the condition that it was on November 7th. The action of the Committee referred to should clear any doubt as to which class it belongs. However, I do not know how the supplemental

catalogue issued by the governing body classifies this variety, not having seen a copy.

In description J. Agate compares favourably with any in the incurved section. Well developed blooms are perfect in "build," the florets not quite so round at the tips as a typical "Queen" bloom, being rather more pointed than in the case of Empress of India, which it is supposed to closely resemble. The colour is pure white, as was the case when first brought out as a Japanese. The alteration is in the "build" and form of the blooms.

I think few persons of experience will agree with "A. D." as to placing Lord Brooke and Robert Owen in the same section as Mons. R. Bahuant and J. Agate. It does not require a very close inspection with a practised eye to detect the ample lines of distinction in the two sections.—E. MOLYNEUX, *Swanmore*.

REMOVING BARK FROM VINES.

THE article on "Cleaning Vines," by Mr. J. J. Craven (page 534) will probably cause a little comment by some readers of the *Journal of Horticulture*, and in some instances may raise their ire as well, for surely no gardener who values his position, or studies the interests of his employer, would think of entrusting the cleaning of Vines, or anything else, to careless or inexperienced men. Your correspondent also states that in "his opinion" such treatment (the removal of bark) impairs the constitution of the Vine. Does it? How, and in what way? Surely Vines grown under glass do not need superfluous bark left on them, to say nothing of the harbour it affords for insect pests. As a practical gardener I quite fail to see how an abundance of bark can "indicate" there is something "good" to follow.

The argument that "Nature never provided bark to be peeled off annually" does not necessarily imply that it is injurious to remove it. If everything that Nature provided were left alone, our vocations as gardeners would soon cease. The writer also states that he should be reluctant to strip Vines infested with mealy bug, but "thinks" several thorough washings would be his method. It may be that he has never had the misfortune to "take over" Vines infested with mealy bug, and have not had the experience. Prevention is better than cure, and I am of opinion that skilful winter cleaning is far better than allowing the pests to increase, to the annoyance of both head gardener and his subordinates.—ERICA.

THE FORM OF MINIATURE VIOLAS.

AFTER reading your notes on "Violas and their Friends" (page 543) I have gone through the official report of the Viola Conference, which has left me in a difficulty. Mr. Steel's paper on the Miniature Viola gives the ideal properties. In speaking of form he says, "The flowers may not be circular, as in the florist's Pansy, but may be narrow and more oval in shape." The Conference also passed a resolution to the effect that all flowers of the miniature type must not exceed $1\frac{1}{2}$ inch in diameter. Here comes the difficulty, How do we find the diameter of an oval flower? I believe the word diameter means a line passing through a circle dividing it into two equal parts. Now are we to understand that Mr. Steel's form stands for nothing, and only circular blooms to be recognised, or what? Perhaps some of our Conference friends will explain to—ONE IN A DIFFICULTY.

[No doubt "diameter means a line passing through a circle," but does it not also mean the measure across the centre of an object from side to side? The doubt at issue is, however, relegated to the Viola growers.]

AN IMPERISHABLE LABEL.

I HAVE enclosed an imperishable label, which (if you think it worth your notice) I have thought might be useful to some readers of the *Journal*. I find it very useful for the herbaceous border and Daffodils. The materials being nearly the colour of the soil makes it inconspicuous (no small matter in private gardens), and moreover it is improved by exposure; the soil drying in the letters makes them more legible.

I think it may be termed an inexpensive label too, as the materials are usually plentiful about most establishments—viz., No. 13 galvanised wire, or that generally used for trellising walls; and ordinary sheet lead, a square foot of which will cut nearly 100 of the enclosed size.

I have tried strips of lead pointed like the wood label, but find they are too pliable when accidentally knocked by the foot or garden tool, whereas with the wire support they spring back into position again when so touched, and about one-third of the lead will suffice. I press the wire into the soil, quite up to the label. I know there is nothing new in lead labels for suspending, but I have nowhere seen them used for the border.—J. W. S., *Yeldersley*.

[The labels sent consist of tablets of lead 2 inches long, three-quarters of an inch wide, and a little more than one-sixteenth of an inch thick. The top of the wire support is bent as a S hook, by which the tablet is fixed, and the hook pressed close. It could only be "knocked" off by persistent effort. The durability of the label is beyond dispute, the names of the plants being represented in bold letters deeply punched in. The labels must of necessity be inconspicuous, but we should imagine that keen eyes or close stooping would be necessary for reading them when close to the ground. We note the

intimation that "the soil drying in the letters makes them more legible," but would not this to some extent depend on its colour? Our correspondent is an intelligent practical gardener, and one of the least likely to strain after effect in description, and therefore what he finds useful is likely to be so to many others, though not to men of all ages, and whose eyes may be dimmed by the lapse of years.]



DEAN HOLE IN AMERICA.

AT Dean Hole's lecture in Boston a few nights ago, at which Bishop Lawrence (of the Episcopal Diocese of Massachusetts) took the chair, the platform was arranged with the idea of surrounding the Dean with a display of Roses in honour of his life-long devotion to the cultivation of this flower. "A prettier or more novel and effective decoration of the stage of this great hall," said the "Boston Herald," "has seldom if ever been seen." When the Dean—who, we regret to learn, has been in indifferent health—entered the hall, accompanied by the Bishop, the Chorister Glee Club took their stand under a beautiful floral arch which had been erected, and sang with fine effect the old glee, "My Love is Like a Red, Red Rose." If the Dean was not happy that evening he ought to have been.

THE NATIONAL ROSE SOCIETY—SOUTHERN PROVINCIAL SHOW, 1896.

YOUR report (page 568) of the annual meeting of the National Rose Society, at which, for a reason which I will state directly, I was not present, records several unhappy divisions of opinion that may hereafter lead to a disastrous issue, but makes no mention—probably even most of the Committee are in ignorance of it—of the extraordinary way in which Portsmouth has now been treated by the Society. No place is even named as possible for the southern show of 1896 but Reading, and though almost every real southern exhibitor might well regard it as unfortunate that, in the year of a southern show at Windsor, another place should be selected only eighteen miles from Windsor, he would naturally conclude that the meeting had no option in the matter. I therefore feel obliged to lay before you some startling facts, as to the true explanation of which I am, at present, wholly in the dark.

Last year in the discussion about a southern show you, I think, published letters from rosarians deserving some attention, pointing to Portsmouth as an obviously suitable place for the purpose; genuinely southern, neither suburban nor on the Welsh border; a very large town, with an admirably suitable hall (or public gardens for an alternative); and, above all, in a maiden district, whence the Society would be likely to gain many new recruits. There was every reason then to suppose that the N.R.S. would gladly welcome such a promising field for exertions.

There is, however, I believe, no rosarian exhibitor in or close to Portsmouth, and for a while the correspondence produced no sign. But last summer a true rosarian, the Rev. J. Spittal, Vicar of Havenstreet, Isle of Wight, went to interview the town authorities of Portsmouth on the point, with such success that a resolution was passed in the Town Council to invite the N.R.S. for 1896, offering every possible welcome on the part of the town, and guaranteeing £50 towards the expenses. Of this the Secretaries were certainly informed, since I (and I think others) wrote to one of them, thinking that the meeting for 1896 was now secure. In November I heard to my vexation that no formal application had yet been received from Portsmouth, and that the Reading authorities had been invited to apply for the show to be held there. I have no means of testing the accuracy of this information. I thereupon wrote at once to Alderman Scott Foster, who has taken the lead in this matter at Portsmouth, and received this reply.

November 28th, 1894.

REV. AND DEAR SIR,—The letter has been sent to Secretary. The clerk who is responsible for minutes overlooked the matter, and I am glad you reminded me. I think I wrote you, and said we shall be glad of any advice and assistance from your Society in the Isle of Wight. Our Drill Hall has the electric light, and this probably is an advantage. We shall endeavour to make the show a success.—Believe me, yours very truly, T. SCOTT FOSTER.

I also wrote to Mr. D'Ombra (a friend of thirty-six years' standing) saying that I had arranged to come to the annual meeting on the 6th, though at some inconvenience, in order to see that—as Portsmouth had no representative on the Committee—no further mistake should be made. Mr. D'Ombra kindly replied to tell me as early as possible about the curious mismanagement in regard to the date, and added that I need not trouble myself to come up on the 13th, if the place of the Southern show were my object, because that *would not be dealt with at the general meeting but in Committee.*

With these facts before you you may perhaps judge of my surprise, disgust, bewilderment—it is difficult to find the right word—when I heard again from Mr. D'Ombra (December 15th) as follows:—

"I am afraid that you will be disappointed, but the question of

place for 1896 was submitted to the annual general meeting, and Reading was chosen by an unanimous vote, on account of priority of application." (italics mine).

Priority of application! When the Secretaries knew that the Town Council of Portsmouth had passed a formal resolution two years before the show could be held; when a formal invitation had reached them, long before the time for deciding on the place. Unanimous vote! when the sole reason why I was not there to explain the facts was owing to one of the Secretaries himself. In the general meeting! when the Secretary again tells me that it must be dealt with in Committee, of which I am a member.

There may be some explanation of these facts that will justify the authorities of the N.R.S., though I cannot even vaguely conjecture what it may be. But that Portsmouth, for some inscrutable reason, has been outrageously treated seems beyond dispute, and I as one of the Committee of the Society, will clear myself from any share in it. *Liberavi animam meam.*—G. E. JEANS, *Shorwell Vicarage, Isle of Wight.*

THE NATIONAL ROSE SOCIETY—ANNUAL MEETING.

YOUR report of the National Rose Society's annual meeting, and the letter signed "Gleaner" (page 567) whom I congratulate on his most admirable *résumé* of the proceedings, must greatly interest those who take even slight notice of the N.R.S. and its "goings on." I use this expression as it fits in with the remark made by "Gleaner"; "Verily the ways of the N.R.S. are '*singulier*,' and few there be that comprehend them."

No one was more astounded than I was to read and hear of Mr. D'Ombra's action towards Mr. Machin. It must have equally astonished others who know of past associations, and the Arab's noble chivalry towards those with whom he has eaten bread and salt appears, I regret to say, in our Secretary's opinion, an example to be carefully eschewed.

Now let me give one or two lights on this V.P. question, although I confess that I am unable to quite unravel the mystery, or give a satisfactory reply to the pointed question of "Gleaner." Prior to the last Committee meeting of the Society (which was so mismanaged in November, at the Hotel Windsor, that neither Mr. Lindsell nor Mr. Shea, who came specially to town to attend, knew where it was being held, Mr. Lindsell being actually informed at the Horticultural Club that it was then over—at 3.45 I), I wrote to Mr. Machin, suggesting that we should call the Committee's attention to the fact, that while rosarians of a lower status were being appointed V.P.s the greatest rosarian in the Society had, inadvertently no doubt, been forgotten. Mr. Machin, with a generosity and warmth which are natural to him, at once saw the propriety of the suggestion, but without any hint to me as to his proposed action, wrote to the Committee resigning his V.P. in favour of Mr. Lindsell. With a want of *savoir faire* which will appear incredible to anyone who mixes in the world, and knows what is usual in such cases, the Committee accepted that resignation. As there is no limit to the V.P. list there was no necessity for the vacancy, but the Committee were unable to appreciate the generosity of the gentleman resigning, nor able to see that a refusal would be inevitable under such circumstances by the suggested recipient of the transferred honour, Mr. Lindsell very properly declining it under the circumstances.

An all-round blunder having been committed, I wrote the proposal which Mr. Shea moved at the meeting; this enabled Mr. O'Mbra to say there was no room on the V.P. list for Mr. Machin, but immediately afterwards he proposed Mr. Foster-Melliar. Further comment on that is unnecessary, as the pointed rudeness to one gentleman was certainly not amended by favourable action to another, whom no one doubts is worthy of the honour, if he values it as such.

If Mr. Machin be not suitable for the Vice-Presidency, may I ask on what grounds Lord Bathurst is made a V.P.? What has he done for Rose growing, or as a rosarian, as a patron to the trade, or an exhibitor? The same question applies with equal force to others of our V.P.s.

The milk and water platitudes of your other contributors this week may please those for whom they were written, but in the opinion of many the N.R.S. meeting was a "fiasco." It was nothing but a "glorified" Committee meeting (thirty-three of the thirty-seven present being Committeemen), and was made so simply by the primary blunder of the officials in postponing the meeting. They cannot say there is no room available in London except at the Hotel Windsor? Many would have attended on the 6th who could not on the 13th, and the discourtesy accorded to Mr. Machin, and the result to some of the resolutions might on the 6th have been very different to those of the 13th; but "verily the ways of the N.R.S. are '*singulier*,' and those of the Committee *very much so.*"—CHARLES J. GRAHAME.

[Whilst preparing for press other correspondence on this subject come to hand, but for which space cannot possibly be found this week.]

NOMENCLATURE AT FLOWER SHOWS.

WE seem to be a long way behind the times in the system of naming Roses, Dahlias, Chrysanthemums, and other flowers at our exhibitions, so as to make it perfectly easy to see the names even behind a double row of visitors against the stands. The present system of having the names on small slips amongst the flowers has many disadvantages, and it is a matter of surprise that more attention has not been paid to the subject.

Messrs. Bunyard & Son, Maidstone, use an excellent little contrivance which is so easily secured to their plates of fruit, and a neatly printed card with the name is securely placed in a clip, so that visitors can readily see the names without any difficulty whatever.

Hardy herbaceous and other border flowers are now so much seen at our flower shows, and very frequently it is most difficult to see the names of many of them. A simple wire arrangement, consisting of stout iron wire of various lengths, with a clip at the top to hold the name of the variety, and placed in a slightly slanting direction in front of each variety, so as to be easily seen, the point of the wire being secured in the stems of the bunch.

A very little ingenuity is required to bring out a neat arrangement for Roses, Dahlias, and Chrysanthemums, and a better method of naming Carnations, Picotees, and Pansies is greatly needed, so that the names should be legible and easily seen fixed to the back of the stands.

Legible naming should be insisted upon, and correct naming also. Much that is very slovenly in this way is too often seen at flower shows, and should be condemned.

It is of equal importance also that the prize cards of the winners should be distinctly and fully filled up by giving the class number and its contents, then the full name of the employer and address, and Mr. So-and-so, gardener, underneath.

Too much of the card is often taken up by the title of the Society, a matter of very small importance compared with proper filling up of the prizewinners' names and addresses, well and legibly written.—AN OLD JUDGE.

LIME.

I SHOULD like to say a few words in answer to "Inquirer's" note *re* lime (page 563). If a soil requires lime in a caustic state it should be put on the land in small heaps, allowed time to slake, and afterwards spread with a shovel. This method prevents using the hands to sow it, for its caustic or burning nature causes soreness and cracking of the skin. Its effect upon clothes and boots is to give them a scorched or brownish appearance, and leather is very liable to crack if it be exposed to the action of much lime.

A question asked by "Inquirer," is "Would not the application of lime kill or injure the nitrifying bacteria?" Not if applied in moderate quantities to soils requiring lime, for instead of injuring them it would help them in their important work by keeping the soil in a basic condition, which is so essential to the full development of these organisms, for if the soil be acid or sour the micro-organisms cannot go on with their work, and it is the lime that plays the most important part in keeping soils in a suitable condition. By applying an excess of lime we could kill these organisms, but the quantity required for this purpose would be very large, and we should make the soil unsuitable for the growth of any crops by so doing, for we could never expect to grow the higher plants (garden crops) on a soil we had made unsuitable to the lower ones (bacteria).

Lime acts on soils in various other ways, for it is in itself a direct plant food, large quantities being taken up by growing crops. As a nitrate of lime it decomposes the organic matter present in soils, the products of which are brought into a condition more useful to plant nutrition; it also assists in the decomposition of some of the salts of the soil, which act then as direct plant foods; it also acts physically upon all soils, making heavy soils more open; it improves the texture of sandy soils, making them more able to hold plant foods; it reduces the excess of organic matter in peaty soils, and makes them more suitable for plant life by correcting any acidity due to the decomposition of the excess of organic matter.

In putting lime on refuse heaps, unless decomposition is wanted to take place rapidly, I should not be inclined to use quicklime on a refuse heap because loss must occur owing to the escape of ammonia produced by the decomposition of the organic matter, and the very soluble plant foods formed would be very liable to be washed out. Gas lime could be used without the above loss occurring.—W. D., *Turnford*.

CHRISTMAS ROSES.

WITH a limited number of plants, by far the best way to insure an annual crop of blossoms is to grow the clumps in such a manner that a frame will cover them. For the last ten years I have had splendid crops of flowers, mainly from *Helleborus niger*, and with but a minimum of trouble. Some persons lift the roots, removing them to a warm house with a view of getting the flowers to expand early, but with only a few plants they will not last long.

Hellebores object to a continual interference with their roots. I have enough plants to fill an ordinary two-light frame, and from this we cut thousands of blooms, commencing with *H. maximus* in November, continuing with *H. niger* at Christmas. This latter will give us blooms until the middle of February. This I consider very good results with so little trouble expended on the plants. *H. maximus* opens with a tinge of pink in the petals, but throughout January the blossoms are white. This is an excellent variety for a continual supply. For the purity of its flowers *H. niger* is perhaps the best.

Hellebores grow best in fairly light loam. I had some difficulty with our roots at first; they objected to the heavy retentive nature of the natural soil. I lifted them and made an entire new bed of turf freshly cut from a pasture where the soil is heavy. With this I mixed peat and

leaf soil freely, removing any bits of sticks from the latter and using all as rough as possible. The subsoil to a depth of 2 feet was thoroughly broken up to admit of a quick percolation of water from heavy rains. The roots, which are thick and fleshy, object to stagnation about them.

Our plants are growing on an eastern border, therefore receive the advantage of the sun. They enjoy copious supplies of water, with an occasional soaking of liquid manure when in full growth. I provide an annual mulching for our plants in the spring after the frame is taken away. Partly decayed horse manure answers very well; this not only prevents the surface roots becoming parched during the drying winds sometimes experienced in the spring, but its ammoniacal properties are beneficial to the plants. When the new growth is fairly on the way the frame is removed, but not if the weather is unfavourable. A temporary covering is provided after the lights are taken away. About the middle of October the frame is placed over the plants, the lights drawn off daily in fine weather, but kept on if it be wet. By keeping the lights closer on the opposite during December, according to the state of the weather, the blooms of *H. niger* can always be obtained. A covering of mats is afforded during frosty weather, as the blooms are spoiled if subjected to half a dozen degrees of frost.—E. MOLYNEUX.

£20,000 LOST IN FRUIT GROWING.

IF Mr. R. D. Blackmore (page 571) has really lost £20,000 in his endeavour to grow fruit over a period of forty years, it is not only a duty on his part to say so, but since he has said it another duty seems to devolve on him—namely, to say how it was done.

All who have read Mr. Blackmore's fascinating books will rejoice in his being able to lose such a sum and still remain, as he is supposed to be, prosperous. His "long pen" has evidently served him well, and it is to be hoped will continue to do so for many years to come. He has brightened many homes, and relieved the tediousness of many long journeys—making them, in fact, all too short by his fascinating "Lorna Doone," and other works. He can now do great good, more than he has yet done, to intending fruit growers by pointing out the rocks, hidden to many, against which his vessel of hope, the "Pomona," has been wrecked, in order that others who he feels are in danger may avoid them. Will he be so good as to say—

- 1, The kinds of fruit he mainly grows?
- 2, About the number of trees of each kind; also the number of varieties?
- 3, If he has not found any varieties of any kinds to bear satisfactory crops?
- 4, If all fail, to what does he attribute the failure?
- 5, If he carefully sorts and markets the fruit (when he has any) in the best saleable condition?
- 6, If he considers the soil or situation of his plantations especially unfavourable for fruit cultivation.

Information on these points would I am sure be helpful. I have planted fruit trees which have not yet had time to be profitable, though some of them produced remarkably fine fruit last year. I should like to plant more, but now hesitate.—LANDOWNER.

THE EXMOUTH NURSERIES.

BEING in the neighbourhood of Exmouth early in November, I called on the Chrysanthemum specialist, Mr. W. J. Godfrey, thinking I should see much of interest, and I was not disappointed. Mr. Godfrey has five nursery establishments scattered over the town, but it must not be thought that he spends all his time amongst Chrysanthemums, although he flowers annually 7000 plants in pots. He cultivates largely and well Grapes, Peaches, Tomatoes, and Cucumbers, besides Carnations, winter-flowering Pelargoniums, Bouvardias, and other suitable plants for furnishing and supplying his numerous customers in the town and his handsome shop in Rolle Street.

Like all other specialists, Mr. Godfrey believes in personally testing all varieties of Chrysanthemums as fast as they are sent out by other firms. The raising of seedling Chrysanthemums Mr. Godfrey has made a special branch of his business, and with some success. He finds it is necessary to cultivate the plants two or three years before the true character of each is developed, so variable are some kinds. The plants are bloomed in a very large house recently erected at a great cost. The dimensions are 153 feet long, 27 feet wide, and 17 feet high. The roof is curve-shaped, with ample ventilation on both sides of the top.

At the time of my visit the plants were arranged in the middle of the house, and produced a very fine effect. All the best kinds in cultivation were well represented, and new varieties also. Challenge is an incurved Japanese, the florets being pointed, and the colour rich orange, a promising variety, growing 3 feet high. La Rhone is French-raised, of dwarf habit, colour yellow. Mrs. C. Lippingcot, Mrs. Joseph Thompson, La Ministre, Léon de Bruyn, Jules Chrétien, Mrs. W. H. Godfrey, and Lady Northcote were also good, but these have been previously noted in the *Journal of Horticulture*. Christabel resembles Mrs. W. H. Lees, when both open early. The long florets curve at the tip, and are dull white. Garnet, wine red, incurved Japanese; Le Drac, also incurved Japanese, bronzy yellow, with chestnut base. Mrs. G.

Gordon, R. Dean, A. T. Ewing, Madame Carnot, and T. Deane were well represented. Madame Bullyer is best described as a rich port wine colour, florets semi-drooping, good form, medium size. A. D. Moulin has incurved florets as they expand, then reflex and twist at the point, white, striped faintly with purple, large and good. Beauty of Exmouth I never saw in such splendid condition but once, and that was at Exeter show, where it surpassed really good specimens of Mdle. Thérèse Rey in the class for six blooms. With Mr. Godfrey the blooms were simply perfection. Many more might be named, but space will not permit.

I have previously alluded to the Grapes that are grown here. The vinery, a span-roofed structure, is 85 feet long, 20 feet wide, and 10 feet high in the ridge; the house has one partition. The Vines have been planted five years, and for canes of that age I never saw better crops of fruit, and when we consider the number of varieties in one house. Gros Colman had exceptionally large berries of splendid colour, the rods carrying from seventeen to twenty bunches each. Mrs. Pince was considerably better than usually seen, Lady Downe's faultless, Gros Guillaume carrying several large bunches; Alnwick Seedling, Madresfield Court, Muscat of Alexandria, and Black Hamburgh all growing together, and refuting the idea often expressed that so many varieties cannot be successfully grown in one house.

Peaches are well grown, judging from the appearance of the trees, which are furnished with thoroughly matured wood. A span-roofed



HARDY FRUIT GARDEN.

Pruning Outdoor Vines.—Vines on outside walls may now be pruned and the rods tied in position. The pruning should be carried out judiciously, so as to afford a sufficient number of prominent buds on the wood left for the future crop. If on the spur system prune the side shoots closely in, so long as doing so will secure plump and promising round-looking buds; those of a pointed character are rarely fruitful, therefore not suitable. Crowded spurs on the rods ought to be thinned out to not less than a foot asunder. It is frequently more convenient to train in young canes allowed to extend for that purpose with some amount of restriction during summer to plump up and perfect the buds upon them. Cut out old bearing wood and train in the reserved canes about 2 feet apart wherever room can be found. They may be shortened to various lengths according to their strength and ripened condition, as well as the space they have to cover. Shoots not wanted may be pruned in closely and some cut out entirely. If necessary the rods can be dressed with softsoap solution, 3 or 4 ozs. to the gallon of water, the older portions having loose bark being well brushed with the solution for destroying red spider and probable mildew germs.

Root-pruning Pear Trees.—Old espalier, pyramid, or bush-trained trees making too much wood, which cannot be induced to be fruitful by pruning and thinning, ought to be root-pruned. Cut a trench half or wholly round about 3 feet from the stem. All strong descending roots cut back, as well as those found running horizontally in making the trench. The appearance of the trees usually indicates the state the roots are in. When the strongest growths are at the top it is certain that the tap root and some of the principal main fibres are descending straight down into uncongenial subsoil. These must be sought for by undermining the ball of roots. When found sever them and cut the ends smoothly across. The operation of undermining may be effected more easily by widening the trench outwards so as to give more room to work. As far as practicable raise the roots to a horizontal position, filling in among them some good loamy soil, wood ashes, and manure, mixed with the staple material, making the whole firm as introduced, which will cause the emission of fibrous roots and eventually improve the trees, rendering them capable of bearing fruit.

Cleansing Fruit Trees.—The winter season affords a good opportunity of cleansing fruit trees of moss and lichens, eggs of insects, scale, and American blight. Attacking the enemies of fruit trees when the latter are in a dormant state renders the work of riddance more effective, as stronger insecticides may be used than when in full growth.

Soda and Potash Solution.—A most reliable dressing, one which has been thoroughly tested and proved to be effective in ridding trees of various pests and reaching their hiding places as well as thoroughly cleansing the bark, consists of the following. It has been previously recommended in these pages, and is used by many of the leading fruit growers. Half a pound of caustic soda (98 per cent.), half a pound of crude commercial potash (also known as pearlash), dissolved and mixed in 5 gallons of water, to be applied at a temperature of 120° to 130°, using a spraying apparatus, which is the best method of applying the mixture. For Apricot, Peach, and Nectarine trees double the quantity of water should be used.

Wash for Walls or Trees.—Nearly equal parts of lime and sulphur and half of soot, or say 7 lbs. of lime to 5 lbs. of sulphur and 3½ lbs. of soot mixed into a paste with soapsuds or softsoap solution, will be beneficial to any trees or walls that require a winter dressing. For red brick walls it might be coloured with Venetian red. All nail holes and bad joinings between the bricks ought to be filled up previously with good mortar. Softsoap solution for this wash may be made by dissolving a pound of soap in a gallon of hot water. Bring the mixture to the consistency of thin paint, using it warm upon the stems and branches of trees infested with moss, lichens, or scale, and hot upon walls. The softsoap solution alone, without the soot, lime, and sulphur, but with a wineglassful of methylated spirits of wine to each gallon mixed until it forms an emulsion, will destroy scale on Apples, Pears, Gooseberries, Currants, and Plums.

Lime and Limewash.—Simple dustings of lime among the branches, and washing the stems and larger branches with fresh limewash, soon destroy green growths upon them, though its appearance is rightly unsightly for some time. Soot and clay will tone it down to some extent, but the pure lime is the most effective as a dressing when used alone.

Remedies for American Blight.—Gas tar, clay, and water will destroy this pest on Apple trees. Take of gas tar and powdered clay a pint each. Incorporate together and add a gallon of hot water, thus forming a paste, and apply to the affected parts with a brush. Petroleum or methylated spirits of wine brushed into holes and crevices in



FIG. 102.—CARNATION MISS MARY GODFREY.

house 40 feet by 16 feet, in divisions, enables Mr. Godfrey to have a succession of fruit from June to September. Amsden June and Princess of Wales are sorts highly appreciated. The roots of the trees are wholly inside. A somewhat novel plan of training the trees is adopted. Each tree is furnished with an upright stem, from which main branches grow horizontal fashion. From these young shoots are annually trained, always from the underneath side of the branches. Mr. Godfrey's idea is that the flow of sap receives a check which prevents the growth of vigorous useless shoots. The plan appears to answer admirably.

Tea Roses, Lilies of the Valley, Roman Hyacinths, Tuberoses, Maiden-hair Ferns, and Palms are also extensively grown. The Carnations flowering so freely during the autumn deserve a special mention. Reginald Godfrey, rich salmon rose, extra strong habit; Miss Mary Godfrey, purest of whites; Wilfred Godfrey, apricot, edged and blotched with rose. Fortunately the blooms do not burst in the pod in the same way that many modern raised kinds do.—E. MOLYNEUX.

[The accompanying illustration (fig. 102) represents a bloom of Carnation Miss Mary Godfrey. It is one of the best winter flowering varieties in cultivation, pure white, very fragrant, and, as our correspondent remarks, the pod does not burst. An award of merit has been adjudged this Carnation, also its companion variety Reginald Godfrey, by the Royal Horticultural Society, and certificates of merit have been awarded to both varieties by other societies. The engraving has been prepared from a photograph kindly sent us by Mr. W. J. Godfrey.]

the bark where insects abound is also a sure remedy, especially if followed up whenever the insects appear.

For those who prefer them, the various advertised insecticides are good and reliable remedies for most of the diseases and enemies of fruit trees. They possess the advantage of being handy and ready for use, only requiring in most cases to be combined with water for convenient distribution in the form of syringing, spraying, or brushing.

FRUIT FORCING.

Peaches and Nectarines.—*Early Forced Houses.*—The buds of the trees started at the beginning of the present month are swelling freely and showing colour, so syringing should cease, as the water often causes the flowers to damp. Maintain, however, a genial condition of the atmosphere by sprinkling the floor and border with water in the morning and afternoon of fine days. Provide a little ventilation constantly at the top of the house. Raise the heat early in the day to 50°, and not exceeding 55° from fire heat, and admit a little air, yet not so as to lower the temperature below 50°. Increase the ventilation with the sun heat, having it full at 65°, and gradually reduce it with the declining temperature, closing (subject to a small amount of air being left on) for the day at 55°. On cold nights the minimum temperature should be maintained at 40° to 45°, between the latter and 50° is ample on mild nights. Nothing is gained (but the prospect of a crop may be lost) by undue haste until the days have turned, and there is an increase of light and length of days. Nevertheless, aim at steady progress, allowing the trees abundance of air, and a genial warmth by day with rest at night.

Second Early House.—The very early Peaches Alexander and Waterloo have not proved satisfactory forcing varieties in many places through casting the buds, and Early Louise is generally too pale in colour for marketing purposes. Hale's Early is everything desirable as regards size, colour, and quality, but the tree has the bud-drooping defect in degree only less marked than in Alexander. Stirling Castle forces quite as well as Royal George, but it is smaller and not so good in appearance as that variety which has no rival equal to Dymond. In Nectarines the old Elruge is unsurpassed, Stanwick Elruge having a habit of dropping its fruit when commencing ripening, and Lord Napier in nine cases out of ten has the fruit shrivelled at the apex. All these things tell in marketing returns. If the house has been open to receive the autumn rains, the border will be thoroughly moist to the drainage. If, on the other hand, the lights have not been removed, there may be need for repeated waterings to bring the soil into a moist, but not sodden condition, as is often the case by dosing trees with liquid manure at the time of starting or just before. Judicious applications of liquid manure to weakly trees benefits them immensely, and where the drainage is efficient there is little danger of the soil getting sodden by the rainfall or applications of water. Fire heat will only be necessary at the commencement to prevent the temperature falling below freezing point at night, and to maintain 50° in the daytime, admitting air freely at and above that heat.

Succession Houses.—The cleansing of the houses and trees should be pushed forward, and brought to a close as soon as possible. Where the trees have been infested with brown aphids, red spider, or scale it is desirable to syringe the whole house with hot water at a temperature of 140°, which will soften the dirt and destroy all the pests it reaches. The woodwork should then be thoroughly cleansed with soap and water, using a brush, and the glass inside and outside with clear water. The trees may be syringed with a solution of soap, 1 lb. to a gallon of water, dissolving by boiling in a pan, and on removing from the fire add half a pint of petroleum, and stir briskly, so as to thoroughly amalgamate the oil with the soapy solution. For syringing the trees dilute to 6 gallons, using hot water, and apply at a temperature of 130° to 140°. This is a wasteful plan, and not so effectual as applying the mixture with a brush thoroughly, taking care not to dislocate the buds. Prior to this the trees will have been pruned, and after dressing the branches can be re-arranged and the growths tied to the trellis. The walls should be limewashed. Remove the loose surface soil, add fresh lumpy loam with a fourth well-decayed manure, and supply a handful of some approved fertiliser per square yard. Dissolved bone five parts, sulphate of potash three parts, and ground gypsum two parts (mixed) may be used. If the soil be rich and inclined to dampness employ basic slag phosphate at a similar rate. The rain or watering will wash the ingredients into the soil. If the roof lights are fixed ventilation should be given fully, the trees being afforded rest as completely as possible, care being taken not to allow them to become dry at the roots. If the roof lights are moveable, and have been removed, they may remain off until the time arrives for starting the trees or until the buds commence swelling, when the lights must of necessity be replaced to insure the safety of the buds and blossoms.

Unheated Houses.—These structures are often made receptacles for other plants, and the welfare of the trees is more or less interfered with. The better plan is to remove the roof lights and let the trees and soil have the benefit of the exposure, which insures complete rest, thorough moistening of the soil and retarding the blossom, which is of considerable importance. The trees will not take the least harm, no matter how severe the weather may be, provided the wood be well ripened; but if there is any doubt about that the lights are best retained over the trees, as frost acting on such whilst wet may cause their destruction. In the latter case, and also when the lights are removed, pruning may be deferred until the buds commence swelling.

THE BEE-KEEPER.

APIARIAN NOTES.

THE LANARKSHIRE STORIFYING HIVE.

(Concluded from page 574.)

BUT little remains to be said as to how to make the Lanarkshire storifying hive. The divisions of the hive and roof are painted, but all other parts are tarred, which the amateur may finish according to his purse and taste.

If the instructions given in previous issues are studied and carried out the making of this useful hive will become an easy task, and they will find in packing cases a cheap wood for the purpose. Fig. 103 shows the Lanarkshire storifying hive with the bee-keeper in the act of putting the frames filled with foundation

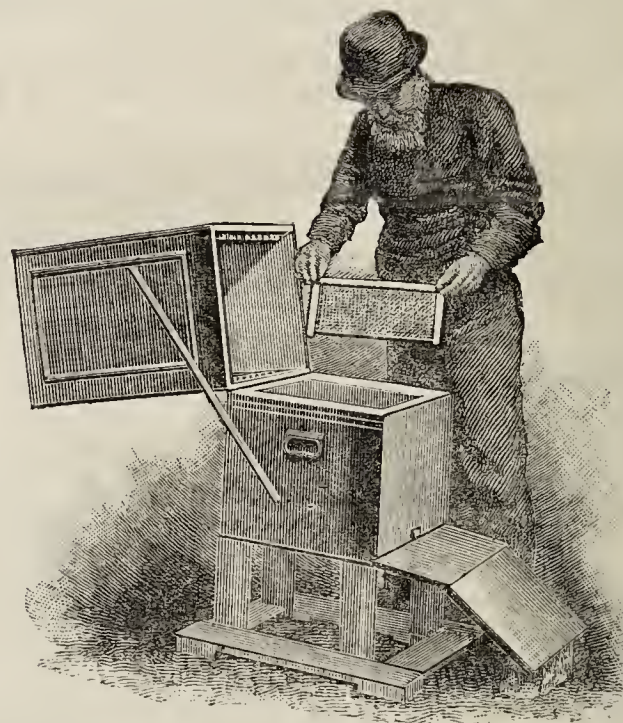


FIG. 103.—THE LANARKSHIRE STORIFYING HIVE.

into the hive, which is folded back and resting on a piece of wood $1\frac{1}{4}$ by $1\frac{1}{4}$ inch, having little brackets fixed to it at the various heights required.—A LANARKSHIRE BEE-KEEPER.

HIVES FOR BEGINNERS.

BEGINNERS often have a difficulty in deciding which is the best hive for their purpose, and with a view of assisting them I will describe some that have come under my notice. The double hives with two queens have been advocated, and are no doubt good for wintering bees, as they may be warmer than single hives, but after experimenting with these hives some persons have not been successful with them. I prefer having a single queen in a separate hive of fair size. These can always be strengthened if necessary from other stocks, and can be worked either on the supering or storifying system. They have the advantage of being easy to manipulate, and two hives worked separately will compare favourably with any other two-queen stocks.

My favourite hive is about 18 inches square. This I have found the most useful size, and have all hives and frames interchangeable. This hive may be made with either single or double sides, and will hold ten standard frames and division board. The frames are 14 inches by $8\frac{1}{2}$ inches outside measurement. Hives of this description may be made out of old packing cases, or any sort of boxes that have good sound pieces of wood of the desired length, 9 inches in depth, and about half an inch in thickness. They are inexpensive, and are as good for all practical purposes as the most elaborate hive.

The hive should be provided with a loose floor board, and if required with double sides for packing, as a protection in severe weather. The best material that I have used for the purpose is cork dust, such as foreign Grapes are packed in, and may be obtained from tradesmen who deal in them. I do not think it is necessary in this country to use much packing of this description. I have some hives that are thus protected with cork dust, others that have no packing but a clear air space round the sides of the hive, and others again that have no packing or air space. I have never been able to detect any difference in the way they have wintered, as I have sometimes lost stocks in the best packed hives, and others again in those with single sides, but always through queenlessness.—AN ENGLISH BEE-KEEPER.



•• All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Clerodendrons in the Winter (H. D. M.).—Yes, seedlings of *C. fallax* may be allowed to come into flower in a temperature of 60°. If the plants were raised early and have been kept growing they will be showing their bright scarlet trusses of bloom, and will be useful in the stove before Poinsettias and Euphorbias are fully expanded. Select a few of the latest plants for seed-bearing or arrange those needed for this purpose in a dry atmosphere, or the flowers will fail to set. Keep *C. fragrans* in small pots and in the temperature advised for *C. fallax*; if repotted they will grow and fail to flower. To flower this variety well it must be confined at its roots. Keep plants of *C. Balfourianum* dry at their roots, that is, those that have finished growth. Do not place the plants in a lower temperature than 55°. The earliest plants, if rested for another month, may then be started into growth, their flowers are useful and much appreciated in early spring.

Senecio pulcher (Amateur).—You are right in assuming that this is a vigorous-growing perennial, with large fleshy leaves of a deep green colour and shining; the radical or root leaves are variously dentated and lobed, while those on the stem are ragged and irregularly cut. The flower stems are from 2 to 3 feet high, very stout, freely branching at the top, and supporting numerous flowers with the rays of a brilliant purplish crimson colour, and the disc or centre golden yellow, measuring 3 inches or more in diameter, and lasting a considerable time in beauty. It flowers during the late autumn months, when it is of special interest and very welcome; and when well cultivated it is a most attractive plant. It may readily be cultivated in ordinary borders, but especially does it thrive in rich loamy soil in a damp situation, as it enjoys abundance of moisture during the summer. As regards the pot culture of this plant, there is no difficulty in securing good flowering plants by that treatment in, say, 5 or 6-inch pots, using as soil good yellow loam, leaf soil, and well-decayed cow manure, with some wood ashes and sand, or in lieu of the ashes fine nodules of charcoal; the latter is of decided advantage in growing the plant. Perfect drainage is also essential, and an abundance of moisture during the growing season; and it would be advisable to plunge the pots in some material such as spent hops or ashes, which would greatly assist to keep the roots cool and moist.

Chemical Manures for Tomatoes (Cross).—We are glad you found advantage from the mixture advised—four parts bone superphosphate, three parts sulphate of potash (not soda, as you give it), and one part nitrate of soda; to that you added hoof and horn dust, one of the best food stuffs for eelworm, and we mention it as not recommended (untreated with sulphuric acid) by us. The manure named is excellent for Tomatoes generally, but the following has given even better results in the fruit, which, of course, is everything in Tomato culture:—Bone superphosphate, eight parts; nitrate of soda (powdered), four parts; muriate of potash, two parts, mixed; use 4½ ozs. per square yard, or 3¼ lbs. per rod. The maximum yields of Tomatoes depend upon a full supply of immediately available nitrogen, and we advise that form of it as manure which is most inimical to the eelworm, but it is necessary to observe that an excess of nitrogen frustrates the object in view, and a large amount favours fungoid pests. On account of the fostering of eelworm by organic matter in the soil we do not advise the use of blood (unless chemically treated), rape dust or cotton seed meal. Of course there is no objection to the use of soluble (which means chemically treated) dried blood manure, but if it is to be substituted for nitrate of soda in the formulæ it must be used in much larger amount, as it contains 10 to 11 per cent. of nitrogen, to nitrate of soda's 15 to 16 per cent. We have no authentic analyses of Tomato fruit and plant to hand, and that we have seen do not materially differ from that of the Potato (whole plant, including "Apples").

Winter-flowering Orchids (H. P.).—The following note, written by a well-known gardener, will exactly answer your question:—"First on the list is the old and well-known *Cypripedium insigne*, of which the plants are mostly growing in wide pans. Plants in pots do not appear to flower so well. Turfy loam and peat in equal portions with chopped sphagnum and lumps of charcoal added seem to suit them. Give them a good clear drainage, for they should have water freely while growing. *C. Lowi* does best in pots when similarly treated. *C. pardinum* and

C. venustum flower freely, but are easily overpotted. *C. Godefroyæ* appears more delicate still, but its flowers are quite distinct from the above, being white and beautifully spotted. The well-known *Calanthe vestita rubra* and *C. Veitchi* are very showy. Amongst Cattleyas, *C. guttata* is a tall-growing species, producing numbers of spotted flowers; next comes *C. Trianae*, *C. Forbesi*, and *C. chocoensis alba*, not a very full flower but showy and free as well as scented, therefore desirable to grow. Coming to Dendrobiums, the best for this season is *D. Wardianum*; several large plants are growing in baskets suspended from the roof in full flower, they last about six weeks, and are a feature in themselves. *D. Pierardi*, a much smaller-flowering species, but very free. Amongst Lælias we have in flower *L. acuminata autumnalis*, nearly over now, and a variety of *L. anceps* with a Lily-like flower, as well as *L. alba*; these are mostly growing either in baskets or on blocks of wood, the latter suit them best. A few plants we have of *Limatodes bicolor* on small blocks of wood, and it is quite at home. *Maxillaria picta* is also growing well and flowering freely on wood; this is a small prettily marked flower, and lasts quite six weeks. We have several each of the following *Odontoglossums* in full flower—*O. Alexandræ*, *O. Cervantesi*, *O. maculatum*, and *O. Rossi majus*. In *Oncidium*s there is nothing very showy just yet, but we have in flower *O. ornithorhynchum*, *O. flexuosum*, *O. tigrinum*, and *O. unguiculatum* in the first named the flowers are scented much like new mown hay, the colour mauve, it is a free-flowering plant. I must not leave out the cream of the winter-flowering Orchids, *Ceologyne cristata*, which anyone who pretends to have a collection of Orchids should not omit."

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (H. P.).—1, *Streptosolon* (*Browallia*) *Jamesoni*; 2, *Sparmannia africana*. (*Orchidist*).—The flower is a good form of *Cypripedium insigne*. (A. B. C.).—1, *Asplenium bulbiferum*; 2, *Adiantum formosum*. (*Yorks*).—1, *Cuphea platycentra*; 2, *Correa cardinalis*; 3, *Erica hyemalis*. (F. B.).—*Curculigo recurvata*. (C. M.).—*Cypripedium barbatum*. (J. W. A.).—*Adiantum tenerum*.

COVENT GARDEN MARKET.—DECEMBER 26TH.

No change. Christmas trade dull.

FRUIT

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, per half sieve ..	1	6	to	4	6	Lemons, case	10	0	to 15 0
" Nova Scotia, per						Peaches, per doz. ..	0	0	0 0
barrel	10	0		15	0	Plums, half sieve ..	0	0	0 0
Grapes, per lb.	0	6		1	6	St. Michael Pines, each	2	0	6 0
Cobs, per 100 lbs. ..	21	0		23	0	Strawberries per lb. ..	0	0	0 0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Beans, Kidney, per lb. ..	0	6	to	0	9	Mustard and Oress, punnet	0	2	to	0	0
Beet, Red, dozen	1	0		0	0	Onions, bushel	3	6		4	0
Carrots, bunch	0	3		0	4	Parsley, dozen bunches ..	2	0		3	0
Cauliflowers, dozen	1	6		3	0	Parsnips, dozen	1	0		0	6
Celery, bundle	1	0		1	3	Potatoes, per cwt.	2	0		4	0
Coleworts, dozen bunches	2	0		4	0	Salsafy, buundle	1	0		1	5
Cucumbers, dozen	2	0		6	0	Seakale, per basket	1	3		1	9
Endive, dozen	1	3		1	6	Scorzonera, bundle	1	6		0	0
Herbs, bunch	0	3		0	0	Shallots, per lb.	0	3		0	0
Leeks, bunch	0	2		0	0	Spinach, bushel	1	6		3	0
Lettuce, dozen	0	9		1	0	Tomatoes, per lb.	0	2		0	6
Mushrooms, punnet	0	9		1	0	Turnips, bunch	0	3		0	4

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arum Lilies, 12 blooms ..	6	0	to	8	0	Poinsettia, dozen blooms ..	3	0	to	6	0
Azalea, dozen sprays ..	0	6		1	3	Pyrethrum, dozen bunches	2	0		4	0
Asparagus Fern, per bunch	1	0		2	0	Roses (indoor), dozen ..	0	6		1	0
Bouvardias, bunch	0	6		1	0	„ Tea, white, dozen ..	0	6		2	0
Carnations, 12 blooms ..	1	6		3	0	„ Yellow, dozen	2	0		3	0
Chrysanthemums, doz. bchs.	4	0		12	0	„ Safrano (English), doz.	1	0		2	0
„ doz. blooms	1	0		4	0	„ Maréchal Niel, doz. ..	3	0		6	0
Eucharis, dozen	3	6		4	6	„ (French), yellow, doz.					
Geraniums, per dozen ..	2	0		4	0	blooms	1	6		2	0
Geranium, scarlet, doz.						„ (French), Red, dozen					
bunches	4	0		6	0	blooms	2	0		2	6
Lilac (French) per bunch	5	0		6	0	Smilax, per bunch	3	0		4	0
Lilium longiflorum, per						Stephanotis, dozen sprays	4	0		6	0
dozen	6	0		9	0	Tuberose, 12 blooms ..	0	4		0	6
Marguerites, 12 bunches ..	1	6		3	0	Violets (English), dozen					
Maidenhair Fern, dozen						bunches	1	6		2	6
bunches	4	0		6	0	Violets (French), Parme,					
Mignonette, 12 bunches ..	2	6		4	0	per bunch	4	0		5	0
Orchids, per dozen blooms	1	6		12	0	Violets (French), Ozar, per					
Pelargoniums, 12 bunches	6	0		9	0	bunch	1	9		2	0
Primula (double), dozen						Violets (French), Victoria,					
sprays	0	6		1	0	dozen bunches	1	6		2	6

PLANTS IN POTS.

PLANTS IN FLOWERS.											
	s.	d.	s.	d.		s.	d.	s.	d.		
Arbor Vitæ (golden) dozen	6	0	to	12	0	Ferns, in variety, dozen ..	4	0	to 18	0	
Aspidistra, per dozen	18	0		36	0	(small) per hundred	4	0		6	0
Aspidistra, specimen ant	5	0		10	6	Ficus elastica, each ..	1	0		7	0
Chrysanthemums, 3 doz.	4	0		8	0	Foliage plants, var., each	2	0		10	0
„ large, p. doz.	9	0		18	0	Lycopodiums, per dozen ..	3	0		4	0
Cyclamen, per doze	9	0		12	0	Marguerite Daisy, dozen ..	6	0		12	0
Dracæna, various, dozen ..	12	0		30	0	Myrtles, dozen ..	6	0		9	0
Dracæna viridis, dozen ..	9	0		18	0	Palms, in var., each ..	1	0		15	0
Erica, various, per dozen ..	9	0		18	0	„ (specimens) ..	21	0		63	0
Euonymus, var., dozen ..	6	0		18	0	Poinsettia, per dozen ..	10	0		15	0
Evergreens, in var., per						Primulas, per dozen ..	4	0		6	0
dozen ..	6	0		24	0	Solanums, per dozen ..	10	0		12	0



THE YEAR AND ITS LESSONS.

No drought, a big hay crop well saved, an abundant aftermath, corn crops above the average, root crops of medium excellence—very far from a failure. Remunerative prices have ruled for hay, straw, and Oats of high quality, dairy produce generally continues profitable, and having regard to the low price of feeding stuffs sheep have been highly profitable, cattle and swine fairly so. The trade for home-raised poultry and eggs is fast assuming the importance it merits, and on many a farm, where energetic action is found in conjunction with an intelligent grasp of the necessary changes in management, prosperity may still be said to be the crown of industry. But there is a sad *per contra* to all this in the low price of Wheat and Barley. Wheat has become so cheap that its profitable cultivation in this country appears to be only possible where there is a good market for straw, and though Barley is quoted as high as 40s. a quarter, we know for a certainty that very large quantities of malting Barley have passed into the maltsters' hands in East Anglia for only half that price. It is evident that maltsters and brewers are simply coining money. It may be asked why the farmers play into their hands so readily? Custom, necessity, and a want of combination are the probable general causes. Pressure for money induces much premature corn-threshing, and in every large market in the great corn-growing districts the stands of popular maltsters are besieged by eager throngs of Barley sellers, who weekly accept the price of the maltster as a *fiat* against which there is no appeal. In common fairness we are bound to say that maltsters can point to samples that are sweated, light, steely, or badly screened, and in the rush and hurry of the market they have to be cautious, and to allow themselves plenty of margin.

Dairy farming has now such special advantages that improvements in managements and details of practice which are so possible, desirable, and which so clearly point to profit, should have attention. Take for example the recent Cheese Fair at Melton Mowbray. The large pitch of Stilton cheese was so remarkable for a December fair that we heard much talk of over-production. Yet good cheese sold readily enough at 9½d. and 10d. per lb., but such cheese was the exception, and inferior cheese the rule. Some of it was sold at such low rates that the average price was placed at 7d., and very much cheese was returned unsold. It is a fact that at every fair Stilton cheese is sold as low as 4d. per lb., yet for first-class cheese from 10d. to 1s. per lb. is still the wholesale rate. Surely the lesson here is obvious? The wide range in price should be an incentive to every maker of such cheese to master the details of possible improvement and apply them to practice. There is no mystery; even the necessary scientific tests are simplicity itself, but they must be applied, none of the milk must be robbed of its cream, due heed must be given to temperature, and there must be good management alike in cheese room and dairy.

A great advantage which tenants of grass farms now have is in the cheapness of corn and feeding stuffs. Let them take full advantage of this, and let them really cultivate their pastures, so that by judicious drainage, and a full annual dressing of manure, a full early hay crop, and abundant aftergrowth may be a certainty. Another advantage which has been emphasised is the having enough land in tillage for the growth of Oats, Cabbage, Kale, other green crops, and roots for home requirements.

To the oft-repeated question, What is to become of much of the corn lands? the correct answer appears to be in the great possibilities which the establishment of co-operative farmers' dairy factories have. In laying down much more land in temporary pasture, in improvements in the breeding and general management of cattle and dairy cows, in the provision of shelter for stock generally. Local advantages of soil, aspect, and situation must be turned to account, and a mixed system of farming introduced and extended to meet the wants of the day so far as is possible. We have seen attempts at fruit and vegetable farming that have not always been judicious, crude efforts requiring the aid of technical knowledge, and a grain or two of common sense. Our advice in such cases is invariably caution in the guise of test crops in moderation at the outset, and a subsequent extension of the cultivation of such crops only as answer well, and which can be disposed of profitably. Above all things let there be intensive culture, thoroughness in everything; efforts proportionate in earnestness to difficulties in the way; change prompt and thorough wherever and whenever it is clearly advantageous.

WORK ON THE HOME FARM.

The dull damp weather has been so unfavourable for corn-threshing that we have only threshed what was absolutely necessary for home use. For household flour we are still dependent on the Wheat of last year, which was so exceptionally hard that it has kept well. The keeping of it so long is only possible in a thoroughly dry vermin-proof granary so constructed that no condensation of moisture upon the interior is possible. Substantial walls and a thatched roof answer best. Corrugated iron sheeting for sides or roofs will not do at all, as this substance is so susceptible to changes of temperature that a cold change invariably causes the moisture in the warm interior air to condense, and drip from the sheeting upon the corn. We mention this because corrugated sheeting is now used so extensively for farm buildings that a word of caution is necessary. We are using this sheeting in the construction of more open hovels in pasture enclosures, a stout framework of rough timber being all that is necessary to fasten the sheeting to. Some of the larger pieces of pasture are also being divided by iron hurdles to enable tenants to afford their stock more frequent change, which is good for both stock and pasture.

Much gravel carting is now being done from a pit on the estate for new walks and roads, and to harden gateways, and drinking places on the margins of ponds and pools. At farms recently purchased we have much work of this sort requiring prompt attention, all the gateways being soft and so muddy as to be almost impassable. Some of the yards, too, though enclosed by really good buildings, have the bottoms so irregular and full of hollows as to be quite unfit for stock in winter, as water accumulates in the hollows to the serious risk of harm to any animal shut in there. To enclose space for a yard and not make the bottom sound, and lay drains, may appear preposterous, but this is by no means the first instance of such negligence we have met with. At one farm rats had become so rampant that some paved floors were undermined and unsafe. Rats are migratory, and are best kept out of buildings by opening a trench close to the outside and filling it with fine gravel mixed with tar.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet

DATE.		9 A.M.					IN THE DAY.				Rain.
1894. December.		Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday	.. 16	29.869	48.6	47.2	S.W.	43.7	50.2	38.7	55.1	33.8	0.010.
Monday	.. 17	30.141	41.3	40.3	S.	43.0	52.1	36.2	52.0	31.6	0.032
Tuesday	.. 18	29.538	50.9	49.2	S.W.	44.0	52.1	40.9	54.3	40.1	0.178
Wednesday	19	29.496	41.0	39.4	W.	43.4	46.2	39.6	60.2	35.2	0.010
Thursday	.. 20	29.978	39.9	36.1	W.	42.4	44.7	38.2	64.2	33.8	—
Friday	.. 21	30.172	40.9	34.1	W.	41.9	51.3	31.2	51.4	28.3	0.258
Saturday	.. 22	29.398	46.3	41.4	W.	42.8	48.2	35.2	65.9	34.4	—
		29.793	44.1	41.1		43.0	49.3	37.1	57.6	33.9	0.488.

REMARKS.

16th.—Rain from 2 A.M. to 5 A.M.; drizzly and threatening morning; fair afternoon and evening.
 17th.—Drizzle and slight fog all morning; light rain from noon to 2 P.M.; dull, damp afternoon and evening.
 18th.—Windy and rainy till 11.30 A.M.; with heavy rain at 10.30 A.M.; bright sunshine from noon to sunset, and bright night.
 19th.—Alternate cloud and sunshine and occasional slight showers.
 20th.—Bright sunshine till 2 P.M.; spots of rain at 3 P.M., and slight rain about 8 P.M.
 21st.—Overcast early; almost continuous slight drizzle from 10 A.M. to 11 P.M., and slightly foggy in afternoon.
 22nd.—Gale and heavy rain from 4.15 A.M. to 6.15 A.M.; sunshine from sunrise to about 11 A.M.; fine evening.
 A much drier week than the previous one, the temperature, however, much the same.—G. J. SYMONS.



